Author’s response to reviews

Title: A cross-sectional study assessing the association between online ratings and clinical quality of care measures for US hospitals: Results from an observational study

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Version: 1 Date: 01 Jun 2017

Author’s response to reviews:

Dear Dr. Mark Wilberforce,

Thank you for your email and we would like to thank both reviewers, Dr. Alma Au and Dr. Alexandra Feast, for their time and thoughtful comments to improve the quality of our manuscript. Our response is as follows:

Comments from the reviewers:

Alma Au (Reviewer 1):

This is an interesting study. The contrast hypothesis using moderator or mediator needs further deliberation.

Mediation usually associates with mechanism of change: this should be discussed further.

The theoretical between resilience and social support is not clear in the present from.

EDITOR'S NOTE: I REQUESTED FURTHER FEEDBACK FROM THIS REVIEWER AND RECEIVED THE FOLLOWING:

Mediation involves a mechanism of change. This is not explained in the introduction.
Thank you for the comment. We have added the information on mechanism of change and references to the text as suggested by the reviewer (Kazdin, 2007) (Page 6-line 152-155).

Why would Resilience involve social support as a mediator on the DV? The authors should discuss the literature background to this formulation. There maybe more literature using a framework the other way round: resilience as mediator between social support and DV, arguing social support gives people confidence etc. The authors should quote more research in the area.

Reply:

We have made changes to the Introduction-Resilience and Social Support section as suggested by the reviewer by discussing more literature background on the studies done on resilience on burden, social support on burden, and resilience and social support. We did not find a study which specifically reported resilience as mediator between social support and caregiver burden, but found a study conducted in Malaysia that found resilience as a mediator between caregiver gender and caregiver burden (Mulud & McCarthy, 2017) (Page 6-line 144).

Alexandra Feast (Reviewer 2):

This is an impressive and well written manuscript. This study has identified a full mediator in this population which has significant clinical implications. There are some minor grammatical and spelling errors which need to be addressed and more detail is required in the methods section.

Reply:

We have checked through the grammatical and spelling errors and revised the manuscript. Also, more detail was added in the methods-statistical approach section as suggested by the reviewer.

Abstract: Excellent summary of results, however the sentences in lines 7 and 13 are difficult to understand and need to be re-written.
Reply:

Abstract-Line 7 was changed to “…using moderation and mediation models.”

Abstract-Line 13 was changed to “Moderation and mediation by perceived social support in the relationship between resilience and burden were tested using Hayes’ PROCESS macro after controlling for sociodemographic variables.”

Introduction: This section provides a great background and rationale for the study, but there are some areas which can be improved. Page 3, line 38 change 'extant' to 'existing'.

Reply:

We have made changes to the text as suggested by the reviewer. The word “extant” was removed and changed to “existing” (Page 3-line 49).

It is important to refer to studies which report the impact of caregivers being unable to work due to caring responsibilities, and how much money is being saved by family carers compared to employing professional carers.

Reply:

We have added the information to the text as suggested by the reviewer. More studies/reports were added to report the economical and societal impact of caregivers being unable to work due to caring responsibilities (Family Caregiver Alliance, 2003, 2009; Reinhard, Feinberg, Choula, & Houser, 2015) (Page 3-Line 52-54). Also, we have included two studies conducted in Singapore that reported a higher annual cost of caregiving for patients with dementia (Abdin et al., 2016; Woo, Thompson, & Magadi, 2017) (Page 3-Line 58).

It would interesting to understand why the authors focus on perceived social support in comparison to objective social networks.
We have added the information to the text as suggested by the reviewer (Page 5-line 119). The reason for focusing on perceived social support instead of objective social networks is that perceived social support is reported to be a stronger predictor of individual well-being than objective social support (Siedlecki, Salthouse, Oishi, & Jeswani, 2014), and is closely related to positive personality traits such as optimism, extraversion, and self-esteem (Reinecke & Oliver, 2016).

The paragraph starting on page 5 line 86, would be better suited to the end of the introduction.

We have reorganized the paragraph for the “purpose and conceptual models” section as suggested by the reviewer (Page 7-line 160).

Furthermore, this paragraph would benefit from an additional sentence which describes how these findings could be used to improve outcomes, such as developing targeted intervention for those with low perceived social support.

We agree with the reviewer comment. We have added the information to the text as suggested by the reviewer by adding additional sentences at the end of the paragraph (Page 7, Line 178).

The purpose of the study and hypotheses should remain in the introduction section, however it may be better to include the definitions of mediation, and moderation along with the conceptual models in the methods section.

Given that the two hypotheses of the paper were guided by the conceptual models, we would like to keep the definitions of mediation and moderation along with the conceptual models in the introduction section (Page 7-Line 166).
Methods: If possible it would be interesting to conduct separate analyses based on different types of mental illness, or use this variable as a confounder in order to identify whether social support becomes a stronger/weaker moderator/mediator.

Reply:

We agree with the reviewer’s comment that it would be interesting to conduct separate analyses based on care-recipient types of mental illness. However, in the present study, the number of care-recipient for each type of mental illness were small to perform sub-group analyses (Care-recipient with mood disorder: 60; Anxiety disorder: 30; Psychosis, Schizophrenia or Schizoaffective: 18; and Dementia: 55). We recognised that this is an interesting area to research on and thus have included this as one of the potential future research area (Discussion Page 18-Line 417).

Please include how you calculated the interaction effect for each model.

Reply:

We have added an explanation to the text as suggested by the reviewer (Pg 10 line 259). In PROCESS, interaction effect is calculated automatically and also produces the proportion of the variance in burden uniquely attributable to the moderation of resilience’s effect by perceived social support.

Please justify why you used the bootstrapping method and why you used the 1,000 sample. A sentence describing the assumption checks of multicolinearity, normality, linearity and homoscedasticity are required to ensure the data does not violate any of these assumptions.

Reply:

We have added an explanation to the text on why we chose the bootstrapping method as suggested by the reviewer (Pg 11 line 272). As mentioned by Hayes (2009), the bootstrapping procedure overcomes the limitations of the approaches introduced by Baron and Kenny (1986) and Sobel (1982), yielding results that are more accurate and less affected by sample size.
The 1,000 bootstrap samples is the default number set by PROCESS. This bootstrapping is useful compared to the normal theory approach in smaller samples as it adjust for normality in smaller sample and to ensure there is no violation in the assumptions stated by the reviewer (Hayes, 2013).

Please describe what criteria you followed for the mediation and moderation analysis. In the past I have utilised Baron and Kenny's 1986 criteria to assess partial and full mediation.

Reply:
For the mediation and moderation analysis, we followed the approach by Hayes (2009). This approach conducts bias-corrected bootstrapping through random sampling with replacement from the dataset to create pseudo bootstrap samples, which produce point estimates for the moderation and mediation effects as well as their bias-corrected and accelerated 95% confidence intervals (Preacher & Hayes, 2004).

For partial and full mediation interpretation, we have followed Baron and Kenny (1986) criteria where full mediation is presented when the beta weight is reduced and p value becomes insignificant while partial mediation is presented when the beta weight is reduced but not insignificantly (Page 11-line 275).

Furthermore, it would be beneficial to highlight the change in R squared to identify whether the interaction term explains any additional variance.

Reply:
In the present study, there is no significant moderation and thus no interaction effect was found between the predictor (resilience) and moderator (social support). The R-square increase due to interaction is 0.0001 (p>0.05).

Results: It would be valuable to distinguish between the different types of mental and physical illnesses of those involved in the study. The results are well presented.
Reply:

We did not analyse the different types of mental and physical illness due to the small sample size for each type of illness. However, we recognise the importance and value of this area of research and thus mentioned as one of the possible further research area in the discussion section (Page 18-line 417).

Discussion: This section is well written, great summary of results and comprehensive list of limitations. Future research should focus on length of caring as a potential confounder, types of carer (spousal/non-spousal), and also differentiating between different types of mental illness.

Reply:

We agree with the reviewer’s comment that more future research should be done in these areas and have included those mentioned by the reviewer to our discussion section (Page 18- Line 411).

We hope our revisions are acceptable and we look forward to a favourable decision.

Thank You