The Systematic Organization and Validation of Scale Data in Research: The When and Where in the Multidisciplinary Use of What.

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Introduction

The ongoing recognition of the importance of scales in demographic research and analysis is well established. Many surveys that routinely collected basic variables on a variety of topics including health, and socioeconomic status also either employ or create scale measures how specific behaviors were outcomes. Established projects routinely collect scale information but the composition, application and interpretation of the constructed scales can vary wildly, depending upon their specific research focus. Recently, a growing interest in the variety of scales available, their protocols, and their application in multidisciplinary research reflects the growing acceptance of this approach within mainstream social survey research. The growth in both the collection of information necessary for the construction of scales and the development of analytic models that incorporate a variety of scales in research frameworks argues that our science will benefit only if we can achieve a systematic understanding of how scales are collected across disciplines, how they are organized and how results from scales are interpreted. With greater multidisciplinary understanding we can more broadly introduce this kind of information into our research models. This poster presents an overview of recent work by inactive to catalog and systematically review the use of scales in social research. The poster touches on how various types of scales are collected and how different disciplines use different strategies in survey design and the creation of questionnaires and how this impacts collection protocols. The poster also introduces a summary of potential extensions of these various approaches to scaling information to social based research. Of equal if not greater importance, the poster also addresses some of the language and definitional issues that create barriers that complicate collaborative research between social and physical science practitioners. When is a scale appropriate for use in socioeconomic research as opposed to psychometric research? What scales can we effectively use to associate health outcomes with social behaviors and what kinds of scales are inappropriate for these kinds of applications? These associations exist but to more fully utilize the wealth of existing information demographers and other population

researchers will have to develop our existing techniques to incorporate the exciting new resources that a thorough understanding and application of scales offers the science.

Research Issues

This research was initiated because, despite the growing interest and funding support for the collection and validation of scales and other summary measures, no single organization has yet created a comprehensive listing of the vast array of scales used in research, the similarities of different scales across disciplines, and the specific variables commonly used to create specific types of scales. Because of our unique mission, NACDA is well suited to addressing the tasks associated with identifying the body of datasets that collect and utilize scales as part of their research frameworks. Even more important than the simple cataloguing of potentially useful data collections is the need for a system or registry that systematically organizes the content and protocol of scale information, including the specific variables underlying the associated scale. This takes on greater importance as the debate on the use of origin variables has evolved dramatically in recent years as researchers increasingly worry about confidentiality of disclosure issues. The use of summary measures, scales and other systematic and statistically appropriate expressions of interrelated behaviors is one effective tool to address potential confidentiality concerns and to explore new approaches measuring the interrelationships of physical and social measures (Seplaki et al., 2004).

While some researchers have suggested, that the wealth of research emerging from collaborative and multidisciplinary research will continue without a formal review of the existing universe of scale data in secondary data collections because a limited number of well established studies are intensely used and suffice for most research designs. While we fully agree with the assessment regarding the productivity use of such studies, we would also suggest that the lack of organized alternative sources of data that allow for new research and the validation of existing research might be a factor in the intensive use of a few core datasets. Researchers cannot fully access all potential applications of a research design when they lack a thorough accounting of the array of existing scales and related summary measures available for analysis. Lacking a working registry of scales and their protocols both within specific data and across multiple data collections, many if not most datasets containing variables of interest to the research community will remain underutilized. More importantly, research designs would clearly benefit if existing studies based upon core datasets could be replicated using data that introduces different populations, time periods and geographies.

Analysis Model

This poster argues that the existing bodies of scales, their protocols, and their application or multidisciplinary research represent a rich treasure trove for new analysis models that needs to be productively explored. Unfortunately, the presentation format and structure of such information can vary dramatically from study to study creating complexities in the creation of comparative measures across studies and across time. This poster reviews these issues and offers some insight into the variation found in scales across disciplines, but far more importantly, we also address similarities between common scales. As it is particularly the case in demography and economics scales are quite often identical in construction, but quite different and application and in naming convention. One goal of a

broader project that underlies this poster is a rigorous identification of identical measures and their applications with a multidisciplinary system of research.

Outcomes

This poster surveys the emerging interest in the use of scales and other summary measures, and their incorporation with existing population based models of health and social behaviors. We review the development and growth of scales and their underlying theory as used in data collections as a part of socioeconomic surveys and we provide an overview of existing public use data collections that contain a variety of scales. The poster discusses the scientific challenges of incorporating various types of scales into population based research models and some of the issues that needlessly impede its research development including issues of focus, theoretical direction and differences in the scientific method across these diverse disciplines. The poster suggests future directions for research and emerging models, approaches and analysis tools that will facilitate this exciting new research strategy in the years to come.