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To: HCHS/SOL Steering Committee, Publications Committee, and Statistical Committee

From: Psychosocial/Sociocultural Committee (Linda Gallo & Frank Penedo, Chairs);
Measurement/Psychometrics Working Group (William Arguelles, John Elder, Patricia Gonzalez, Carmen Isasi, Maria Llabre, Vanessa Malcarne, Krista Perreira, Scott Roesch, Daniela Sotres-Alvarez)

Re: Results of psychometric analyses, and recommendations for use of the Fatalism scale administered in the HCHS/SOL Sociocultural Ancillary Study. Note: Analyses performed by Patricia Gonzalez and Angela Gutiérrez

Fatalism, or the extent to which individuals feel their destiny is beyond their control, will be assessed using the 8-item Fatalism subscale of the Multiphasic Assessment of Cultural Constructs – Short Form (MACC-SF).¹ Sample items included statements such as, “It is more important to enjoy life now than to plan for the future” and “It doesn’t do any good to try to change the future because the future is in the hands of God.”

Psychometric analyses were performed to evaluate the internal consistency and the factor structure of the 8-item Fatalism Scale (administered in the HCHS/SOL Sociocultural Ancillary Study). In addition, a multiple group confirmatory factor analysis (CFA) was conducted to examine the configural invariance (or equivalence) of this measure across English and Spanish responders.

The psychometric properties were problematic when fatalism was operationalized as a one-factor construct with the 8-items used in the HCHS/SOL Sociocultural Ancillary Study. The full scale score did not achieve adequate internal consistency ($\alpha = .581$). Following the test of internal consistency, an exploratory factor analysis of the 8-item fatalism scale was conducted. Results suggested that the *fatalism* scale consists of three factors, with six items loading on the first factor (i.e., FMEA15-FMEA20), one item loading on the second factor (i.e., FMEA21), and one item loading on the third factor (FMEA22). Results suggested that these items had low item-total correlations and that internal consistency could be improved if items FMEA21 (“When I make plans, I am certain I can make them work”) and FMEA22 (“I sometimes feel that someone controls me”) were dropped. Thus FMEA21 and FMEA22 were removed to improve the reliability and factor interpretability. After removing FMEA21 and FMEA22 from the scale, the internal consistency for the total score with 6-items improved ($\alpha_{\text{full sample}} = .64$; $\alpha_{\text{Eng}} = .65$; $\alpha_{\text{Span}} = .62$). Although the Cronbach’s alpha for the fatalism subscale was not optimal, it was within the .5 to .6 range reliability estimate that may be considered acceptable for subscales consisting of 6 items or fewer.

Following the test of internal consistency, a one-factor CFA model (with 6 items) fit the data well descriptively (CFI = .944, RMSEA = .079), thus suggesting that the 6-item one-factor model was acceptable (invariant) across both language groups.

Recommendations: For investigators who wish to pursue research questions regarding *fatalism*, we recommend the use of the 6-item scale. Please note that two items (i.e., FMEA21 and FMEA22) were excluded to improve psychometric properties. Therefore, we recommend that this scale be re-scored in the master database to include the new scale score.

For investigators who wish to provide details regarding the measure in their manuscripts, an example description is: “Fatalism, or the extent to which individuals feel their destiny is beyond their control, will be assessed using six of the eight items from the Fatalism subscale of the Multiphasic Assessment of Cultural Constructs – Short Form (MACC-SF).¹ Due to the original subscale’s poor internal consistency, a shortened version was created based on psychometric results from the HCHS/SOL Sociocultural Ancillary Study that demonstrate that the six-item version performs better.”

References

- Cuellar, I., & Arnold, B., & Gonzalez, G. (1995). Cognitive referents of acculturation: Assessment of cultural constructs in Mexican Americans. *Journal of Community Psychology*, 23(4), 339-356.