HINTS PROPOSAL

Proposed Title: Evaluating Measurement Equivalence Between the English and Spanish-Translated Forms on Select Scales of the HINTS Survey.

Co-authors:

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(Others may be added as needed)

Research questions:

1. Do questions in select scales of the HINTS survey bias one group (English or Spanish) to have higher scores than the other because of their cultural beliefs?

Study description/rationale:

Survey questions should be equally applicable to all targeted populations. Thus a lot of care is taken when instruments are translated to other languages. However, despite linguistic equivalence, populations may give culturally different responses. For example, in a depression questionnaire, Azocar et al. (2001) found that a Latino population endorsed "I feel like crying" more than an Anglo population, because Latinos regard crying as socially acceptable behaviour. This resulted in Latinos receiving a higher average depression score than Anglos. This is known as differential item functioning (DIF).

DIF occurs whenever one group consistently responds differently to an item than another group, even after controlling for differences in sampling distribution on the measured construct. In other words, respondents, with similar levels on a latent trait (e.g., mental health) but who belong to different populations, have a different probability of responding to an item. Scales containing such items have reduced validity for between-group comparisons because their scores are indicative of a variety of attributes other than those intended to be measured (Thissen, Steinberg, & Wainer, 1993).

This study will attempt to evaluate if select scales in the HINTS questionnaire are measurement equivalent between the English and Spanish forms. There are various statistical approaches to identify DIF items, and we will be employing Item Response Theory (IRT) modeling. IRT modeling is used when respondents are presented with multiple items that define a single domain such as mental health or information needs, thus scales with five or more items will be considered for evaluation in this study. Because of the complexity of the analyses and interpretations, only one scale will be selected for full evaluation and description in a publication. Results from analyses of other scales will be made available to other researchers using the scales in their work.

Variable list:

SpanEng, SPGender, SPAge, Caseno, DM4, DM5

HC-4 variables: HC4aProviderListen, HC4bProvderExplain, HC4cProviderRespect, HC4dProviderTime, HC4eProviderInvolve.

HC-19 variables: HC19aWantMoreInfo, HC19bAlotEffort, HC19eFrustrated, HC19gConcernedQuality, HC19jTooHardUnderstand, HC19kSatisfied.

CK-13 variables: CK13aSmoking, CK13bHighFatDiet, CK13dExposureToSun, CK13eFoodAdditives, CK13gLowFiber, CK13hFewFruitsVegetables, CK13iStress, CK13jAlcohol, CK13kHitBreast, CK13lManySexPartners, CK13mFamilyHistory, CK13nRaceEthnicity, CK13oLittleExcercise, CK13rPollution, CK13sRadon.

HS-2 variables: HS2aSad, HS2bNervous, HS2cRestless, HS2dHopeless, HS2eEffort, HS2fWorthless.

Method of analysis:

Descriptive analyses will include evaluation at the item and scale level including response frequencies, inter-item correlations (both Pearson and polychoric), item-total scale correlations, and internal consistency reliabilities. Factor analysis will be conducted to evaluate the dimensionality of the scales. The scale with the largest number of items that are essentially unidimensional, will be evaluating with IRT modeling. DIF analyses will follow which requires identifying both candidate items for DIF testing and items that may be considered as anchors to place both populations (English and Spanish) on a common metric. Items identified as DIF will be reviewed among content and language experts (yet to be identified) to determine possible causes for DIF.

References:

1. Azocar, F., Arean, P., Miranda, J., & Munoz, R.F. (2001). Differential item functioning in a Spanish translation of the Beck Depression Inventory. Journal of Clinical Psychology, 57(3), 355-365.
2. Thissen, D., Steinberg, L., & Wainer, H. (1993). Detection of differential item functioning using the parameters of item response models. In P.W. Holland & H. Wainer (Eds.) Differential Item Functioning (p. 67-114). Hillsdale, NJ: Lawrence Erlbaum Associates.

Targeted Journal: (if known)

Depending on final selected scale, possible journals include Medical Care, Annals of Behavioral Medicine, Health Psychology, or a journal devoted to survey research.