

Theory Construction and Model-Building Skills: A Practical Guide for Social Scientists By James Jaccard & Jacob Jacoby, 2010. New York, NY: Guilford. \$31.19

Reviewed by Stacy French
Western Michigan University

Why is theory construction so important? More importantly, how will these tools assist me in becoming a better researcher? These are just a couple of items that many researchers would ask of themselves at first glance of this text. Although the text is not meant to be all encompassing, it does “provide students and young scientists with tools to assist them in the practical process of constructing theories” (p. 3). The enormity of theory construction from an initial exposure can be intimidating to many students. While reading this text, it became apparent to me the importance of knowing how to properly develop and evaluate theory construction.

The text is divided into four main parts. Part I. Basic Concepts, which describes the fundamentals associated with the nature and science of understanding. Part II. Core Process, describes the purpose and range of creativity along with the use of various thought experiments. Part III. Frameworks for Theory Construction, describes the use of various modeling

methods and theories. Part IV. Concluding Issues, which summarizes the reading and writing about theories.

Part I begins with the authors stating that “science does not provide a copy of reality but must work with conceptual systems that are chosen for pragmatic reasons” (p. 9). The basis for any research requires a true understanding of what reality means. Concepts are discussed as a way for one to assign meaning to their experiences which helps explain ones reality. Although some scientist may disagree with the best way to understand reality, concepts have proven themselves as a useful tool to communicate through the use of symbols or language. The section concludes with the discussion on how individuals are limited as to how much information they can understand or process at a given time. The use of conceptual systems has allowed individuals to group ideas together in a systematic fashion that can readily be remembered or identified at a later time.

Part II starts out by emphasizing the importance that researchers need to be

creativity and fluid in the generation of ideas. In chapter 4 the authors state how theory construction is essentially “specifying relationships between concepts in ways that create new insights into the phenomena we are interested in understanding” (p. 39). The key for any emergent scientist in developing theory construction is to generate numerous ideas from different vantage points and then to screen those ideas to find out which ones are relevant. In order to do so, one must be capable of first identify and framing a problem or question to study, then use heuristics to help “think outside the box.”

Chapter 5 discussed the process of instantiation, which involves narrowly defining the concepts developed during theorization. This process clarifies concepts, removes ambiguities and clarifies what is meant by the construct in question. The authors discuss how theories appear very weak if they rely on concepts that are so abstract that it's hard to know what the theorist truly means by them. On the contrary they discuss the relevance of good theory “one in which the concepts are clearly defined and where the theorists provide clear cut examples of the constructs as they moves toward more precise instantiations of them” (p. 89). They discuss how concepts that are seen as the same by others are known as shared while those that don't are known as surplus. Along with that, meanings as discussed in the text are relative to the broader nomonological network in which the construct is embedded. The authors suggest that strategies are a good way of making an abstract concept more precise by clarify ones meaning. The authors clearly state that articulating the expected relationships between constructs are just as important as articulating the constructs while constructing theory. The ability, as

they discuss, to define these variables as either categorical or quantitative will prove essential to the researcher with how the data will be interpreted through levels or values. One of the ways in which they find to clarify these theoretical relationships is through the use of thought experiments which use such items such as; hypothetical probability, scatter plots and factorial designs.

Part III continues their discussion on relationships as in chapter 7 where they discuss predictive and causal relationships. In their discussion of constructing theories with casual relationships, the authors turn their attention on how mediation and spurious relationships provide for the creation of multiple outcomes. The authors conclude this chapter with their discussion on path diagrams, also known as roadmaps that provide a visual means to describe ones theory and the associated variables. Here the authors discussed the importance of defining the extent of disturbances as without these variables being clearly identified, theoretical testing could result in skewed results.

In chapter 8 the authors turn their focus to mathematical modeling. This process as they state, assists in the development of constructing theories through thinking in terms of functions and how to describe relationships between variables in mathematical terms. Functions, as they state, specify how input variables should be operated upon mathematically to produce outputs. One of the most commonly used functions is that of linear modeling. Although the authors have showed the importance in the use of mathematical modeling, they state it is often underutilized in the social science.

In chapter 9 the authors discuss the use of simulations and how they can be an

effective tool for theory construction, especially for problems focused on criterion systems that are complex and dynamic. The main reason for this is that simulations typically have a larger number of variables than those found in laboratory studies. Another function of simulations is that they allow the theory to be subjected to initial validation by applying the model through multiple hypothetical scenarios. As with other scientific studies, some scientists challenge this thought process thinking “simulations are too removed from reality and make too many simplifying assumptions” (p. 89).

Another major approach to theory construction as discussed in chapter 10 was that of grounded or emergent theory, where the dominant method of scientific analysis in many areas of social science is based on confirmatory frameworks. Emergent theory as described in the text emphasizes a process of letting theory emerge from data. The author states “Grounded and emergent theorizing are useful and productive approaches to building theories as it is hard to argue that immersing yourself in meaningful way as possible in the phenomena you are studying” (p. 283). However the author also notes that some argue that you tend to lose your subjectivity when you are that close to the subject for which you are researching. The authors wrap up discussion in the text by discussing variable centered theories.

In Chapter 11 the authors turn their attention towards the influential systems of thought. More specifically they look into how the development of theory are influenced by the frameworks of various perspectives such as; sociology, anthropology, education, etc. The authors spend the second half of the chapter focusing on the use of biological

metaphors. Their focus on human behavior provided a brief understanding on how they compliment those frameworks discussed in previous chapters.

Part IV concluded this text discussing the reading and writing of theories and other items that the authors thought did not fit well in any other chapter. Chapter 12 discussed how to read reports and papers to determine if the author/s had adequately evaluated and discussed their theory. The second half of the chapter provides the authors with key reminders that need to be completed by the researcher for items ranging from papers to PowerPoint presentations to grant writing. This section concluded with the general discussion on items such as competing theories to scientific paradigms and how these items should be considered as a professional researcher.

The foundation of this text is solid and its fundamental ideas are shared with many in the social and scientific communities. Attempting to develop such a text that is this encompassing tends to lend itself to an array of missed opportunities and inability to provide continuity throughout the text. These authors, however, found a simple system in which to provide the student with the essential tools through basic examples in order to provide a fundamental understanding of the basic principles associated with theory construction.

Although this text was found to be fundamentally sound, one could find fault in almost any text, and this book is no different. The multitude of different components associated with theory construction would necessitate a text to be dealt with in volumes instead of a single resource if required to adequately discuss all components in its entirety. Even so, this text provides a good overall

Stacy French

introduction to theory construction and would be an excellent supplement to a methodology class.