Valid and Precise Measurement

We read with interest "Prospective Assessment of Pregnancy Intentions Using a Single- Versus a Multi-Item Measure" [2009, 41(4):238–243], by Kavanaugh and Schwarz. We commend the authors for seeking to address the critical challenge of valid measurement of pregnancy intention and absolutely agree that a prospective measure of pregnancy intention has the potential to be a useful clinical tool. However, we take issue with some of the conclusions they draw, particularly regarding the assessment tool they refer to as the "prospective London Measure of Unplanned Pregnancy" (pLMUP).

The London Measure of Unplanned Pregnancy (LMUP) is a six-item, retrospective measure of pregnancy intention and planning with established psychometric properties that was designed after extensive qualitative research in the United Kingdom.[1,2] In their study, Kavanaugh and Schwarz modified both the language used in the LMUP and the number of items it contains "to assess women's pregnancy intentions before they receive a pregnancy confirmation." They administered the pLMUP to a young, predominantly black population in the United States, compared scores with responses to a single Likert-scaled question and concluded that their results "indicate that [this] modification of the original LMUP questions can be used to measure women's pregnancy intentions prospectively."

We find this conclusion problematic on several fronts. There are clear guidelines for the validation of existing measures in new populations, as well as for the development of new measures.[3,4] Before a measure can be considered valid in a new population, its psychometric properties, including reliability, internal validity and external validity, must be established. This is particularly critical for the construct of pregnancy intentions, in light of mounting evidence that women's conceptualizations of pregnancy intention are deeply embedded in social and cultural characteristics, such as how economically developed their community is, kinship and family norms, the value of children and the degree to which pregnancy is viewed as being within a woman's control.[5–8] Of concern, the article does not present, or refer to, any psychometric evaluation of this measure according to standard criteria; therefore, the scores presented would conventionally be considered invalid. A number of validations of the LMUP are under way, including ones that we are involved with among pregnant women in the United States and in India.[9]

Furthermore, the conclusion that the pLMUP can be used to measure women's pregnancy intentions prospectively suggests that it is suitable for use with nonpregnant women; however, because this is a different target population from the LMUP's, the pLMUP is essentially a new measure. Additionally, the study's use of a sample of women presenting for pregnancy testing is a problematic representation of the new target population, as many of these women already suspect that they are pregnant. As a result, women's reporting may, in essence, already be retrospective, and the assessment of the measure's predictive validity is compromised. Therefore, this study might more appropriately be framed as a pilot or feasibility study for use of the LMUP among potentially pregnant women in the United States.

We agree with the authors that a valid prospective measure of pregnancy intention could be useful in clinical practice. Measures that are intended for use at the individual level are normally required to have a high level of reliability (Cronbach's alpha of at least 0.9) to be considered sound for drawing inferences about individuals.[10,11] The LMUP, in contrast, was designed to be a population-level measure, which reliably allows for the analysis of groups rather than individuals. For this reason, it is unlikely that the LMUP would ever be appropriate for conversion to a prospective measure of pregnancy intention for use with individual women; this is one reason it has not been used in this way by its originator.

We appreciate the authors' efforts to address the critical challenge of measuring pregnancy intention. More broadly, we urge our fellow members of the sexual and reproductive health research community to devote greater attention to the proper measurement of latent constructs. In other fields, such as psychology, quality of life research and education, the use of valid and reliable multi-item instruments is the norm, and methods for conducting psychometric analyses are long established. Our own field can only benefit from valid and precise measurement.

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Kavanaugh and Schwarz reply:

We appreciate Dr. Barrett and her colleagues' comments. Because we were unable to identify existing measures to assess pregnancy intentions prospectively, we searched the literature for an appropriate retrospective measure that could be modified for that purpose. We selected the London Measure of Unplanned Pregnancy (LMUP) because it incorporated several dimensions of pregnancy planning and seemed (as evidenced by Barrett's own work[1]) to represent an improvement over many traditional measures of pregnancy intention. Because we were assessing these intentions in a population of women for whom pregnancy had not been confirmed (but, as we acknowledged in our article and as Barrett rightly points out, among whom many may have suspected pregnancy), we adopted the approach taken by Schünmann and Glasier,[2] and omitted a question from the original LMUP that we felt could have been interpreted as insensitive by study participants. We acknowledge that the omission of this question, and the language modification that was necessary to make the sequence prospective in nature, negates the established validity of the measure; consequently, our findings should be interpreted with caution.

We wholeheartedly agree that further development of items to assess pregnancy intention prospectively is necessary, and we appreciate Dr. Barrett's recommendations on how to make validated and reliable scales available for broader use within our research community.

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