Chapter 1
A Primer on Survey Research

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ABSTRACT

This chapter presents a summary of best practices for the design, development, and analysis of quantitative survey research. The authors provide an overview of sampling procedures, as well as a summary of considerations for researchers as they develop questionnaires. Additionally, they provide descriptions of both qualitative and quantitative analyses that should be used to provide content and construct validity evidence for questionnaires. Finally, they show examples of common descriptive and inferential procedures appropriate for survey research. The goal of the chapter is to summarize factors that survey researchers should consider at all stages of their research project, from design to analysis, in order to improve survey research in practice.

INTRODUCTION

Survey research is a common form of research, yet the tenets of high quality instrument development, sampling, and data analysis are not consistently implemented in practice (Draugalis et al., 2008; Starr, 2012). Quantitative survey research uses questionnaires as tools for data collection, and serves as one of the primary research designs used to represent views, attitudes, beliefs, or opinions of a population of interest. Across organizations, survey research provides an increased understanding of phenomena, needs, experiences, and best practices; and is commonly used as an evaluation tool to examine current perceptions, attitudes, beliefs, and behaviors, as well as changes in these constructs over time. Survey research studies are one of the most frequently utilized methodologies by educational researchers (Hsu, 2005).

This chapter discusses best practices for the design, development, and analysis of quantitative survey research. The chapter provides novice researchers with an overview of options for design, development, administration, and analysis of quantitative survey research. At the same time, the chapter introduces

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more advanced quantitative analyses that can be implemented to improve questionnaires. The overarching goal of this chapter is to describe the principles that are foundational to high-quality survey research. More specifically, the purpose is fourfold.

- Provide an overview of the sampling procedures for large scale survey research.
- Present a framework for designing, developing, piloting, and validating questionnaires that reflect the underlying construct(s) being measured.
- Discuss design considerations that will allow for both basic descriptive and inferential analysis.
- Describe and show examples of basic descriptive and inferential analyses that can be conducted for quantitative survey research studies and address cautionary notes about use of these inferential procedures.

The objectives of this chapter are for the reader to be able to:

1. Define and describe errors that commonly occur with survey research and take steps to rectify these errors.
2. Describe and implement sampling strategies used with survey research.
3. Recognize the sample size needed for accurate estimation of parameters.
4. Describe the processes associated with high-quality instrument development.
5. Create high quality items and instruments.
6. Select appropriate analyses for survey data.

BACKGROUND

As methodology, survey research can be driven by both positivist and post-positivist paradigms. These two traditions shaping research are grounded in differing perspectives (Aliyu et al., 2014; Crosson, 2003; McGregor & Murnane, 2010). Positivism generally employs quantitative research designs for investigating phenomena, and stems from the underlying assumptions that research should involve data that are objective and measurable. Positivism differs from post-positivist approaches, which aim to describe and explore in-depth phenomena, often including a qualitative perspective. The decision to implement a specific research design is dictated by a paradigm that drives the topic under investigation, the goals of the research, and the methodological preferences of the researcher. Both positivist and post-positivist paradigms assume that relationships already exist about the phenomenon under investigation, and the purpose of research is to unearth the relationships by measuring them. Thus, survey research can be used with both paradigms. This chapter focuses on large scale, descriptive, quantitative survey research, stemming more from the positivist paradigm.

Survey research is a relatively young field of study, and major advances in the field have been made in the last century (Kalton, 2019). Growth and development in sampling procedures, design elements, electronic administration options, analysis features including technical procedures for handling missing data, examining the internal structure of questionnaires, and visually presenting results, have all increased the popularity and convenience of survey research. While advances in the field have increased the complexity of survey research studies, several foundational aspects underlie instrument development,