Reviewer's report

Title: Psychometric Properties of a Brief Measure of Autonomy Support in Breast Cancer Patients

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Reviewer: Clara Lee

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Overall
1. This is a well-written paper that describes a carefully-conducted study of the psychometric properties of the mHCCQ, a short-form scale. The topic of the scale, patients’ perceived autonomy support during communication with their provider, is very important to health behavior researchers and potentially to clinicians. The study has some limitations, but the authors provide thoughtful discussion of them.

Background
2. The background provides a nice introduction to the theory behind the Health Care Climate Questionnaire (mHCCQ), as well as the literature on patient autonomy and its implications for health behaviors and health outcomes. It also provides adequate introduction to the specific issues for the clinical population of this study – ie, breast cancer patients.

3. I didn’t completely understand this sentence, which is the last sentence of the 2nd paragraph in the Background: This distinction between internalization of a treatment decision as one’s own, and being acted upon by an external influence, has important effects on patients’ coping, cooperation, and satisfaction with care [12]. Specifically, it’s not clear to me how a “distinction” can have effects on clinical outcomes, such as coping, cooperation, and satisfaction with care.

Methods

Sample:
4. I recommend that the authors describe the rationale for their sample composition in the methods, and then address the implications in the discussion. For example, patients with Stages 0-III breast cancer were included. Patients with lower stages (eg DCIS) generally have more treatment options than patients with higher stages (esp Stage III) and therefore may experience more autonomy in discussions with providers.

5. Similarly, it would be helpful to know the rationale for and implications of time from diagnosis up to 18 months. If one were interested in the health care climate during treatment planning, the relevant time period is the first 3 months from diagnosis. On the other hand, for examining coping (eg, with toxicity from treatment), the relevant time period would be 6-12 months.
6. For the MSKCC sample, please clarify the 2nd sentence of the 2nd para of the methods – when feasible all eligible patients were approached. How much did this sample end up being a convenience sample versus all eligible patients? Patients were enrolled during clinic appointments – were these any appointment, new patient appointments, routine follow-up, or for problems? The reason a patient is being seen has implications for their survey responses.

Measures:
7. It would be helpful to have some description for how the 6 questions were chosen/developed, as it’s not obvious or readily evident.

Analyses:
8. Please clarify the 2nd sentence of the 1st paragraph of the “Analyses” section: “We considered retaining factors with Eigenvalues > 1.0 (indicating at least 16.7% of variance explained)” Does this mean that factors would only be retained if the Eigenvalue was >1.0? Based on the results, I think not, but it wasn’t clear.

9. Please clarify the 3rd sentence of the 1st para: “reported the correlation between the scales as calculated for the four provider groups” I thought there were only 3 provider groups. Do you mean that the “overall” group was one of the four?

10. The analyses for association with treatment type and time since diagnosis are methodological strengths. However, association with Stage was not examined. This would be highly relevant for the reasons mentioned above (under sample).

Results
11. Overall, the study population’s composition is a strength. It is racially diverse and its clinical characteristics are representative of the breast cancer population.

12. Please explain why the range for time from diagnosis was 2 to 60 months (Table 1), since the inclusion criterion is up to 18 months.

13. The first 2 sentences of the 2nd paragraph are a little confusing. For overall ratings of autonomy support, as well as for surgeon-, medical oncologist-, and radiation oncologist-specific ratings, EFA for each indicated a single factor solution. For overall treatment experience and provider specific scales, only one Eigenvalue was greater than 1.0, and in each case the percentage of variance explained by the first factor was above 70% (range 73.2% to 86.7%). I’m not sure if “overall ratings of autonomy support” is the same thing as “overall treatment experience” and if “surgeon-, medical oncologist-, and radiation oncologist-specific ratings” are the same thing as “provider specific scales”.

Discussion
14. I generally agree with the conclusions in the discussion section. The first paragraph’s conclusion that “the six items on the mHCCQ are measuring a single underlying dimension for how breast cancer patients perceive the autonomy
supportive communication style of their physicians” is reasonable.

15. The 3rd paragraph discusses the finding of more perceived autonomy support with surgeons and possible explanations. The authors suggest: This may indicate that the surgeon contributes more to patients’ overall treatment appraisal than the medical oncologist or radiation oncologist. I recommend characterizing this in a slightly different way – it’s likely more related to the nature of the 3 decisions (lumpectomy vs mastectomy is generally more preference-sensitive than the decision about chemo or about radiation) than about how much any given provider contributes to treatment appraisal.

16. The discussion about possible ordering effects is appropriate. If desired, the authors could elaborate on the effects of ordering of gist versus specific reasoning types of questions.

17. The discussion of the finding of ceiling effects (para 4 of discussion) is important and well-reasoned. I recommend providing a reference for readers about cognitive dissonance reduction, since many will not be familiar with this phenomenon or body of research. Although I agree that breast cancer patients tend to be a highly satisfied group, they also have high information and involvement needs/preferences, so the finding of high means is still not explained in this group.

18. The discussion would benefit from more treatment of the issues of recall bias and forgetting, since the average time from diagnosis was 12 months. The discussion of limited generalizability because of the relatively educated population is appropriate.

19. In general, I would limit the speculation about the findings of associations with race, education, and surgery, since these were bivariable analyses. Although mastectomy is generally associated with less patient autonomy, it is also associated with age, stage, and other factors.

20. I like the suggestions for other tests of external validity in the last paragraph of the discussion. An additional approach would be to test for association with autonomous decision making processes (eg, whether or not the provider asked for the patient’s preferences, whether the patient expressed her preference, or whether or not the provider discussed pros and cons of options).

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:
I declare that I have no competing interests