1. Introduction and overview

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This volume provides an overview of a variety of established and newer methods for leadership research. It is intended for any individuals wanting to undertake research on leaders, whether they are academics or practitioners, undergraduates, graduate students, or new or established professionals. Our goal in this volume is to help leadership researchers obtain a first insight into a specific method and its potential application to leadership research, so that they can make a decision about whether or not to delve deeper into the method and use it for their own research. We particularly encourage academics who want to try a new method and graduate students who are just starting their own research programs to read this book. This book may also prove helpful to individuals who want to better understand and assess the quality and implications of leadership research undertaken by others.

It was interesting when collecting the chapters to see the great variety of methods applied in leadership research, all of which contribute to a more complete and nuanced understanding of the leadership process. Recent editorials from, for example, the *Academy of Management Journal* (Colquitt, 2013), stress the increasing breadth of methodological design and analysis techniques used (e.g., from inductive/qualitative to experimental research). Chen (2015) similarly highlights the breadth of designs that are covered in the *Journal of Applied Psychology* as well as the necessity for the method to clearly fit the research question (see also Edmondson & McManus, 2007). As Rico (2013), former editor of the *European Journal of Work and Organizational Psychology*, described it: “[A]fter reading a Methods section, the reader needs to be able to understand what was done and why this approach was selected” (pp. 2–3). We hope to add to that increasing variety by making more techniques accessible to scholars and by discussing when and how each method is more pertinent.

In addition, Green, Tonidandel, and Cortina (2016) analysed reviewers’ comments on submissions to the *Journal of Business and Psychology* and found that a large number of reviewer comments referred to method/analysis issues such as mediation/moderation or issues with multi-level models and regression analysis. These issues are commonly linked to

rejection (though to a lesser degree than measurement issues) but are also involved in decisions to ask for “revise and resubmit.” Our volume could be helpful in making decisions about the appropriateness of design and methods for particular research questions in leadership.

There were many potential techniques to choose from, and we could not cover all in a single volume. Thus, we have focused on methods, techniques and analytic approaches that are either currently valuable for understanding leadership/followership or that we believe would – if adopted – provide useful tools in the future. In addition, we have worked with our authors and reviewers to keep the presentation of the techniques as straightforward as possible, providing a detailed enough overview to get readers started with a technique, but avoiding overly technical details.

Indeed, we have been very fortunate to be able to get many of our contributions from authors who have expertise in, and have published on, the topic of leadership in organizations. This means that the descriptions of methodological techniques in this volume are often embedded with recent and helpful illustrations that are particularly relevant to the study of leadership. However, we have also included a handful of other authors who are not leadership researchers *per se*, but contribute with their methodological expertise and rigor in areas where leadership researchers “could do better.” All authors have been asked to provide detailed guidance on the use of their featured techniques, including in many cases access to online aids and sample datasets. Our hope is that this volume may be particularly helpful not only in helping with the “how to” of a given approach, but also as a source of answering “why?”

In this introductory chapter, we provide a brief overview and structural framework for the following chapters. Our ultimate goal is to motivate researchers both to try new techniques and to fine-tune their use of more common techniques. We are in a time when new methodologies are being developed, and old ones improved and made easier to use. Finally, we hope that instructors of leadership courses aimed at advanced undergraduate and graduate students will consider using all or parts of our book alongside a more content-oriented text, in order to better demonstrate the varied and creative options in the “how to” of leadership research.

This handbook is divided into three main areas: Part II: Measurement and Design; Part III: Quantitative Methods and Analytic Approaches; and Part IV: Qualitative Methods and Analytic Approaches. The book finishes in Part V with a summary/conclusion chapter and a chapter on tips for leadership researchers from each author.

Part II of the book focuses on measurement and design issues, and consists of six chapters. First, in Chapter 2, Chong, Djurdjevic, and Johnson provide an introduction to implicit measures for leadership research. They

argue that to understand leadership, both explicit elaborate and implicit automatic processes are relevant. Most leadership research has focused on the former, though this will only capture part of what influences judgments and behaviors. Chong et al. present a taxonomy of implicit measures and outline what these are measuring. They review the extant leadership literature that has used implicit approaches and provide examples of the use of implicit measures. This chapter will help leadership researchers to make a better decision on whether or not their research would benefit from using implicit measures, and, if so, how to decide which types to use.

In Chapter 3, Rietzschel, Wisse, and Rus introduce experimental methods in leadership research. They argue that experimental research can help researchers to further understand causal relationships when studying leadership. The authors provide an overview of varieties of experimental methods that are currently used in leadership research, including both the benefits of using these methods and potential issues involved in conducting experiments. We believe that a reading of this chapter will convince leadership researchers that experiments can help them draw the stronger causal conclusions that (most) field studies do not allow, as well as provide them with possible ideas about designs for experiments.

Chapter 4 by Cook and Meyer outlines how observational and sensor-based methods can be used in leadership research. Their argument builds around the idea that leadership is a process and that observational methods allow for a better understanding of how leaders and followers influence each other with their respective behavior. Cook and Meyer describe different observation study approaches, including how to capture and record relevant behavior and how to analyse observational data. Their chapter outlines the advantages as well as the problems related to conducting observational studies. Readers should learn from this chapter why observational methods are useful in capturing the leadership process in its entirety, and what ways of capturing and analysing observational data are available.

Following on from that, Trichas explains in Chapter 5 the benefits of sophisticated facial expression coding to leadership research. So far, this method has not been widely used in leadership research. However, Trichas uses examples of studies that have used and others that have not used (but examined similar research questions) sophisticated facial expression coding to highlight how this approach can further our understanding of the leadership process. After reading the chapter, leadership researchers should understand the value of sophisticated facial expression coding, for example, when studying emotions in leadership as well as knowing how to use this method.

Li, Ilies, and Wang focus on behavioral genetics approaches in Chapter

6. They argue that genetic approaches can help leadership researchers to disentangle the nature/nurture arguments prevalent in leadership research. Introducing twin studies and a molecular genetic research approach as useful lenses through which to study leadership, they explain the contribution of those approaches as well as review examples of their application in leadership research so far. This chapter provides the reader with an overview of genetic approaches, sample studies, and application in leadership research, and an understanding of how this type of research can advance our knowledge of leadership nature versus nurture.

In Chapter 7, Dixon, Webb, and Chang introduce biosensor approaches to studying leadership. They begin by describing four general categories of biosensor methods (i.e., involving collection of bodily fluids, cardiovascular activity, brain activity, and genetics/evolutionary characteristics) and their associated advantages and disadvantages for leadership research. This is followed by a review of previous biosensor-related research that contributes to our knowledge of leadership and followership, using Bass's (2008) three general approaches for understanding leadership (leader-centric, leadership as an effect, and leader–follower interactions) as an organizing structure. Thus, this chapter gives readers a broad overview of the possibilities for integrating biosensor approaches with more traditional research methods.

Part III of the book focuses on quantitative methods and analytic approaches. Here, six chapters explain how to analyse different types of quantitative data. First, Kline in Chapter 8 outlines methods for the analysis of mediation in leadership research. He particularly focuses on common misunderstandings around this topic, bringing into question the value of the results obtained using mediation in some studies. Issues comprise, amongst others, theoretical assumptions about directionality and design problems. After reading the chapter, leadership researchers should understand these issues and be able to design better studies to test mediation and/or to acknowledge more clearly the limits of their mediation testing.

In Chapter 9, Foti and McCusker introduce person-oriented approaches to leadership. This alternative to more commonly used variable-oriented approaches provides researchers with the possibility to focus on “types” or “patterns” based on individuals. Foti and McCusker review different methods within person-oriented approaches and illustrate them using examples from leadership research. This chapter provides the reader with sample research questions that require the use of person-oriented approaches, as well as an understanding of the approaches available to analyse data in this novel way.

Chapter 10 by Yammarino and Gooty focuses on multi-level issues

and dyads in leadership research. Very often in the study of leadership, researchers deal with so-called nested data – that is, followers nested in leaders or teams, or dyadic data such as leader–follower dyads. This chapter provides an overview of the issues as well as methods relating to dyadic data. Here, the authors discuss in depth three analytic approaches that might be applied to dyadic leadership data. The reader of this chapter will gain a better understanding of the logic of nested and dyadic data collected in leadership research and how this type of data can be meaningfully analysed.

Following on from this, in Chapter 11 Jokisaari introduces a social network approach to leadership research. He argues that when studying leadership, we often ignore that leadership happens in networks of individuals. He outlines methods to address this issue and uses examples to illustrate how this approach can be applied. This includes issues of research design, sampling and data collection, methods to measure social networks, and central measures of networks for use in data analysis. Reading this chapter will provide the reader with a clear idea of how and when to apply network methods, and for which types of research questions they can be useful tools.

In Chapter 12, Ohly and Gochmann focus on diary studies in leadership. Here, they argue that leadership is often assessed at one point in time but that diary studies provide the opportunity to better understand the process involved in leadership. This also includes testing the notion that leadership is a stable phenomenon. Ohly and Gochmann review existing diary studies and outline approaches that can be used as well as issues that researchers might face. In identifying relevant research questions, the authors provide the reader with guidelines on when and how to apply diary studies in leadership research.

Finally, in Chapter 13, Hall explains the value of applying latent growth curve modeling to leadership research. She points out that in a substantial amount of leadership research, dynamics and change are important and latent growth curve modeling is an appropriate method to examine these changes, allowing both the identification of average change and for variability in change across individuals. After reading this chapter, the reader should be familiar with the technique, knowledgeable about issues and alternative analytic choices, and be able to reflect on appropriate designs as well as make a reasoned choice of software options.

Part IV of the book summarizes some qualitative methods and analytic approaches to leadership research. The two chapters in this part outline when and how to use qualitative approaches to leadership. We appreciate that this part of our volume is short in comparison to the previous two, and acknowledge that it can only scratch the surface of qualitative

methods in leadership research. The reader is encouraged to consult additional overview books in this area.

First, in Chapter 14, Schilling provides an extensive overview of qualitative content analysis and how it can be applied to leadership research. He argues that qualitative approaches to leadership are somewhat undervalued currently. His chapter gives a comprehensive overview on qualitative content analysis as a systematic, rule-based process of analysing verbal and textual data (e.g., interviews, group discussions, documents). As he presents the process of qualitative content analysis step by step, and develops guidelines for researchers' decision and action, his chapter provides the reader with a "how to" guide for approaching qualitative data in the leadership area.

Following on from that, in Chapter 15, Cunha, Lewis, Rego, and Smith outline the use of biographical methods in leadership research. They define biographical methods as an umbrella term comprising approaches such as self-narratives, autobiographies, and historical biographies that explore an individual's life story to elucidate nuanced dynamics over time. They describe the features of these methods, namely, narrative, holistic, constructivist, context-sensitive, dynamic and temporally situated, relational, self-reflexive, and contradiction-sensitive. Their chapter also provides the reader with a clear idea of how to collect biographical data and the method involved in sampling and analysing data. The chapter includes a discussion of potential issues pertaining to biographical methods.

Finally, in Part V, Chapter 16, Robert Lord provides an outlook for the future of leadership research. In his chapter, he aims to improve leadership theory, methodology, and practice both in the short and the long term, including an assumption of radical change in how leadership research is approached. He addresses issues such as theory proliferation and aggregation across entities and time. In addition to improving theory, he describes how to improve the measurement of leadership and study designs. He concludes with an outlook on the potential future of leadership research.

At the end of this handbook, in Chapter 17 the authors provide some handy tips for leadership researchers based on material covered in their chapters. The reader is encouraged to turn to this chapter for a summary of the key points the authors consider a "must know."

In conclusion, we hope that the readers of this book enjoy the chapters as much as we enjoyed gathering, reading, and editing them. Hopefully, this book will motivate you to understand and apply new methods in your leadership research.

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