

**Revisions Requested for MOST Nursing Research Paper**

Areas of Reviewer Comments	Reviewer 2	Reviewer 3	Reviewer 4	Response
Background and Purpose				
	<p>Weak explanation of the significance/importance of the instrument. What could the additional aspects of self-management (SM) contribute? Why do researchers and clinicians need to know them?</p>			<p>Expanded significance section – last paragraph p. 5.</p>
		<p>Concept of SC is incongruent with the inclusion of families. Lack of conceptual specificity?</p> <p>Is not full responsibility the concept of SM?</p> <p>So SM overlaps with adherence?</p>		<p>Expanded discussion of the concept of SM, its relationship to adherence, and its inclusion of families- see pps. 4-5.</p>

			<p>Theoretical Framework- rationale for the instruments used to assess construct validity should be expanded. It is not evident why DQOL would be expected to be associated with SM. (Indeed, correlations between the 5 subscales and DQOL subscales were generally weak.)</p>	<p>Rationale for using selected instruments to assess construct validity has been expanded- see bottom of p. 8 to the top of p. 10. In summary, we selected instruments that have been linked with self-management, self-care or adherence in previous studies. As indicated by the reviewer, correlations between the five SMOD-A subscales and the three Diabetes Quality of Life subscales were weak, however, since DQOL measures an outcome of self-management (as opposed to a similar concept), these correlations are in the range that might be expected.</p>
Methods				
	<p>A definition of adolescence is needed. What is the rationale for including young adults?</p>			<p>We have added our definition of adolescence, which includes individuals into their early twenties. See the middle of p. 7.</p>
		<p>How was CVI calculated? p. 4, line 13- How was CV determined? Were the items correlated with % agreement?</p>		<p>The CVI was computed by averaging item CVIs- see top of p. 7.</p>

			Method of estimating annual household income of limited value and perhaps should be omitted.	We took the suggestion of Reviewer #4 and eliminated our reporting of household income.
Sample				
	How many had normal HbA1c? What is the range of duration for illness?			We added information on HbA1c values and the range of duration. See top of p. 8.
		p. 5, line 4- Any characterization of those who refused?		We now give reasons why some adolescents declined to participate. However, we did not obtain demographic characteristics of this group.
		p. 5, line 8- What were the Ns. There were only 8 AA and this needs to be noted.		We now report racial distribution by raw frequency (number) as well as % frequency. The sample included 50 (9.7%) adolescents describing their race as Black, and 8 (1.6%) describing their race as Asian.
		Why are the 30 Hispanics presented separately from the ethnic breakout of the rest of the sample?		We used the recommended NIH format for reporting race and ethnicity as separate variables.
		p. 5, line 13. Explain CSII.		We defined CSII in the first paragraph of the paper.

		Page 6, line 21- How many completed the DSMP?		$n = 16$
Procedures				
	How was the sample size determined as sufficient for stability ( $n=187$ )? What is the rationale for testing stability at 3 months? (Underlying question is whether change at 3 month should be read as instability of measurements or change in SM)			We did not power the sample size for assessing test-retest and stability assessments- we merely aimed for a robust number with which we could run correlations. We involved more participants in the three month retake because we did not know how many would actually return the instrument. The 3 month interval was used as an exploration of the stability of self-management over this period. We have expanded our explanation of procedures (p.8) and also discussion of these results (p. 15).
Measures				
	How long did it take to complete the instruments? For the SMOD-A, what is the possible range of scores? Is higher score indicative of better SM?			Most participants completed the instruments in twenty minutes or less. We have inserted this in the first paragraph on <i>Measures</i> on p. 8. Information on the possible ranges of scores on SMOD-A subscales and the meaning of scores can be found under <i>Factor analysis and subscale development</i> , in middle of p. 13.
		p. 6, line 9. Were all items positive or were some reverse coded in		Yes, some were reversed coded. This has been added in the first full paragraph on p. 10.

		<p>order to control for systematic response bias?</p> <p>Were items randomly assigned or was there a systematic response bias in the presentation?</p>		<p>Items were ordered such that those written to reflect the categories activities of self-management and processes of self-management were placed in Part I and those written to reflect goals of self-management were placed in Part II. Items within each part were scrambled, rather than grouped together by topic.</p>
		<p>Comments about reporting of Cronbach's alpha from the literature for the instruments used.:</p> <p>p. 6, line 17. Were these in other studies or this one?</p> <p>p. 6, line 22. Ditto</p> <p>p. 7, line 8. This is how all prior alphas should be noted.</p> <p>p. 7, line 13. Was this in Harris et al.'s study? Please provide citation.</p>		<p>We revised section so as to clearly report alpha and citation from research literature for instruments used.</p>

		p. 7, line 14. Where is the evidence? Provide citation.		
Results				
	p. 9. second line. How many items were dropped? How many retained? Was factor analysis re-performed for final retained items?			Figure 1 has been added to the manuscript to clarify how many items were dropped at the various stages of the project. We did not re-perform factor analysis on the final retained items and are not aware of any recommendations to do so.
	Construct validity testing was confusing. Given conflicting results in Table 3, it is difficult to think that the 5 subscales measure the same concept. What were the correlations among the 5 subscales? Were the associations between “collaboration with parents” and other subscales negative? Authors should rewrite to clearly specify			We expanded the <i>Measures</i> section to provide more rationale for expected relationships with the SMOD-A. Inter-correlations among SMOD-A subscales are presented under the section, <i>Construct Validity Testing</i> .

	expected relationships and how results supported hypotheses.			We expanded the <i>Measures</i> section to provide more rationale for expected relationships with the SMOD-A. Inter-correlations among SMOD-A subscales are presented under the section, <i>Construct Validity Testing</i> .
	For the relationship of DSMP and SMOD-A, effect sizes should be interpreted rather than significance level because <i>n</i> is small.		For the correlation coefficients presented in Table 3, authors should consider providing 95 % confidence intervals to illustrate the lack of precision with this small sample. In addition, the Discussion section should include comment on the limited inference available by use of this instrument and small sample.	We agreed with these recommendations and added a final paragraph to the <i>Results</i> section to present these results. We also added to sentence to the <i>Discussion</i> to point out the imprecision of these results. See second to last paragraph of <i>Discussion</i> .
		p. 7, line 18. So the sample is now down to 484? What groups did they fall out of?		No, the <i>n</i> of 484 was just for the analysis of HbA1c values.
		p. 7, line 22. What cat-	p. 7, last paragraph—	We now elaborate on this statement

		<p>egories were the items in, that were eliminated?</p>	<p>sentence re “limited or no variability” is vague and should be clarified</p>	<p>and give an example. Items were eliminated from all categories.</p>
		<p>It is difficult to tell if the analysis was forced because of a conceptual bias into a four factor solution.</p> <p>Exploratory analyses do not have a priori decisions and the incorrect factor procedures were used for psychometric development.</p> <p>p. 8, line 22. Why were</p>		<p>We did not force the number of factors or other aspects of the analysis. Based on prior conceptualization we would have expected 3 factors – process, activities, and goals. Number of factors rotated was determined empirically, based on scree plots, through which eigenvalues by factor are visualized. This approach to determining number of factors led us to five factors.</p> <p>Statisticians continue to debate the relative merits of different approaches to factor analysis. We chose to use the alpha method of extraction because it is an exploratory approach that is ideally suited for psychometric analysis. We thoroughly explain the rationale in the manuscript (p. 12). Although a priori theoretical conceptualizations played a role in writing items for the SMOD-A, they did not play any role in factor identification, which was strictly exploratory.</p> <p>Multiple analyses were conducted, in</p>

		<p>4 different analyses used? One exploratory FA should have been adequate to determine eigen values and loadings.</p> <p>Which default was used? Were means substituted?</p> <p>p. 8, line 4. Based on what...factor loadings, eigen values?</p>		<p>order to compare solutions. However, differences were trivial. The final proposed solution was obtained via alpha method of extraction.</p> <p>Means were not substituted for missing data. Instead, subjects with missing data were not included in the factor analysis. In the version of SPSS which we used (15), the default approach for factor analysis is to exclude from the analysis subjects with missing data. After examining patterns of missing data, we elected that approach.</p> <p>This sentence has been rewritten. Consideration in comparisons of factor solutions included factor loadings, eigenvalues, conceptual meaning of factors, and Cronbach's alpha of derived scales.</p>
		<p>p. 8. Do you mean the alpha from the FA?</p> <p>p. 8, line 8. Alphas are</p>		<p>We apologize for any confusion and have changed wording to be clearer. We used the alpha extraction method of factor analysis. We also calculated</p>

		based on average scores . . . You can not do individual alpha. Are you trying to set cut points using a ROC analysis for specificity and sensitivity?		Cronbach's alpha for each derived subscale as an indicator of internal consistency reliability. We are not reporting a ROC analysis or setting cutpoints.
		p. 8, line 9. Using what—test retest? Split half? Were repeated measures effects calculated?		Evaluation of stability over two weeks with a subsample (n=74) of participants is our assessment of test-retest reliability. Correlations reported with other measures is based only on baseline SMOD-A data.
		p. 8, line 18. Using what? Maximum likelihood, orthogonal rotation?  p. 8, line 20. Varimax rotation maximizes. You should have used the maximum likelihood. This was confirmatory then?		We conducted exploratory factor analysis using the alpha method of factor extraction. Alpha method of extraction is well suited for psychometric analysis. We provide thorough explanation for this choice in the manuscript. As this is the first use of a new instrument, we feel that an exploratory approach to analysis is most appropriate.
			p. 8. Part II of SMOD-A consisted of just 12 items—This calls into question the appropriateness of a separate FA for this	Separate factor analyses were run because response options differed for Part I and Part II of the SMOD-A. We did this because instrument sections with different response options traditionally factor into methods factors

			<p>part of the instrument. Single factor may have been expected.</p>	<p>based on the response formats, necessitating further analysis to “decompose” these methods factors. Our experience and review of literature suggest even smaller numbers of items have yielded multiple factors (See Barry, Kaiser &amp; Atwood, 2007; Dixon, Dixon &amp; Hickey, 1993; Parshall, 2002).</p>
			<p>P. 9, on temporal stability—<math>p = .0001</math> is not useful as this is a test of whether test-retest reliability is different from a value of 0.0 (no reliability).</p> <p>Authors should relate findings (and possible statistical significance testing) to established norms for acceptable reliability coefficients.</p>	<p>We have revised both the <i>Results</i> and <i>Discussion</i> sections to make data concerning test-retest and stability assessments clearer.</p> <p>We have now done so.</p>

			<p>p. 10, last paragraph. The p-values alone are not particularly informative. If the authors wish to contrast results of subscales by specific participant characteristics, the descriptive statistics should be provided for age, etc. so the reader gets a sense of the magnitude of variation.</p>	<p>We agree. To address how the SMOD-A subscales performed in the various subgroups of the sample would have significantly expanded the length of this manuscript, already lengthened by other revisions. Since the information is not central to the topic of the manuscript, we have taken this section out.</p>
			<p>Authors should consider a flowchart as to how arrived at 52 items.</p>	<p>We think this is a great idea, and have created Figure 1.</p>

			In Table 1, for “Diabetes Care Activities” the first 2 items seem almost identical. It is therefore surprising that both items add significantly to the scale. This should be confirmed.	We did confirm this. The items are negatively correlated ( $r = -.617$ ), and removing either one resulted in lower alpha reliabilities.
Discussion				
	Superficial and doesn't connect back to the conceptual definition			We have expanded this section.
Style			Supply titles of those acknowledged.  Provide date of retrieval for US Census Bureau reference.	Done  We eliminated this reference.