

FLORIDA INTERNATIONAL UNIVERSITY

Miami, Florida

PROPOSAL FOR THESIS

MASTER OF SCIENCE IN PSYCHOLOGY

COLLEGE OF ARTS AND SCIENCES

PSYCHOLOGY DEPARTMENT

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I propose to the Major Professor and the Committee Members a study of the following topic to be conducted in partial fulfillment of the requirements for the degree of Master of Science in Psychology: ENHANCING THE UTILITY, RELIABILITY AND VALIDITY OF RDA THEORETICAL CLASSIFICATION CODING

General Statement of Problem Area

The problem to be examined involves the lack of methodology integrating both qualitative and quantitative analysis (Kurtines et al., in press).

Research Purpose

The primary purpose of this research project is to provide evidence for the reliability and validity of the Relational Data Analysis (RDA) framework in evaluating youth development programs (Lewis Arango et al., in press).

Research Aims

First, with respect to statistical power, this study proposes to increase the accuracy of the available estimates the psychometric properties (i.e., reliability and validity) of the Life Course Interview by assembling and coding a substantially larger sample than used in the Lewis Arango et al. study (in press). Second, with respect to methodological precision, this study proposes to develop a more efficient and effective set of procedures for coding previously uncoded response data using theoretical categories previously derived (Lewis Arango et al., in press) using Relational Data Analysis. Specifically, to include the development of a procedure for constructing a theoretical classification coding Decision Tree Chart (RR06-LCI-ID-DTC) as reported in Chen et al. (2006). Third, the proposed study was designed to extend the Lewis Arango study (in press) and to provide additional evidence for the reliability and validity of the theoretically meaningful categories of narrative expressions of life course experiences generated by Relational Data Analysis (RDA) framework when used in evaluating youth development programs.

Significance of the Study

In addition to providing a potentially useful framework for evaluating youth development programs, Relational Data Analysis also provides a framework addressing a larger issue, the issue of the utility of the data analytic strategies that we have been developing for unifying qualitative and quantitative data analysis. RDA is a multidimensional, multiphasic framework for unifying the use of data analytic strategies across both dimensions of analysis (e.g., quantitative/qualitative, causal/structural) and phases of analyses (conceptual, theoretical, and research analyses) (Lewis Arango et al., in press).

Theoretical Perspective

In the quantitative/experimental research tradition, reliability is the extent to which a measurement method is repeatable and yields consistent results. From the perspective of traditional psychometric theory (Nunnally, 1978), the aim of estimating reliability is to identify how much variability in a measurement method is due to measurement error versus true variability in the construct being measured.

Additionally, validity is said to be the extent to which a measurement method measures what it is supposed to measure. This study seeks also to measure the construct validity of RDA as an addition to the Lewis Arango study (2007, in press). Construct validity requires the accumulation of evidence that a measurement method is linked to the theoretical construct it is hypothesized to represent. This process is long and complex, often involving a least three basic types of evidence: 1) criterion-related (includes predictive and concurrent); 2) convergent; and 3) discriminant validity (Anastasia & Urbina, 1997; Campbell & Fiske, 1959; Nunnally, 1978).

Research Questions and Hypothesis

Question #1 What is the inter-coder agreement of identity categories from time 1 to time 2?

Question #2 What is the construct validity of Relational Data Analysis as a method for examining identity categories?

Question #3 What is the criterion-related validity of Relational Data Analysis as a method for examining identity categories?

Hypothesis #1 Fleiss's kappa will be at least .61, indicating a high moderate to high level of intercoder agreement of identity categories.

Hypothesis #2 Pearson's correlation between theory neutral or content coders will be at least .70, indicating a high level of construct validity.

Hypothesis #3 Pearson's correlation between two sets of theory neutral and theory laden coders will be at least .70, indicating a high level of concurrent validity.

Method

Participants

Participants for this study will be drawn from the Miami Youth Development Project archival data. The Miami Youth Development Project (YDP) is an outreach research program that promotes positive youth development via a partnership between Florida International University in Miami, Florida and local public schools and community resources. The multiethnic sample of intervention participants will be comprised of approximately 40% African American, 48% Hispanic, and 12.5% White/non Hispanic with 54% females and 46% males that is typical of the school's demographic make-up. The age of the participants will range from 14 to 19 years of age.

Data Analytic Plan

The Data Analyses Plan for the proposed study will be comprised of the three-step psychometric analyses (reliability and validity estimates) of the RDA Coding Template constructed during what is being proposed as an RDA Theoretical Analysis Task.

Inter-coder agreement will be estimated using Fleiss' kappa. Fleiss' kappa incorporates a correction for chance agreement and for greater generalizability as it can be used to measure the significance of the agreement among multiple raters with the significance level being adjusted relatively to the number of comparisons made. If the agreement is found to be high, it is assumed that the ratings do reflect the dimensions they are presumed to. If kappa is found to be low or 0, this would indicate a high degree of measurement error (Fleiss, 1973).

The average inter-coder agreement of theory neutral coders across identity categories will be estimated using Pearson's correlation and will be interpreted as providing an indirect estimate of the degree to which the conceptual properties for each of the identified categories are unique and qualitatively different from all of the other identified categories of the emerging grounded theory or discriminant validity.

Concurrent validity of theoretically meaningful categories in the existing data will be tested with samples of "new" coders to confirm or refute the concurrent validity of the categories and hypothesized structural organization of the qualitatively different theoretically meaningful categories identified by the theoretical coders in the Theoretical Analysis phase. This will be estimated using Pearson's correlation.

References

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- Nunnally, J. (1978). *Psychometric Theory*. New York: McGraw-Hill.