Author’s response to reviews

Title: Reliability and validity of Japanese versions of the UCLA Loneliness Scale Version 3 for use among mothers with infants and toddlers: A cross-sectional study

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Author’s response to reviews:

Response letter
Dr. Tovah Honor Aronin
Editor
BMC Women's Health

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Dear Dr. Tovah Honor Aronin,

Thank you very much for your e-mail regarding our manuscript "Reliability and validity of Japanese versions of the UCLA Loneliness Scale Version 3 for use among mothers with infants and toddlers: A cross-sectional study" (BMWH-D-19-00088). We are most grateful to know that it is potentially acceptable for publication in BMC Women's Health. Please find attached a revised version of our manuscript.

Your comments and those of the reviewers were highly insightful and enabled us to greatly improve the quality of our manuscript. In the following sentences are our point-by-point responses to each of the comments of the reviewers as well as your own comment.

We look forward to hearing from you regarding our re-submission. We would be glad to respond to any further questions and comments that you may have.
Yours sincerely,

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Author Response

To the comments of Reviewer #1

1. In line 155-156, the desired sample size was set as a quarter of 2000 which is 500, at the end only 430 were sent questionnaire and only 248 replied. This is less than 50% of the desired sample size. I expect the authors to have either improvised by sending more questionnaires out before analysis. As this was not done, it should have been mentioned as a limitation of the study.

Author’s Response

We appreciate the reviewer’s comments; thank you for your feedback. We could not improvise by sending more questionnaires out before analysis. Therefore, we added that as a limitation of the study in lines 358-362.

“Finally, the response rate was relatively low, although it was higher than that of previous studies targeted to mothers in Japan, which had a 30-40% response rate. The reason for the low response rate is that women had to mail in the responses, but had less time to do so because of busy parenting, work, and housework.”

2. The analysis for the SF-10 and SF-3 were based on the completed UCLA-LS3-J which is a 20-item questionnaire. An increasingly important observation is that responses to a set of questions may be affected or biased by the presence of previous questions on the same scale. It would have been nice to know if the answer to the 3 questions of the SF-3 would have been the same were the other 17 questions of UCLA-LS3-J not present in the questionnaire. This is important as the study did not evaluate for test-retest reliability or discriminant validity.

Author’s Response
We appreciate the reviewer’s suggestions. We analyzed the correlation between the total score of the 3 questions of the SF-3 and the total score of the other 17 questions of UCLA-LS3-J to review if the answer to the 3 questions of the SF-3 would have been the same were the other 17 questions of UCLA-LS3-J not present in the questionnaire. We added the following sentences:

Lines 246-48

“We analyzed if the answer to the three questions of the SF-3 would have been the same if the other 17 questions of UCLA-LS3-J were not part of the questionnaire.”

Lines 279-280

“The SF3 was also significantly correlated with the total score of the other 17 items of the UCLA-LS3 (r=0.794).”

To the comments of Reviewer #2

1. Please describe what "loneliness" means as opposed to isolated. The way it is presented in lines 95 to 97 of the introduction is tautological. And it probably should appear at the beginning of the introduction.

Author’s Response

We appreciate the reviewer’s suggestions. We have described what "loneliness" means as opposed to isolated at the beginning of the introduction (lines 62-63) and lines 84-91.

Lines 62-3

Loneliness is “the unpleasant experience that occurs when a person’s network of social relations is deficient in some important way, either qualitatively quantitatively or qualitatively.” (Perlman & Perplau, 1981, p.31).

Lines 84-91

“Social isolation is distinguished from loneliness because social isolation is when more structural and rather objective characteristics of social relationships cover the number and type of people with whom a person interacts, the diversity, density and reciprocity of a person’s social
network, and frequency and duration of contact between individuals [18]. Reviews on scales measuring social relationships reported that social isolation is usually characterized as an objective lack of meaningful and sustained communication, while loneliness is referred to as the way people perceive and experience the lack of interaction [19].”

2. Methods: please define affluent, etc in the sociodemographic data. Is this based on a conventional Japanese classification? How did you decide to which category a person belongs?

Author’s Response

We appreciate the reviewer’s comments. This is based on Japanese classification questions and answers about “subjective economic status” used in the national survey on a 4-point scale: 1) absolutely not affluent, 2) not affluent, 3) moderately affluent, and 4) affluent. Each participant decided which category he/she belonged to, so the participants’ level of affluence was determined by participants’ subjective thought. In some national censuses, objective economic status (income) was asked, but Japanese people do not like to answer questions regarding income directly. We used only subjective economic status to avoid a lower response rate. We have added explanations in the sociodemographic data (lines 189-191).

“Economic status was based on Japanese classification questions and answers about ‘subjective economic status’ used in the national survey on a 4-point scale: 1) absolutely not affluent, 2) not affluent, 3) moderately affluent, and 4) affluent.”

3. The exclusion criteria are not mentioned. For instance, would a women undergoing treatment for postpartum depression be included? How would this affect the results?

Author’s Response

We appreciate the reviewer’s suggestions. We added the exclusion criteria (lines 172-173). We did not ask if women undergo treatment for physical or mental conditions such as postpartum depression. Therefore, this study may include women who are undergoing treatment for postpartum depression that are likely to feel loneliness.

“Exclusion criteria were mothers who could not understand Japanese and answered less than half of the questionnaire items.”

4. Results: I am impressed by the low response rate. Would this be attributable to the fact that women had to mail in the responses?
Author’s Response

We appreciate the reviewer’s comments. We also guess that the low response rate was attributable to the fact that women had to mail in the responses. In previous studies targeted to mothers in Japan, the response rates were around 30-40%. We added this to the discussion in lines 358-362.

“Finally, the response rate was relatively low, although it was higher than that of previous studies targeted to mothers in Japan, which had a 30-40% response rate. We believe that the reason for the low response rate is that women had to mail in the responses, but had less time to do so because of busy parenting, work, and housework.”

5. Discussion: I find it a bit rambling. Loneliness is not related to self perceived quality of health, or size of the social network but rather to some ill defined quality factor in interactions. Also, it seems to be related to regional factors, which I understand is how mothers interact with neighbors.

So wouldn’t relationships with neighbors be part of the informal support system?

I’d suggest that the discussion concern itself only with the psychometric qualities of the Loneliness Scale.

Author’s Response

We appreciate the reviewer’s suggestions. We decided to concern itself only with the psychometric qualities of the Loneliness Scale in lines 319-321.

“No correlation was found with network density. The loneliness of mothers would be influenced by difference in quality, namely of interpersonal relationships and exchanges.”

We also changed the order of variables in Table 2 and Table 3.

We also deleted on explanation about “how participants communicated with their neighbors” from Method section and Table 1.

Editorial Requests:

1. As you are reporting a cross-sectional study, please ensure that your manuscript includes all items from the STROBE guidelines (link, usually to EQUATOR site). Please include a completed (https://www.strobe-statement.org/index.php?id=available-checklists) checklist as an additional file with your revised manuscript.
Author’s Response

We appreciate your advice. We used the STROBE checklist as an additional file with our revised manuscript.

2. Please delete the certificate of Editing from the attachments.

Author’s Response

Thank you for your feedback. We deleted the certificate of Editing from the attachments.

3. If the questionnaire used for the study differed in any way from the one available in the literature, please upload a copy of the original questionnaire and the Japanese version as supplementary materials.

Author’s Response

The questionnaire used for this study did not differ in any way from the one available in the literature. however, we uploaded a copy of the original questionnaire and the Japanese version as supplementary materials.

4. Please delete the "Ethics, consent and permissions" section from the declarations.

Author’s Response

We appreciate your advice. We deleted the "Ethics, consent and permissions" section from the declarations.

5. Under the heading "Funding", please declare the role of the funding body in the design of the study and collection, analysis, and interpretation of data and in writing the manuscript.

Author’s Response

Under the heading "Funding," we declared the role of the funding body in the design of the study and collection, analysis, and interpretation of data and in writing the manuscript.

6. Please delete the duplicate of the section "Competing interests" in the "Declarations".
Author’s Response

Thank you for your feedback. We deleted the section "Competing interests" in the "Declarations."

7. Please move the tables after the references.

Author’s Response

We appreciate your advice. We moved the tables after the references.