Chapter 60
Applications of Longitudinal Research to Advance Organizational Theory:
A Primer

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ABSTRACT

The purpose of this article is to inform researchers about and encourage the use of longitudinal designs to further understanding of human resource development and organizational theory. This article presents information about a variety of longitudinal research designs, related statistical procedures, and an overview of general data collecting approaches, covering their strengths and weaknesses. The article also serves as a reminder of the importance of alignment between the research purpose, questions and methodology while highlighting the benefits of using multiple methods. Finally, importance of research replicability in the context of longitudinal inquiry is stressed.

INTRODUCTION

Longitudinal research can be a powerful approach for studying change over time; related studies can be used to describe phenomena, model and predict given outcomes, investigate causal relationships and so on. Formally, what qualifies a study as being longitudinal in nature is an effort to measure variables or otherwise study phenomena repeatedly over time. Two major categories of longitudinal research are trend

and panel studies (Johnson & Christensen, 2014). In trend studies, also called cross sectional studies, independent samples are taken over time and the same sets of variables are measured across different groups, or cross sections, of people. One could for example take consecutive samples of people who were hired for seasonal work across, say a 10-year period, and then study outcomes of interest, such as determining characteristics of employees who are rehired in a subsequent season, the percentage of a given cohort that stays on for normal full time employment and so on. In contrast, panel studies (which are sometimes called cohort studies) entail following the same group of people over time. For example, the same group of employees who experienced an intensive training effort could be followed for a period of years to study their advancement within the organization, turnover rates, and motivation.

Given that the key distinction of longitudinal research is to study phenomena over time, it is perhaps best thought of as an umbrella phrases that covers a number of designs. Interrupted Time Series (ITS), Regression Discontinuity (RD), and single-subject designs can be used to investigate casual relationships (e.g., Shadish, Cook, & Campbell, 2002), cross-sectional designs can be used to describe patterns, and observational panel studies can be used for purposes of prediction, survival analyses and so on. Longitudinal designs can be retrospective in nature, such as when an analyst might take advantage of a large corporate data set to study turnover rates that have occurred in the past, or they could be prospective, such as when a study is set up in advance to study the long-term outcomes of some intentional change (e.g., new leadership, the effects of a new policy on various employee outcomes, understanding the impacts of a new compensation package on various facets of organizational performance, etc.).

As there are a number of different designs that can be applied to longitudinal research, it becomes possible to use multimodal (or combined) design strategies, such as using a combination of panel and cross-sectional approaches. It is also the case that longitudinal work can entail some complex statistical concerns. Missing data will often be problematic because there is ample opportunity for sample attrition, time series analyses often entail the handling of repeated measures being nested within an individual person (or other unit of analysis), and some relationships of interest may not follow a linear form. For these reasons, it can help to have an overview of the longitudinal research literature so as to have a sense of the design opportunities and pitfalls that are associated with this general type of inquiry. Providing such an overview may be especially important to researchers in the Human Resource Development (HRD) arena. This is because, a cursory electronic search of citations that report longitudinal research pertaining to human resources in February of 2016 showed 29 citations, and most of these deal with education inquiry, not HRD. Expanding the search to account for management studies found only 112 citations and consultation with HRD scholars confirm that longitudinal research does not seem to be widely used in the field. Given the advantages that this form of research can bring to studying any number of HRD considerations, and some of the complexities associated with doing longitudinal work, the purpose of this article is to provide a longitudinal research primer to organizational theory and HRD researchers to increase the awareness of the strengths, weaknesses and methodological concerns when using longitudinal designs. This article also presents some possible strategies to ameliorate some of these concerns. More specifically, different data collection considerations and strategies are described so as to promote alignment with stated research purpose, problems, hypotheses and analytic techniques (Newman & Covrig, 2013). Lastly, the article describes how longitudinal research designs can be even more powerful when conceptualized in a multiple methods framework.

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