TECHNISCHE UNIVERSITÄT MÜNCHEN

TUM School of Management

Professur für Forschungs- und Wissenschaftsmanagement

Leader and Follower Perspectives on Leadership, Identity, and Career Requirements: Empirical Evidence from the Academic Context

Stephanie Katja Rehbock

Vollständiger Abdruck der von der Fakultät für Wirtschaftswissenschaften der Technischen Universität München zur Erlangung des akademischen Grades eines Doktors der Philosophie (Dr. phil.) genehmigten Dissertation.

Vorsitzender: Prof. Dr. Holger Patzelt

Prüferinnen der Dissertation: 1. Prof. Dr. Claudia Peus

2. Prof. Dr. Nicola Breugst

Die Dissertation wurde am 24.10.2019 bei der Technischen Universität München eingereicht und durch die Fakultät für Wirtschaftswissenschaften am 15.02.2020 angenommen.

ACKNOWLEDGEMENTS

During the time of this dissertation, I was lucky to work with and to be supported by truly great people, whom I am deeply grateful to.

First and foremost, I would like to express my gratitude to my supervisor Prof. Dr. Claudia Peus for giving me the opportunity to work with her and the amazing team of the Chair of Research and Science Management she has built up over the years. Thank you for your guidance throughout this journey, while also challenging me to always go the extra mile. I am grateful for the many possibilities you facilitated during the past years, as this encouraged me to develop, both academically as well as personally.

Furthermore, it is in great part due to the guidance of Dr. Kristin Knipfer that I have become the researcher I am today. She has been a true mentor, my co-author, and friend from the very beginning of this PhD. Thank you for your unconditional support, your thoughtful feedback, and advice throughout the past years.

I am also thankful to my second examiner Prof. Dr. Nicola Breugst, for our inspiring and encouraging discussions, your interest in my work, and your commitment to more diversity in academia. Thank you also, Prof. Dr. Dr. Holger Patzelt, for chairing my dissertation committee and for supporting junior researchers in their academic aspirations.

During the last years, I was fortunate to be part of a team of great and inspiring people, who made this a truly wonderful experience. My thanks go to:

> Susanne Braun, Anna Brzykcy, Jakub Cichor, Leidy Cubillos-Pinilla, Regina Dutz, Maxim Egorov, Brooke Gazdag, Jamie Gloor, Elke Graf, Tanja Hentschel, Lisa Horvath, Sylvia Hubner, Franziska Emmerling, Bernhard Kraus, Hannah Kunde, Kerstin Löwe, Armin Pircher Verdorfer, Ellen Schmid, Ulf Steinberg, and Selina Stracke.

In addition, all this would not have been possible without my family and friends. Special thanks go to Caro and Tina: Thank you for accompanying me on the rollercoaster ride of my dissertation. Thank you for always being there for me.

Finally, I am deeply grateful to my mother Christiane and Manfred, my father Joachim and Cidonia, my brothers Philipp and Dominik, my godparents Katja and Hans-Georg, and my extended family–and last but not least, to Mirko for his unconditional optimism and support! Thank you for always encouraging me and helping me to pursue my goals.

You all have played a part in making this possible.

I am most grateful for everything you have done. Thank you!

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

ABSTRACT

This dissertation advances research on leadership perceptions and subjective meanings of leadership, which play a pivotal role for leadership effectiveness (Day & Sin, 2011; Lord & Dinh, 2014; Uhl-Bien, Riggio, Lowe, & Carsten, 2014). Specifically, I seek to address three shortcomings in the literature: First, scholars have recently called for investigations of leaders' understanding of their own leader role, for instance, how leaders define themselves (Epitropaki, Kark, Mainemelis, & Lord, 2017). Second, we lack context-specific insights on follower perceptions of leaders and their effectiveness, although leadership has been shown to be context-sensitive (Uhl-Bien, et al., 2014). Third, leaders' perceptions of required attributes to become a leader and to fulfill a leadership position has been insufficiently investigated until now (Evans, 2017; Zacher, Rudolph, Todorovic, & Ammann, 2019).

I chose academia as the research context for the empirical investigations of this dissertation, because of academic institutions' crucial role in society (Mohrman, Ma, & Baker, 2008) as well as accumulating empirical evidence showing that effective leadership contributes to academic success (Braun, Peus, Weisweiler, & Frey, 2013). Studies on leadership in academia are scarce, specifically on professors and their leader role (see Braun, Peus, Frey, & Knipfer, 2016; Evans, 2018), although we know of the importance of context-specifics for leadership research (Peus, Braun, & Schyns, 2016). To advance our understanding of leadership and leadership perceptions in academia, I investigate the leader and the follower perspective on leadership, identity, and career requirements in a series of qualitative and quantitative studies in the academic context.

In chapter 1, I introduce my three research questions and present the theories and empirical evidence which lay the foundation for my analyses. Moreover, I provide an overview of the context-specific demands of leadership in academia. In chapter 2, I explore how professors define themselves and whether and how they construe a leader identity. A deeper understanding of how professors with a formal leader role construe their leader

identity is needed to explain and predict their leader identity enactment (Day & Sin, 2011). With this study, I contribute to research on leader identity as an antecedent of leadership behavior. In chapter 3, I investigate how followers describe typical professorial leaders and their effectiveness. Followers' 'implicit leadership theories' are considered to be crucial in order to understand leadership (Uhl-Bien et al., 2014). My insights contribute to understanding when individuals are willing to accept a leaders' influence. In chapter 4, I analyze professors' subjective views on the attributes that they regard as required to advance to an academic leadership position (pre-tenure) and attributes required in such a leadership position (post-tenure). As professors act as gatekeepers in the promotion of junior researchers, an enhanced understanding of professors' subjective expectations may contribute to more transparency and fairness in academic selection and promotion processes. To conclude, in chapter 5, I will provide theoretical and practical implications based on my findings. I emphasize the need to consider both, leader and follower perspectives, as well as the context in leadership research. Moreover, I suggest how to improve the selection, promotion, and development of leaders in academia at different career stages.

Leader and Follower Perspectives on Leadership, Identity, and Career Requirements: Empirical Evidence from the Academic Context

1. INTRODUCTION

Leadership research has grown immensely over the past decades acknowledging that the success of organizations depends on leader's decisions, strategies, and influence on others (Kaiser, Hogan, & Craig, 2008). Scholars increasingly accentuate the importance of leadership perceptions (Lord & Dinh, 2014) and subjective meanings of leadership for leadership effectiveness (Alvesson & Sveningsson, 2003; Hammond, Clapp-Smith, & Palanski, 2017). Indeed, each individual holds implicit and explicit cognitions about leadership (Lord & Dinh, 2014; Paustian-Underdahl, Walker, & Woehr, 2014). Accordingly, leaders' subjective images about the nature of leadership may significantly impact how they view their own leader role, including expectations and requirements associated with their position (Lord & Emrich, 2000). Similarly, followers hold everyday images of leaders, containing traits and behaviors that describe a typical leader (Epitropaki, Sy, Martin, Tram-Quon, & Topakas, 2013). These subjective images of leadership have been shown to not only influence leadership behaviors, but also to guide followers' evaluations of leaders and their effectiveness (Foti, Hansbrough, Epitropaki, & Coyle, 2017; Lord & Dinh, 2014). Yet, there are three shortcomings in the literature which need to be addressed: First, we do not yet understand precisely how leaders' subjective images of leadership shape their self-definitions which are the foundation for their behavior (Hogg, Terry, & White, 1995). Second, we lack insights into when followers perceive leaders in a specific context as effective based on their images of typical leaders (Uhl-Bien et al., 2014). And third, it is not yet known how leaders themselves describe the requirements linked to their leader role (Evans, 2017).

In-depth insights into the first question, how leaders define themselves, are particularly relevant because self-definitions help to understand drivers of behaviors and guide leaders' actions (Stryker & Burke, 2000). More specifically, leader identity–how one

thinks of oneself as a leader (Day & Harrison, 2007)–was shown to relate to leadership behaviors and leadership effectiveness (Day & Sin, 2011; Epitropaki et al., 2017; Johnson, Venus, Lanaj, Mao, & Chang, 2012; Rus, van Knippenberg, & Wisse, 2010). Hence, whether and how a leader identity is construed, plays a major role in determining what kind of leadership is exerted (in terms of leader identity enactment).

Although we know that a leader identity is highly relevant for leadership effectiveness, much remains unknown about how leaders construe their leader identity and how this shapes their behavior. To fill this gap, leadership scholars call for a better understanding of how leaders "see and define themselves, as well as understanding the complex ways in which these self-definitions develop" (Epitropaki et al., 2017, p. 104). For instance, it remains elusive how professionals define themselves, when they are promoted to leadership positions based on their functional expertise and not because they are particularly skilled to become a leader or aspire a leadership position (McGivern, Currie, Ferlie, Fitzgerald, & Waring, 2015; Morris, 2012; Muller-Camen & Salzgeber, 2005). It may be that such professionals identify strongly with their role as an expert in a specific field, for instance, being an academic or a physician (Evans & Nixon, 2015; Spyridonidis, Hendy, & Barlow, 2015)–and not necessarily with being a leader (in contrast to business contexts where being a leader is more typical and salient). As previous research shows that identity motivates behavior (Brown, 2015; Burke & Reitzes, 1981), gaining formal leadership responsibilities without aiming to become a leader or identifying with a leader role may cause challenges at the individual, team, and organizational level (see Johnson et al., 2012; Rus et al., 2010). Exploring whether and how professionals with a formal leader role in addition to being an expert construe a leader identity may contribute to a better understanding of the antecedents of their leadership behavior. To fill this gap, I put forward the following research question:

> *How do professionals who have a formal leader role in addition to the role as an expert in their field construe and enact their leader identity?*

In addition to an enhanced understanding of leaders' perspectives on their leader role, it is important to better comprehend "whether and when individuals are willing to follow a leader" (Uhl-Bien et al., 2014, 86). The pertinent literature calls for more research with a follower-centric perspective, because follower perceptions play a key role in understanding leadership (Uhl-Bien et al., 2014). Followers' perceptions determine whether they evaluate a leader as effective or not (Lord & Dinh, 2014). Therefore, it is imperative to gain more specific insights into the perspective of the led.

From extensive research on leadership perceptions in the business context, we know that implicit leadership theories (ILTs)–subjective images of typical leaders–play a crucial role in evaluating leaders' effectiveness (Epitropaki & Martin, 2005; Lord, 1985; Schyns, Felfe, & Blank, 2007). When followers compare their ILTs to their actual leader, a high congruency leads to a better quality of leader-member exchange, improved well-being, and higher employee commitment (Epitropaki & Martin, 2005). This evaluation will eventually determine how much followers attribute leadership to others and to what extent they accept their influence (DeRue & Ashford, 2010). Numerous studies have investigated the content of ILTs in business contexts and identified several attributes of typical leaders (Lord, Foti, & De Vader, 1984; Offermann, Kennedy Jr, & Wirtz, 1994). For example, individuals who are perceived as intelligent and strong are likely classified as leaders (Lord et al., 1984).

A growing body of literature has argued that ILTs are context-sensitive (Epitropaki & Martin, 2004) in that context restrains what characteristics are considered as typical (Liden & Antonakis, 2009; Lord et al., 1984). Therefore, empirical evidence is needed from different contexts to add to our understanding of similarities and differences of ILTs across contexts. While much is understood about ILTs in the business context, we know little about what characteristics define an academic leader (Evans, 2018). Yet, evidence is accumulating that effective leadership is key for performance and success in academia (Braun et al., 2013; Elkins & Keller, 2003). A more comprehensive understanding of ILTs in academia is thus

highly relevant to understand how academic leaders are perceived, selected, and developed (Schyns, Kiefer, Kerschreiter, & Tymon, 2011). To address this gap, my second research question is:

> *Which implicit leadership theories do followers hold of typical academic leaders and how do they rate these characteristics in terms of effectiveness?*

Besides a lack of insights into subjective images of leaders and followers on leadership, a third shortcoming in previous literature is that it remains unclear what leaders describe as *required* (1) to become a leader and (2) to fulfill a leadership position. Research on job requirements shows that implicit images and stereotypes play a major role when selecting and promoting individuals to leadership positions (Bosak & Sczesny, 2011). The strong impact of stereotypes has consequences for who is perceived as prototypical for a leadership position and therefore favored over individuals who are not perceived as prototypical. In fact, numerous studies show that in comparison to stereotypically female qualities, stereotypically male qualities are more associated with a leadership position ('think manager–think male', see Schein, 2001). This perceived *lack of fit* between stereotypically female and leader qualities (Heilman, 1983, 2001) is specifically apparent in male-dominated contexts such as academia: Scientists are usually associated with being intelligent, independent, and male (Carli, Alawa, Lee, Zhao, & Kim, 2016). Such associations lead to disadvantages for female researchers in appointment and selection processes, and therefore contribute to the under-representation of women in (academic) leadership positions (Knipfer, Shaughnessy, Hentschel, & Schmid, 2017; van den Brink & Benschop, 2012, 2014).

Despite substantial research over the past decades aiming to explain why men are favored over women when it comes to reaching leadership positions (see Carli & Eagly, 2011), we lack insights into what attributes are required to become a leader and to fulfill a leadership position in academia. More specifically, while previous research has focused on organizational and structural barriers for women in academia (van den Brink & Benschop,

2012, 2014), I aim to explore tenured professors' subjectively held expectations on academic career requirements, because professors act as gatekeepers in the promotion of junior researchers. Such insights may counteract stereotypes and add to more transparency about requirements at different career stages. Therefore, I put forward my third research question:

What attributes are required before becoming a leader (pre-tenure) versus in a leadership position (post-tenure) from the subjective perspective of professors?

Research Context

To advance research on leadership, it is highly important to consider the context (Epitropaki & Martin, 2004; Liden & Antonakis, 2009; Peus, Braun, & Frey, 2013; Peus et al., 2016). Liden and Antonakis (2009) point out that research on leadership has vastly disregarded the role of context, although Lewin (1947) already emphasized its importance more than 70 years ago by observing that behavior is a function of both person and environment. Only since the beginning of this century, scholars increasingly include context in psychological leadership research. Especially qualitative research, which aims at theory building through rich data, is useful to better understand complex and contextually rich phenomena (Antonakis et al., 2004).

The present dissertation focuses on mainly qualitative investigations in a unique research context where the likelihood of valuable observations and variations about the phenomena of interest (i.e., leader identity, implicit leadership theories, career requirements) is maximized (see Bamberger & Pratt, 2010). Specifically, I chose German academia as a research context and professors as the main subjects of my investigations. The German academic system is characterized by a strong emphasis on research and discipline-specific expertise as well as by high autonomy, particularly for professors, due to few restricting organizational structures (Henkel, 2005; Muller-Camen & Salzgeber, 2005). Therefore, differences and variations in interpretations of leadership and leadership perceptions may

become more visible in the academic context than in traditional settings, allowing for profound theory-building (Bamberger & Pratt, 2010).

Frost and Taylor (1996) characterized being an academic as a "privileged life, but also a challenging one, requiring at times high levels of focus, self-absorption, and isolation." (p. 485) As permanent positions in academia are quite limited, the choice for an academic career is rather insecure, represents a relatively high risk, and requires flexibility (Bedeian, 2004; Sang, Powell, Finkel, & Richards, 2015). Specifically, there is high pressure to 'publish-or-perish' while resources have become increasingly scarce (Deem, 2004; Ryazanova & McNamara, 2016). In order to raise revenues, external collaborations and involvement in the commercial world have become more important for universities (Perkmann et al., 2013). A further challenge for universities is the strong gender imbalance in senior academic positions. Despite efforts to counteract gender inequality, women remain under-represented in tenured professorships and academic leadership positions (Ceci & Williams, 2007). In other words, universities do not equally exploit the potential of qualified men and women throughout their careers (Knipfer et al., 2017). One key explanation for the so-called 'leaky pipeline' are gender stereotypes which create a perceived *lack of fit* between typical women and (academic) leadership positions (Heilman, 1983). Besides formal, administrative leaders in universities such as deans or heads of department, the role of professors as leaders has gained importance (Evans, 2018).

Professors are not only expected to achieve excellence in research and teaching but also need to take on leadership and managerial responsibilities in the senior career stage (Macfarlane, 2011). They face the challenge to effectively lead and navigate towards organizational success given the complexity and strong competitiveness in academia (Braun et al., 2016). However, once appointed, professors are typically not prepared for leadership tasks because research output is their key selection criterion (Bedeian, 2004; Rehbock, Knipfer, Hubner, & Peus, 2018). After all, besides a strong performance orientation,

autonomy plays a central role in academia (Henkel, 2005), specifically in the German academic system: Professors have concentrated power in their chair and are barely constrained by organizational structures (Muller-Camen & Salzgeber, 2005). One example is that they are solely responsible to decide in hiring and promotion processes of pre- and post-doctoral researchers at their chair.

Due to professors' high autonomy and the relevance of research and discipline-specific expertise (Henkel, 2005), academia is a particularly suitable context to investigate subjective images of leadership. Moreover, academia is an insufficiently researched context, despite its crucial role in society (Burkhardt, 2002). Specifically, academic leadership has been portrayed as a 'black box' (see Ekman, Lindgren, & Packendorff, 2018). Shedding light into this *black box* is needed to understand context-specific requirements of leaders and expectations towards leadership. Therefore, I seek to expand research on leader identity, implicit leadership theories, and career requirements in the academic context.

Research Approach

To address shortcomings in prior research, I used a combination of qualitative and quantitative methods with different samples to advance our understanding of professors' leader identity construal and enactment (chapter 2), follower perceptions of academic leaders (chapter 3), and professors' subjective perspective on requirements before and after reaching a leadership position (pre- versus post-tenure, chapter 4). The following paragraphs provide an overview of each chapter of this dissertation.

Chapter 2 reports an inductive inquiry of professors, who fulfill professional roles as researchers and teachers and have a formal leader role, aiming to understand how they construe and enact their leader identity. This study follows an inductive approach to build new theory through an explorative investigation in an unconventional context (see Bamberger & Pratt, 2010). I chose professors in Germany as subjects of investigation because upon appointment to professorship a formal leader role is added to the previously existent roles as

researchers and teachers (Muller-Camen & Salzgeber, 2005). To explain how their professional identity, their leader identity, and identity enactment relate to each other, I conducted and analyzed semi-structured interviews with 35 professors in Germany. The interviews included a photo elicitation task (Harper, 2002) to stimulate professors' associations with leadership and their own leader role. The analysis resulted in four types of professionals who varied in their leader identity construal and enactment, namely specialists rejecting a leader identity, mentors accommodating a leader identity, managers incorporating a leader identity, and shapers emphasizing a leader identity. By drawing on role identity theory, I develop a model that adds to our understanding of the interplay between professional and leader identity, and that explains how leader identity construal may shape leader identity enactment. Based on these findings, I suggest implications for the selection and development of leaders, especially in academia.

Chapter 3 presents the second study in which I investigate implicit leadership theories (ILTs) in the academic context. Perceptions of leaders and their effectiveness are largely shaped by followers' ILTs and therefore highly relevant to understand leadership (Epitropaki & Martin, 2005; Lord, 1985; Schyns et al., 2007). To explore ILTs in academia, I asked pre- and postdoctoral researchers in Germany (N = 368) to specify the characteristics of typical academic leaders (=professors) and to rate these characteristics in terms of (in-) effectiveness. Based on a qualitative content analysis of the stated 2,048 characteristics, 18 categories emerged that describe the typical academic leader. Moreover, I conducted quantitative analyses to investigate the content frequency and effectiveness of ILTs in the academic context. I found that ILTs in academia differ notably from ILTs in the business context. This suggests that prior findings on ILTs from the business context cannot simply be transferred to academia. These findings have theoretical and practical implications for the context-sensitivity in leadership research (see Epitropaki & Martin, 2004), the perception of academic leaders' effectiveness, and for leadership development in academia.

In **chapter 4**, I aim to gain a better understanding of what leaders perceive as required attributes to become a leader in academia versus in an academic leadership position. I thereby answer the call for a more nuanced explanation for why female scientists are under-represented in tenured professorships (Treviño, Gomez-Mejia, Balkin, & Mixon Jr, 2015). I interviewed 25 tenured STEM professors in Germany on attributes they consider to be crucial pre-tenure versus post-tenure. To combine the strengths of inductive analysis techniques in identifying emerging themes (Glaser & Strauss, 1967) and traditional content analysis (Krippendorff, 1980), I conducted a qualitative content analysis (Mayring, 2010) to specify pre- and post- tenure requirements from professors' subjective view. The qualitative inquiry indicated that the requirements not only shift substantially from pre- to post-tenure, but also that they are linked to gender stereotypes: While agentic–stereotypically male–attributes are crucial at the pre-tenure career stage, post-tenure requirements change towards communal–stereotypically female–attributes. The findings challenge the dominant view of 'think professor–think male' derived from research on gender stereotypes and the stereotype of the typical scientist (Bleijenbergh, van Engen, & Vinkenburg, 2012; Carli et al., 2016). Based on these findings, I discuss important implications for gender research and academic career research and practice.

In the following three chapters, I will describe each research approach, the theoretical basis, and findings in detail following a discussion of findings, contributions, and limitations. In **chapter 5**, I will conclude with a discussion of the main contributions of this dissertation.

2. WHAT KIND OF LEADER AM I? PROFESSIONALS' LEADER IDENTITY CONSTRUAL AND ENACTMENT[1]

I see myself as a leader and role model for my team. (Professional 6)

I don't see myself as a leader–not at all. (Professional 12)

I see myself as a mentor and not like the big boss. (Professional 16)

Professionals' leader identity is gaining increasing attention in the leadership literature as evidenced by recent *The Leadership Quarterly* articles, e.g., 'Is leadership a part of me?' (Guillén, Mayo, & Korotov, 2015), 'Am I a leader?' (Miscenko, Guenter, & Day, 2017), and 'Am I a leader or a friend?' (Unsworth, Kragt, & Johnston-Billings, 2018). A surge of leadership research has demonstrated that the leader identity–how one sees oneself as a leader (Day & Harrison, 2007)–strongly shapes (positive and negative) leader behaviors and relates to leadership effectiveness (Day & Sin, 2011; Epitropaki et al., 2017; Johnson et al., 2012; Rus et al., 2010). Yet, we know surprisingly little about how professionals, who are assigned a formal leader role, interpret their leader role and whether and how they construe a leader identity. In this study, I build on role identity theory to explore the leader identity construal and enactment of professionals.

Professionals' focus is to perform specific, highly demanding, and complex tasks based on their expertise (Pratt, Rockmann, & Kaufmann, 2006). Thus, they are typically neither originally trained in leadership nor aspire a leader role in the first place (Braun et al., 2016; Evans, 2017; Kumar & Hsiao, 2007). Prior research shows that their professional identity might well be dominated by their role as an expert in a specific field, for instance, being an academic, an engineer, or a physician, rather than their role as a leader (Ecklund, Lincoln, & Tansey, 2012; Henkel, 2005; Knorr-Cetina, 2009; McGivern et al., 2015; Muller-Camen & Salzgeber, 2005; Spyridonidis et al., 2015). Particularly professionals in an R&D

[1] This chapter is based on a working paper by Rehbock, Knipfer, Hubner, & Peus (2018), currently under review after the second invitation to revise at *The Leadership Quarterly*.

context who have only vague and even contradictory ideas about leadership (Alvesson & Sveningsson, 2003), might struggle with identifying with being a leader. Understanding differences in processes such as identifying or dis-identifying with a leader role and how professionals construe a leader identity is important to determine how individuals enact their formal leader role (Hogg et al., 1995).

Drawing on role identity theory, I assume that individuals possess several identities based on their various roles (Stryker & Burke, 2000). These identities provide meaning for the self, help integrate expectations that are associated with different roles, and shape role-specific enactment. As different aspects of a profession shape meaning, the interplay of such aspects will shape how individuals engage in identity work, e.g., how they construe their identity by "forming, repairing, maintaining, strengthening or revising the constructions that are productive of a sense of coherence and distinctiveness" (Sveningsson & Alvesson, 2003, p. 1165). Additional empirical research about whether and how professionals construe leader identities is needed to understand and make predictions about their role behavior and to counteract the risk of negative leadership (Hogg et al., 1995). Therefore, I aim to shed light on professionals' leader identity construal and enactment.

I position this paper as an investigation of leadership-related aspects of identity and explore the following research question: *How do professionals who have a formal leader role in addition to the role as an expert in their field construe and enact their leader identity?* To investigate this question, I chose German academia as a context because professors have a strong domain-specific identity as experts in their respective discipline (Ecklund et al., 2012) and, at the same time, they have a formal leader role as the head of a research group. I expected high variations in their leader identity, because professors are hardly constrained by organizational structures and thus have exceptionally high autonomy in how they construe and enact their leader identity (Henkel, 2005; Muller-Camen & Salzgeber, 2005). Due to the scarce knowledge on professionals' leader identities, this research is inherently explorative. I

conducted 35 semi-structured interviews with professors at four research-intense German universities. Based on inductive methods (Eisenhardt, Graebner, & Sonenshein, 2016; Glaser & Strauss, 1967), I investigated differences in the interplay between their professional identity and leader identity, variations in their leader identity with regards to different components (e.g., strength or integration, see Hammond et al., 2017), and the impact of leader identity construal on leader identity enactment. The analysis resulted in four types of professionals who varied in their leader identity construal and enactment, namely specialists rejecting a leader identity, mentors accommodating a leader identity, managers incorporating a leader identity, and shapers emphasizing a leader identity.

My findings contribute to the literature on leadership-related aspects of identity in several ways. First, professors differed fundamentally in how their professional identity and their leader identity played together: They either rejected, accommodated, incorporated, or emphasized their leader identity. In illuminating these differences, I offer a new perspective on professionals' leader identity construal and point out the necessity to consider the professional identity to understand how professionals construe a leader identity.

Second, my findings contribute to a comprehensive understanding of the complexity of leader identity. In order to provide identity-related explanations of why leadership is interpreted in a specific way, I draw on and expand the recently described leader identity components (Hammond et al., 2017). The differences in leader identity that I found in this research can be described using five components: leader identity strength, integration, level, meaning, and impact. I thereby provide a nuanced picture of professionals' leader identities and expand earlier research on 'difficulties in doing leadership' (Alvesson & Sveningsson, 2003). This nuanced understanding of leader identity variations provides novel explanations for how a formal leader role shapes professionals' leader identity construal.

Third, I explain how leader identity construal impacts leader identity enactment. I show in what way variations in leader identity may relate to specific leadership behaviors, for

example, transactional leadership (Howell & Avolio, 1993) or visionary leadership (Nanus, 1992). Additionally, the data show, from a leader perspective, whether and how leaders aim to manage the identity of their group. This facet can be linked to previous work arguing that leaders not only construe their own identities but also manage the social identity of their team by engaging in identity leadership (Haslam, Reicher, & Platow, 2010).

My investigations of the interplay between professionals' identities and variations in leader identity go beyond previous frameworks and improve our understanding of the heterogeneity of identities and how this heterogeneity shapes leader identity construal and enactment. I develop a model that illustrates how an identity perspective can expand our understanding of leadership. I also elaborate on the practical implications that the findings have for the selection and development of leaders.

THEORETICAL BACKGROUND AND RESEARCH PRECEDENTS

Role Identity Theory

Answering questions such as 'Who am I?' has been of fundamental importance for humanity ever since Greek philosophers, such as Aristotle and Plato, started their discourse on an individual's concept of self, which has been expanded to the organizational context in the late 19th century. Organizational identity research has focused on questions such as: Who am I as a professional? What motivates me in my work? or Who am I as a leader? (see Alvesson, Lee Ashcraft, & Thomas, 2008; Ashforth & Schinoff, 2016; Hammond et al., 2017; Ibarra, 1999; Pratt et al., 2006).

Role identity theory suggests that individuals possess several identities based on the various roles they have (Burke, 1980). The salience of these identities differs across situations and contexts (Stryker & Burke, 2000). Hogg and colleagues (1995) explain that "identity salience is conceptualized (and operationalized) as the likelihood that the identity will be invoked in diverse situations." (p. 257) Moreover, different identities are organized hierarchically, meaning that certain identities are more salient than others. This hierarchy of

identities within the self-concept is relatively stable as individuals seek a sense of stability and continuity over time (Petriglieri, 2011). Therefore, role identity theory is particularly useful in investigating chronically salient identities. As identities are enacted in role-related behaviors, they enable predictions about actions and outcomes (Burke, 1980; Hogg et al., 1995; Walsh & Gordon, 2008). More specifically, individuals are motivated to engage in activities that confirm salient identities and disengage from activities contradictory to the self-concept (Burke & Reitzes, 1991). Thus, identity motivates behavior.

In the work context, the *professional identity* is defined as "an individual's self-definition as a member of a profession and is associated with the enactment of a professional role" (Chreim, Williams, & Hinings, 2007, p. 1515). Accordingly, professional identity is central to how professionals interpret work situations, how they enact their various roles, and how this eventually influences organizational outcomes and effectiveness. Professionals might have a strong domain-specific professional identity as an expert (Henkel, 2005; Spyridonidis et al., 2015) but also a formal leader role. Yet, we do not know whether and how those professionals construe and enact a leader identity.

Leader Identity

Recently, the leadership literature has emphasized the importance of leader identity in organizations (Epitropaki et al., 2017; Ibarra, Wittman, Petriglieri, & Day, 2014; Miscenko et al., 2017; Unsworth et al., 2018). A *leader identity* refers to "the sub-component of one's identity that relates to being a leader or how one thinks of oneself as a leader" (Day & Harrison, 2007, p. 365). Previous research shows that variations in leader identity can explain leadership behaviors. Indeed, leader identity relates to self- or group-serving behaviors (Rus et al., 2010). It has also been related to abusive leadership behaviors when a strong individual leader identity is paired with a weak collective identity (Johnson et al., 2012). Furthermore, identifying with the leader role is a prerequisite for sustaining the motivation to lead and grasping opportunities to develop complex leadership skills (Lord & Hall, 2005). Succeeding

in adopting a leader identity may serve as a predictor of leadership effectiveness (Day & Sin, 2011).

As an important step towards a better understanding of how the leader identity varies across individuals, Hammond et al. (2017) proposed four components of leader identity: strength, integration, level, and meaning. *Strength* refers to how much an individual identifies with being a leader (e.g., weak–moderate–strong). *Integration* explains how much the leader identity is integrated into one's global self-concept (e.g., splintered/domain-specific–integrated across some domains–fully integrated into global self-concept). *Level* indicates whether individuals identify with their own uniqueness (individual level), close relationships (relational level), or group membership (collective level). Last, *meaning* refers to an individual's understanding of leadership (e.g., leadership as dominance, interpersonal influence, or collaborative leadership). Although Hammond and colleagues' four components provide a conceptual explanation of variations in leader identity, we know little about how professionals actually construe their leader identity, which is an important part of their identity work.

Identity Work

Identity work is the "range of activities that individuals engage in to create, present, and sustain personal identities that are congruent with and supportive of the self-concept" (Snow & Anderson, 1987, p. 1348). Identity work can include both, identification and dis-identification. While the process of identification is the process of establishing who one is, the process of dis-identification refers to actively dis-identifying with a role to maintain a sense of consistency in case certain roles do not correspond to one's beliefs, motives, or values (Ashforth, 2001). For instance, individuals might not be motivated or willing to take on leadership responsibilities if they believe that their own attributes do not match well with their personal image of a leader (Guillén et al., 2015).

So far, previous research on identity work has focused on role boundaries and macro role transitions across different domains (e.g., home and work, see Ashforth, Kreiner, & Fugate, 2000), institutional influences on professional role identity reconstruction (Chreim et al., 2007; Kyratsis, Atun, Phillips, Tracey, & George, 2017), or identity work in the case of contradictions between personal and social identities (Creed, DeJordy, & Lok, 2010; Kreiner, Hollensbe, & Sheep, 2006). Concerning professionals' role identity work within one domain (e.g., within the profession), Ibarra (1999) found that young professionals engaged in identity work by experimenting with provisional professional identities while transitioning into more senior roles.

However, the variations in leader identity and how they relate to individuals' professional identity (e.g., being an academic, being a doctor, being an engineer) is not yet understood. Understanding differences in how professionals construe a leader identity is important because processes such as identifying or dis-identifying with a leader identity, taking on a certain type of leader identity, and developing one's leader identity determine how they enact their formal leader role. Thus, my key interest is to understand the different ways of how professionals with a formal leader role define themselves as well as how they construe and enact their leader identity.

Professors and their Formal Leader Role

One context in which professionals with a strong domain-specific identity are given a formal leader role is academia. Professors have great expertise in their respective discipline, which may lead to the claim that "being a scientist itself may be a kind of master status identity that overrides other identities" (Ecklund et al., 2012, p. 695). At the same time, recent research shows that leadership demands in academia have risen due to competitive pressures (Schimank, 2005), engagement in the commercial world (Perkmann et al., 2013), and the increasing size of research teams (Wuchty, Jones, & Uzzi, 2007). Accordingly, Bryman (2007) stated that leadership is key to academic success. Yet, there seems to be confusion on

what constitutes academic leadership (Evans, 2018) and academics have been shown to interpret their leader responsibilities rather as a duty than a relevant part of their own identity (Askling & Stensaker, 2002). This may be similar to other domains in which professionals are highly educated in a specific discipline such as medicine or research in a corporate context (Alvesson & Sveningsson, 2003; McGivern et al., 2015) or very passionate about a specific activity as in entrepreneurship (Cardon, Wincent, Singh, & Drnovsek, 2009).

A particularly interesting context for this research is the German academic system because the lowest organizational unit in Germany are chairs (*Lehrstühle*), with concentrated power and authority in the professor holding the chair (Muller-Camen & Salzgeber, 2005). This means that professors have high autonomy and a formal leader role that comes with typical leadership obligations such as personnel management, taking responsibility for team performance and outcomes, and communicating with relevant stakeholders (see Day, Sin, & Chen, 2004). Specifically, professors in Germany select and employ PhD students and junior researchers on their own and may decide to terminate a contract without any involvement of HR managers or the department. They influence others as role models, supervise junior researchers during their qualification phase, manage research teams, and develop strategic visions for their chairs (Braun et al., 2013). Thus, investigating professors in Germany can shed light on whether and how professionals with a strong domain-specific identity and a formal leader role construe and enact a leader identity.

METHODS

Given my focus on understanding the ambiguities of *how* professionals who have a leader role in addition to their role as an expert in their discipline construe and enact their leader identity, I chose a qualitative variance approach (Bansal, Smith, & Vaara, 2018) and conducted semi-structured, in-depth interviews.

Research Setting

This research is based on data obtained from professors in research-intense, public universities in Germany. This context is interesting for several reasons: First, professors have a strong domain-specific identity as scientists, which might override other identities (Ecklund et al., 2012; Knorr-Cetina, 2009). Second, professors in Germany are not only the intellectual leaders but also the formal heads of a research group and thus are expected to be effective leaders for a group of junior researchers (Braun et al., 2013; McCaffery, 2010). Third, professors typically have exceptionally high autonomy in that their behavior is hardly constrained by organizational structures; therefore, identity should shape their behavior to a large extent (Henkel, 2005). Specifically, public universities in Germany are funded by the government and hence do not entirely depend on third party funding. Furthermore, freedom of research and teaching are guaranteed by the constitution (Dorf, 1999). Accordingly, professors' autonomy might result in high variations in self-definitions and differences in how they construe and enact their leader identity. This makes the German academic system a particularly suitable research setting to investigate the research question in-depth and capture relationships that might be too weak to notice or to capture in traditional settings (see Bamberger & Pratt, 2010).

Recruitment and Sample Description

Since I was interested in exploring professionals' leader identities, I investigated academic professors who have to fulfill roles as researchers, teachers, and also as formal leaders. Thus, I focused the theoretical sampling strategy (Eisenhardt et al., 2016) on a profile of professors in research-intense universities in Germany. I aimed at achieving diversity in the sample with regards to age, gender, fields of research, team size, and years of appointment. I recruited professors from four public universities with 25,000 to 51,000 students (Times Higher Education, 2018).

As I am a researcher employed at one of these universities, I am familiar with both the specifics of the professorial role in Germany and the characteristics of the German academic system. I had no previous personal or professional contact with any of the interviewees to ensure impartiality and confidentiality of the interviews. The final sample (see Table 1) included 14 women and 21 men, representing the lower percentage of female faculty at universities in Germany (U-Multirank, 2017). The average age of participants was 51.9 years, ranging from 32 to 76 years. On average, professors had been appointed for 13.6 years (ranging from one to 38 years). Their teams had 15 team members on average (including PhD students, postdocs, technical and administrative staff). In addition to the interviews, I used complementary data (e.g., professors' websites and CVs) to integrate contextual information. However, the interviews provided the richest data to examine and describe patterns of professional and leader identity and thus are the main focus of my analysis.

Data Collection

To maintain consistency, I conducted all interviews in German and in person between December 2016 and February 2019. The majority of interviews (89%) took place in professors' offices, the remaining few in meeting rooms at the university. The personal setting offered the following advantages: First, I expected interviewees to feel comfortable and secure in their daily work environment, allowing for open responses (King & Horrocks, 2010). Second, I was able to take notes about interviewees' work environment such as professors' offices, behaviors and processes, allowing for additional insights into how they enacted their identity (Charmaz, 2014). Third, I was able to use a photo elicitation exercise (Harper, 2002) which helped to stimulate the interviewees to talk about their leader role and to gain different information in terms of methodological triangulation (Patton, 2002).

The interview guideline included a broad range of questions around six major themes: 1) Professors' daily routines and set-up of their teams (e.g., number of team members, meeting structure), 2) how they balanced and prioritized different roles and the difficulties

Table 1

Overview of Interview Partners

Gender	Age	Research area	Years of appointment	Team size
f	32	Computer Engineering	1	5
f	34	Entrepreneurship	5	5
f	36	Bioinformatics	6	3
f	40	Physics	3	6
f	43	Physics	10	12
f	43	Life Sciences	1	11
f	46	Stochastics	4	5
f	49	Pedagogy	8	6
f	49	Stochastics	15	2
f	50	Physics	14	6
f	59	Sociology	18	75
f	60	Informatics	23	15
f	61	Informatics	23	2
f	63	Nutrition	25	27
m	38	Human-Computer Interaction	4	4
m	39	Software Technology	6	15
m	40	Software Technology	3	5
m	45	Spatial Planning	3	10
m	45	Entrepreneurship	9	12
m	48	Continuum Mechanics	9	15
m	49	Aircraft Design	2	8
m	51	Sustainable Resource Management	14	5
m	55	Communication Science	17	6
m	56	Mathematical Finance	16	17
m	57	Aerodynamics	13	80
m	57	Automatic Control	20	15
m	59	Chemistry	16	15
m	59	Physics	16	5
m	60	Environmental Policy	23	10
m	62	Food and Bioprocess Engineering	17	50
m	62	Manufacturing Technologies	22	40
m	62	Philosophy	25	12
m	63	Aerodynamics	20	14
m	65	Algebraic Geometry	26	3
m	76	Agriculture Management	38	9

Note. For confidentiality reasons, interview partners are ordered by gender and age in this table, whereas in the findings section, I used the chronological order of interviews to refer to participants.

they faced in doing so, 3) how they understood their profession, specifically the combination of research, teaching, and supervision and with what they identified most (e.g., "Considering the numerous tasks and roles you have to fulfill on a daily basis, what is most important to you? Which role do you identify with the most?"), 4) their personal reasons for choosing an academic career, 5) how they defined success in academia, and 6) how they defined leadership and whether/how they identified with being a leader (using a photo elicitation task).

In order to avoid demand effects, no definitions of leadership were given. I used the critical incident technique (Flanagan, 1954) to gain more explanatory information on daily work behaviors and challenges and how the interviewees addressed them. At the end of the interview, I used a photo elicitation task to further stimulate the articulation of professors' leader identity and their associations with leadership by asking them to choose one of 12 pictures[2] (e.g., a sailing boat, a chess king, a lion) that they could personally identify with the most and pictures that should represent their understanding of positive and negative leadership. Respondents were asked to explain in detail why they had chosen the respective pictures (e.g., "Please elaborate why this picture represents positive/negative leadership to you.").

On average, the interviews lasted one hour, ranging from 34 to 118 minutes (mean duration of 62 minutes). All interviews were audio recorded and transcribed verbatim in preparation for data analysis. I collected 2,185 minutes of interview data which resulted in 1,107 pages of transcripts. To complement the interview data, I collected additional conspicuous observational data before and during the interview in a personal interview protocol. I further triangulated the findings by including information from an online search of

[2] The 12 pictures are a subsample of the 64 validated pictures of the Zurich Resource Model, which are used to gather implicit associations and thoughts through metaphors (Krause & Storch, 2006). The subsample was created by subsequent assessment of four experienced leadership scholars in an effort to select pictures representing leadership.

personal websites, curriculum vitae, and public interviews (Patton, 2002). Through the integration of various data sources about professors' online representations and work contexts, I gathered empirically rich data to enhance my understanding of the interview responses.

The highly diverse interview data allowed me to grasp a broad range of information on how professors' formal leader role was interpreted and enacted. After 22 interviews, systematic patterns emerged from my initial interpretation of the data that were characterized by differences in the professional identities, variations in leader identity itself, and diverse leader identity enactment. I interviewed eight more professors from natural and technical sciences and five professors from social sciences and humanities that corresponded to the previously found patterns. Hence, I concluded the data collection after 35 interviews (Baker & Edwards, 2012; Saunders & Townsend, 2016).

Data Analysis

During the data collection process, I already dived into the data analysis process as proposed by Miles and Huberman (1994). I followed an inductive approach (Eisenhardt et al., 2016; Gioia, Corley, & Hamilton, 2013) allowing me to integrate ideas arising during the analysis and to consider themes emerging from the data during the process. Thus, data reduction, data display, and drawing conclusions was an iterative process in which I went back and forth between the data and my interpretation (Glaser & Strauss, 1967; Pratt, 2000), eventually resulting in the development of a model.

As I gathered data, I first developed fact sheets on each professor with characteristic statements on his or her motivation, how he or she perceived his or her roles, and on how he or she described leadership, by reading, rereading, and summarizing each interview (*data familiarity*). Complimentary data (e.g., personal website, interview protocol with observational data) supported the development of a personal profile of each professor,

including information on why he or she chose his or her profession, how he or she interpreted leadership responsibilities, and descriptive characteristics such as team size.

Second, I looked for emerging themes across all interviews and coded similar responses (*data reduction*). Another scholar who was not involved in the coding process, challenged the emerging findings (Strauss & Corbin, 1994). I observed a high variation in professors' identification with their formal leader role early during this process. While some professors strongly refused to consider themselves as leaders, others clearly understood themselves as leaders. At this point, I also became aware that Hammond et al.'s (2017) four leader identity components could inform my theorizing in the data analysis process.

Third, I sorted the fact sheets according to how much each professor identified with being a leader (low versus high identification with being a leader) and how they integrated their leader identity into their self-concept (full versus splintered integration of leader identity; *data display*), as these two components of leader identity, namely leader identity strength and integration, were most apparent in the data. Displaying the data according to variations in leader identity supported my aim to find further patterns of leader identity in the data. I further analyzed how professors understood being a leader (leader identity meaning) and the level of leader identity. A fifth component of leader identity emerged from statements referring to who leaders aimed to impact in their role (further referred to as leader identity impact).

Fourth, by displaying the data to organize findings along leader identity components, I consolidated similarities and differences into themes and aggregated dimensions (Gioia et al., 2013). The themes emerged through comparing and contrasting the interviews and resulted in three aggregated dimensions: the interplay between professional and leader identity, leader identity variations, and leader identity enactment. Several statements about leader identity enactment evoked associations to well-known leadership styles (e.g., transactional leadership, Howell & Avolio, 1993; visionary leadership, Nanus, 1992). Furthermore, when I presented

exemplary statements of the data to researchers in the field, I was pointed to identity leadership (Haslam et al., 2010) as a relevant theoretical framework to inform my analysis. By linking the data to these frameworks, I identified–in this step–five types of leader identity construal and enactment (*drawing conclusions*). I elaborate on the connection to leadership styles and identity leadership in the discussion.

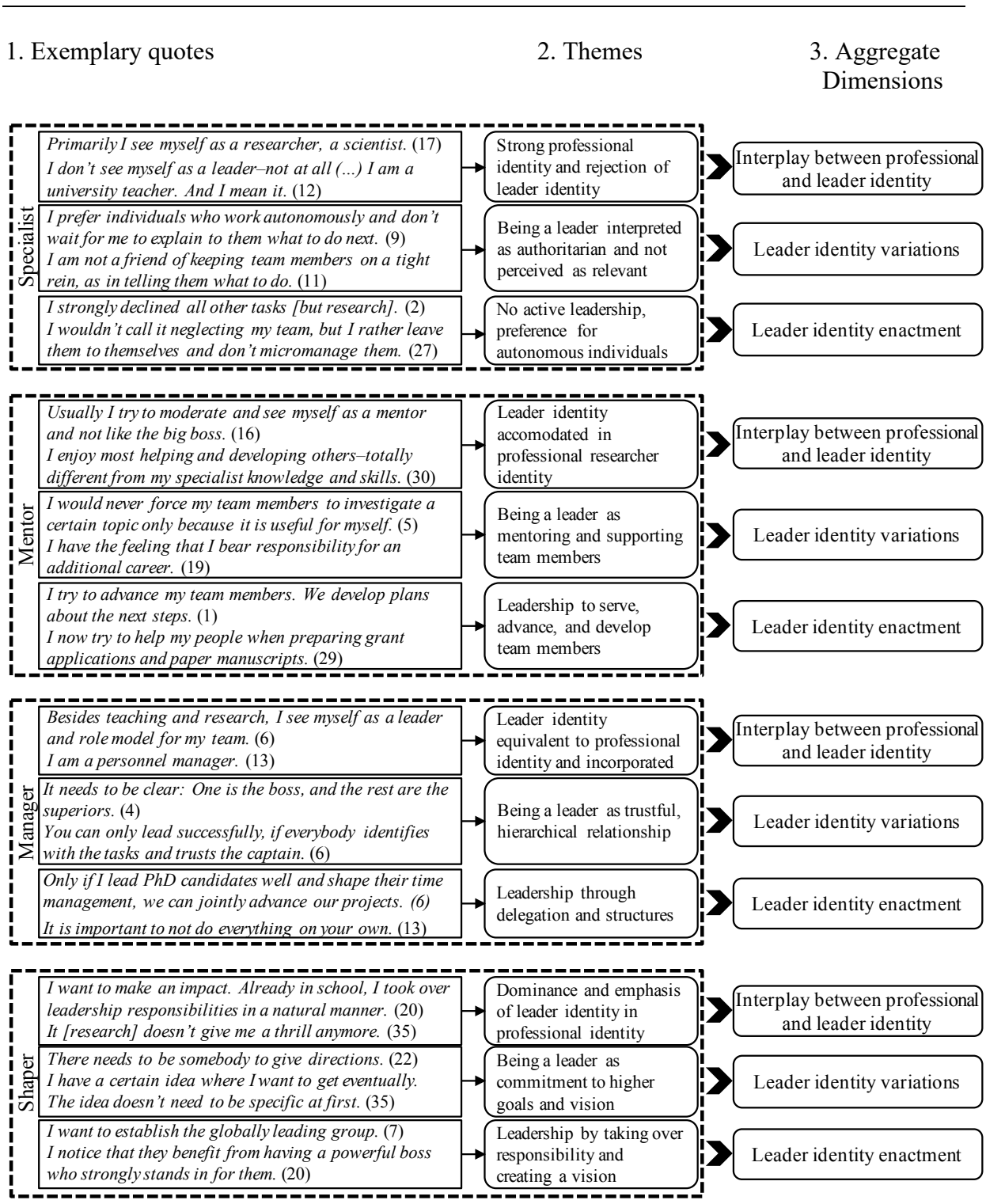
Fifth, I assigned characteristic labels to each type and created descriptions for them based on the interplay between their professional and leader identity, leader identity variations, and leader identity enactment (see Figure 1). To enhance trustworthiness of the qualitative analysis, I discussed the emerging types of leader identity construal and enactment with three experienced leadership researchers. We jointly challenged the clustering of interviews and re-examined the interviews in-depth when disagreements occurred. In cases of conflicting interpretations, we solved disagreements through intense discussion. Additional coding by two research assistants, who were blind to the categorization, showed consensus indicating intersubjectivity of the conclusions. To increase the validity of my interpretations, I continuously reviewed the conclusions by searching for similarities and differences among the types of leader identity construal and enactment. I eventually combined two similar patterns into one and defined four distinct types.

Sixth, based on the data, I developed a variance model aiming to build "an understanding of the relationships between well-defined constructs" (Bansal et al., 2018, p. 1190) to explain varying forms of leader identity construal and how these shape leader identity enactment (*theoretical model development*).

In a final step (*validation*), I contrasted the typology and model to previous literature and discussed findings with scholars active in the fields of identity and leadership research at various occasions, for instance at the Annual Meeting of the Academy of Management 2018.

Figure 1

Data Structure: Four Emerging Types Based on the Interplay Between Professional and Leader Identity, Leader Identity Variations, and Leader Identity Enactment



EMPIRICAL FINDINGS

The in-depth analysis of 35 interviews along with additional observational and online data showed important differences in professors' professional identity and, in particular, whether and how a leader identity was construed and enacted. The analysis resulted in four types of professionals who each dealt differently with their formal leader role: (1) *Specialists* did not see themselves as leaders and thus *rejected a leader identity,* while they strongly stressed their specialist role identities as researchers and/or teachers; (2) *mentors* only identified with being a leader with regards to supporting and mentoring juniors and thus *accommodated a leader identity* in their professional identity; (3) *managers* identified equally as researchers, teachers, and leaders and thus *incorporated their leader identity,* while using managerial structures and delegation in their leader role; and (4) *shapers* articulated a strong leader identity and thus *emphasized their leader identity* over their other professional roles, while aiming to influence political or societal spheres.

Demarcation of Four Types of Professionals' Leader Identity Construal and Enactment

While all professors in the sample showed similarly high levels of achievement orientation and commitment to their profession, the interviews revealed strong differences in how the leader role was interpreted and how the interviewees construed their leader identity. I linked these differences to Hammond et al.'s (2017) four components of leader identity, namely *leader identity strength*, *integration*, *level*, and *meaning*: Differences in *leader identity strength* became obvious, when some professors stated that they clearly rejected their leader role and that being a leader was not part of their identity, whereas others stated that their leader role was important and showed a strong leader identity. *Leader identity integration* was mostly high when interview partners showed a strong leader identity and perceived being a leader as an integral part of their profession. *Leader identity level* differed in that professors identified with one or more of three concept levels, e.g., as referring to belongingness to a group (collective level), close relationships (relational level), or being a

leader based on one's uniqueness (individual level). Considering *leader identity meaning*, there was a tendency to talk about one's leader role as either being clearly autocratic versus being a leader based on a participative relationship among equals. Besides these four theory-based components of leader identity (Hammond et al., 2017), a fifth noticeable factor emerged from the data: Some professors defined themselves via orientation towards the scientific community, others towards students; a third group emphasized collaborations with external stakeholders, whereas a fourth group was reaching out to the public and society at large. Thus, professors seemingly wanted to impact different groups. Therefore, I added *leader identity impact* as an additional facet to Hammond et al.'s (2017) components.

Even though some of the interview partners articulated identity statements that fit to several types, I aimed for clear categorization to highlight the differences across cases and thus assigned each interviewee to one type. Eleven interview partners showed a strong *specialist* identity and thus represented the biggest group. *Mentors* were represented by ten professors and *managers* by eight, while six interview partners showed a salient *shaper* identity. Although age was equally distributed among the first three types of leader identity, the group of *shapers* was comprised of interview partners with a minimum age of 49 years. With regards to gender, the group of *mentors* included a majority of women (6 women versus 4 men), whereas the group of *managers* consisted of only one female and seven male interview partners. In the following paragraphs, I will present each type of leader identity in-depth, including an analysis of (a) the interplay between the professional and the leader identity, (b) leader identity variations, and (c) leader identity enactment.

Specialists

Specialists' interplay between professional and leader identity. I identified *specialists* as the type of professors who showed a strong professional identity based on high expertise in their respective discipline (Interview (Int.) 2, 9, 11, 12, 17, 21, 23, 26, 27, 28,

33[3]), for instance, interviewee 26, who emphasized: "Primarily I see myself as a researcher, a scientist." They clearly stated that they did not identify with–or even explicitly refused to identify with–being a leader: "I enjoy having a small team, because to me it is all about science, and I don't see myself as a research manager. Some people think this is needed, but I don't. I am somebody who still does calculations by himself and who is very close to research." (Int. 17) Further, interviewees 23 and 27 stated that the key motivation to choose their profession was the joy of delving deeply into unexplored topics and developing something new. Similarly, interview partner 9 articulated his desire to conduct experiments himself and discuss research in-depth with his team. Furthermore, interviewee 12 stated: "Of course, some professors are active in higher education management and politics and want to change things. But I am a researcher and those professors who enjoy these tasks [e.g., politics] are way better than myself and should do it".

Interview partner 12 highlighted that "a strong identification with one's discipline is key" and added that he was driven by contributing to the scientific community and educating students and/or junior researchers on discipline-specific knowledge. All *specialists* showed a strong motivation for research- and/or teaching-related tasks, for example, finding solutions to "cognitively-challenging problems" (Int. 11). Next to the importance of research output, contributing to "scientific progress" defined interviewee 21's success. He explained that he wanted to spend most of his time on research, and he therefore prioritized research over other responsibilities. One of the *specialists* (Int. 11) even forgot the appointment for our interview and was found in a different part of the building discussing research results with fellow researchers. He complained: "I want to be a researcher with heart and soul–but I am expected

[3] For confidentiality reasons, I use the chronological order of interviews to refer to participants in the findings section, whereas in Table 1 (sample description), interview partners are ordered by gender and age.

to be a manager." I came to the conclusion that *specialists rejected* a leader identity, while expressing a strong professional identity as an expert in their field.

Specialists' leader identity variations. Because *specialists'* professional identities were based on conducting excellent research and delving deeply into challenging problems, they did not consider their formal leader role as a part of their identity at all. Thus, their leader identity was *non-existent* and *not integrated* in their professional identity. For instance, interviewee 23 stated "They [her doctoral students/employees] all have a Master's degree and work autonomously. (…) To me, being a leader is not an important aspect at all."

Regarding the *meaning* of being a leader, *specialists* interpreted leadership as directive or authoritarian behaviors which they considered as inappropriate in their profession. For instance, interviewee 11 stated, that if he had wished to become a leader and "tell others what to do", he would have joined a big corporation. Similarly, interview partner 9 reasoned: "I am not a friend of keeping team members on a tight rein, as in telling them what to do." Interviewee 17 argued: "Some people aim to organize everything in a managerial manner. In my personal opinion, a university is not a company and it should not be, because then we would attract the wrong people." Similarly, interview partner 21 turned down management tools (e.g., management by objectives or clear deadlines) because he believed that universities should not be as goal-oriented as companies. In terms of *leader identity level*, interviewee 17 described the relationship to his team members as close and trusting (relational). Likewise, interviewee 2 explained that leadership in his team was not needed, because everybody knew each other very well.

When interview partners were asked to select a picture, they could identify with in the photo elicitation task, eight out of eleven *specialists* (Int. 9, 11, 12, 21, 23, 27, 28, 33) chose a picture with a group on it. Interviewee 9 chose a herd of horses as the picture he identified most with and explained: "There is no strict group structure. As an employer, I prefer individuals who work autonomously and don't wait for me to explain to them what to do

next." Interview partner 12 also identified most with the herd of horses and explained that to him the picture represented no hierarchy among the horses, a concept that fits best to his preference of flat hierarchies. He did not want to stand out from his team members and interpreted the herd as a rather homogenous group without a leader.

Specialists' leader identity enactment. *Specialists* stated that they did not actively take on leadership responsibilities. They highly valued autonomy for themselves but also for their followers, which was reflected in their leader identity enactment. They typically put high expectations on junior researchers to be independent at a very early stage of their academic careers. Interviewee 27 explained: "I wouldn't call it neglecting my team, but I rather leave them to themselves and don't micromanage them." Accordingly, she preferred supervising PhD students who did not need much guidance. Similarly, interviewee 23 encouraged her PhD students to start projects with other researchers on their own, thereby enabling them to become independent researchers. She further aimed at having them publish their own projects at an early stage of their career.

Even though *specialists* did not see themselves as leaders, they enjoyed discussions with junior researchers about the progress of their research (e.g., Int. 9, 11, 12, 21, 23, 28, 33). For example, interview partner 21 placed the coffee machine in his office so that his team stopped by every day to connect and speak about current research projects. Interviewee 9 implemented 'paper speed-dating', where members of his team met for three minutes in random pairs of two to develop a new research idea. Interviewee 17 stated that he did not make appointments with his team members and that there were no fixed working hours. At critical stages of joint projects, he spoke to them several times daily in a rather informal manner. Thus, *specialists* supported junior faculty's autonomy in research but did not consider this as 'leadership'. Interviewee 12 explained that in contrast to other professors, he did not implement hierarchies and preferred to collaborate with junior researchers based on

his gut feeling. Several professors openly stated that they established an informal, open door policy (e.g., Int. 12, 17, 21).

Mentors

Mentors' interplay between professional and leader identity. I labeled a second cluster of similar types of leader identities *mentors* based on explicit statements using the notions of mentoring or mentorship to describe themselves (Int. 1, 5, 8, 15, 16, 19, 29, 30, 32, 34). For instance, interviewee 1 explained: "I am not a leader at all when it comes to research; I would call myself a mentor. This is clearly my role, because I don't think it would work to give clear orders to others.", and interviewee 16 reflected: "I see myself as a mentor and not like the big boss." Those professors did not consider themselves as leaders but as mentors who mainly supported junior researchers in achieving excellence and in their personal development. Interview partner 34 explained that she based her identity on individual development of her team members:

> *I have several roles: I am an educator, a supervisor, and an examiner. With being an educator, I mean a developmental form. (….) We develop human beings, our employees are very heterogeneous, in everything they do, also with regards to their personalities.*

Her emphasis on developing individuals also became salient in her definition of success which she based on helping individuals along their way: "Advancing somebody to a point where this person can achieve many great things–this is very fulfilling to me." (Int. 34)

Relatedly, *mentors* identified highly with their team and with guiding junior researchers. For instance, interviewee 29 explained: "I am very attached to my team. I call them 'my people'. This is very important to me." Similarly, interviewee 8 explained that in his opinion, human beings were the greatest good within the scientific system and therefore, they were most important to him. He described his choice of profession as a calling typified by high commitment and passion. Passing on this passion to junior researchers was a central motive for him: "My main task is to get young people enthusiastic about theories, methods,

and research fields, so that they start reflecting about it." Similarly, interviewee 1 explained that she wanted to get the best out of junior researchers by challenging them and "stimulating as much scientific potential as possible". She added that she specifically enjoyed encouraging junior researchers to pursue an academic career. Interview partner 19, who felt great appreciation for the opportunity to mentor junior researchers, stated: "I would break my neck for the young people, because I think: I want to share this." She continued that she did not have children–which, in her view, might have influenced her wish to mentor her team members. She added that passing on her personal values such as scientific integrity and dedication to research was a major task for herself as a mentor. At the same time, mentoring was not restricted to her team, as she also enjoyed mentoring students who did not pursue a PhD.

Mentors interpreted their role as an opportunity to provide intellectual mentorship to junior researchers and support their personal development but did not take on a leader identity beyond that. While this group of professors referred to themselves as mentors and only talked about leadership in reference to their specific interpretation of being a mentor to others, I concluded that they made their leader identity fit to their understanding of being a professor, thus *accommodating* the leader identity in their professional identity.

Mentors' leader identity variations. *Mentors* understood their leader role as a part of their supervisory role but did not prioritize their identification with being a leader. Therefore, their leader identity *strength* can be categorized as weak. Considering the *meaning* of being a leader, *mentors* declined authoritarian leadership and favored participative forms of leadership. Interview partner 5's mindset also reflected humility and high person-orientation: "I am way too insecure that my position is the only right one. (…) I would never force my team members to investigate a certain topic only because it is useful for myself." *Mentors* rejected a strong hierarchy in their teams and aimed to establish personal relationships with their team members that were not based on formal authority. Interviewee 1 believed that she

had authority due to her functional expertise and did not need further mechanisms to demonstrate power. Interview partner 16 explained: “I am neither very extraverted nor highly authoritarian, that’s why I cannot lead in such a way, and why it would never work. (…) I see myself as a mentor and not like the big boss.”

Because *mentors* dissociated themselves from any form of leadership that initiated structure and defined clear rules, their leader identity was only *integrated splintered* into their professional identity. For instance, interviewee 34 stated: “It is important not to introduce too many rules and to avoid a culture which constantly evaluates (…) as is taught in management education.” In terms of *leader identity level, mentors’* leader identity was based on close relationships to the group (relational) as interviewee 19 stated: “I have the feeling that I bear responsibility for an additional career but my own.”

Relatedly, when asked which picture they identified with the most, *mentors’* explanations included the notions of cooperation, giving orientation and support in achieving a common goal, and protecting subordinates. Accordingly, they chose pictures representing this interpretation of leadership: Interviewees 15, 16, 29, and 30 identified with the apes which to them symbolized cooperation and protection of each other. Interview partner 19 chose the lighthouse and explained that she interpreted leadership as giving orientation in terms of communicating shared values and providing security.

Mentors’ leader identity enactment. In their daily interactions with followers, *mentors* reported that they supported and empowered junior researchers (e.g., by not deciding for them) while mentoring them along their career progress by asking questions and sharing their personal experience. This group of professors invested much time in mentoring their team members, including personal and career development. Interview partner 1 explained that she had formalized her mentoring role: She would speak with every team member once a year about developmental areas and career objectives, including a discussion about what kind of support was needed from her side. Another *mentor* (Int. 19) explained that it was important to

her to put the needs of her team members first and support them not only in professional but also private matters: “I want to give my PhD students a home during this limited time. They have enough to worry about anyways.” Similarly, interviewee 16 explained: “I don’t want to build an empire, and I don’t need a team of 60. Ten or 13 researchers is totally sufficient.” He expressed his intention to always support his team when help was needed as he had experienced the opposite during his doctorate. Therefore, he now aimed at investing more time, going out for lunch regularly with his team members, and implementing flat hierarchies. Likewise, interview partner 29 experienced little support during her PhD and post-doctorate phase and explained: “It would have helped me to have more guidance. Therefore, I now try to help my people when preparing grant applications and paper manuscripts.” Interviewee 34 did not only express interest in developing her group members but also stated that she needed to work on herself to be aware of her followers’ needs.

In terms of supporting the interests of their group members, *mentors* seemed to engage in behaviors for their group members. For instance, interview partner 19 specifically approached her team members with questions: “‘What do you need? Do you know that?’ Or I make offers: ‘Do you prefer it this way or that way?’ And then they get to choose.” She further elaborated that these questions were helpful, because when she was a PhD candidate she was never sure about when she had a valid reason to approach her supervisor. Similarly, interviewee 16 explained that he wanted to be approachable: “I don’t want to have my head in the clouds and only be available sporadically.”

Managers

Managers’ interplay between professional and leader identity. During the analysis, I identified *managers* as a third type (Int. 3, 4, 6, 13, 14, 18, 25, 31). Their professional identity was based on a holistic view of their various roles. This became evident when I asked them with which role they identified most. Interview partner 25 explained that in his view being a researcher, a teacher, or a leader were not mutually exclusive: “I cannot select one

dominant role. Everything is a substantial part of it, in my understanding." Similarly, interview partner 31 stated that a combination of multiple roles led to synergies. Seeing oneself as a leader was explicitly mentioned by interview partner 6: "Besides teaching and research, I see myself as a leader and role model for my team." Relatedly, interviewee 13 stated: "Basically, I have a typical personnel management job." *Managers* further explained that they needed to be research managers to be able to fulfill the high expectations linked to their various roles. Interview partner 3 described that he spent most of his time in the office or on the phone, primarily while managing and organizing his team, as opposed to conducting research or writing a paper himself.

Managers were fond of leadership responsibilities and wished to create a practical impact beyond their research community. Interviewee 6 explained that he was motivated to "get things done by working hands-on." As opposed to *specialists, managers* demonstrated a wish to advance their research fields but with the main focus on generating solutions to practical problems. Interview partner 18 explained that his aim was to improve current practice by providing scientific evidence: "It is important to manage electricity or traffic or healthcare systems properly. This is our overall objective. We want to improve the economy or life in general [with the help of our research]." Thus, *managers*' leader identity was one of several professional role identities, leading to the conclusion that they *incorporated* their leader identity as an equally important part in their professional identity.

Managers' leader identity variations. *Managers* understood their leader role as a clear part of their professional identity and openly identified with being a leader (*strong* and *integrated* leader identity). Leadership was interpreted for the good of the group, leading to the conclusion that *managers* identified with being leaders on the *collective* level. They expressed that delegation and clear management structures helped them to succeed in their various roles. When asking about his *meaning* of being a leader, interviewee 13 admitted:

> *You have to be a little bit of an alpha-male in a leadership position. You have to be able to give your team clear guidelines and a direction and thereby convey authority. (…) I am not the typical alpha-male, but I know that it does not work without it. I thus always try to provide a clear direction.*

When asked to choose a picture to describe positive leadership, *managers* emphasized taking over responsibility in critical phases as a leader and establishing structures that allow good working conditions. With regard to a picture they could identify with, four *managers* chose the sailing boat (Int. 3, 4, 6, 14), for instance interviewee 6, who explained: "You can only lead successfully, if everybody identifies with the tasks and trusts the captain." To interview partner 3, the sailing boat further illustrated steering towards one direction and providing foresight as a leader. Interviewee 18 selected the herd of horses and stated that the important role of the lead horse was to provide guidance and direction, and that all others needed to follow. Interview partner 4 chose the lion and explained that this picture symbolized an attentive, protective, and balanced leader who understands when to intervene. Interviewee 13 emphasized that, to him, the picture with the tree represented an area in which employees could feel safe because he, as the leader, took over responsibility.

Managers' leader identity enactment. *Managers* described that they chose a very structured and systematic way to organize and manage their team and responsibilities linked to their profession. The overall goal of *managers* was to lead their team members by initiating structure and by delegating tasks to them. Interview partner 4 established clear structures, which she found particularly helpful in situations of conflict. Interview partner 13 further emphasized that, as a leader, it was crucial to delegate projects to junior faculty:

> *It is important to not do everything on your own, because then you are automatically the bottleneck for important tasks. Instead you have to delegate tasks and enable others to take over responsibility (….) I actually want to create an environment where my employees can be creative and initiative."*

To achieve successful delegation, interviewee 13 explained that he defined guidelines that helped his team members to decide; he went on to say that he understood leadership as "not standing in the way of his followers." Interview partner 18 took his team to a biannual

team retreat on a regular basis. He explained that engaging in social and team building activities with his group helped to strengthen team cohesion and to overcome shyness. Similar behaviors where reported from interviewee 31 who took over a departmental leader role. He explained that–also among colleagues on the professorial level–it was most important to engage in stakeholder management to align individual needs, to jointly define what the group stands for, and to craft a sense of the group. Interview partner 14 had a similar goal in mind: "I want everyone to have the feeling that they are part of this team (…) and that their work is meaningful. This is very important in terms of motivation." At the same time, he missed the ability to give incentives to steer his team members and complained that there were no measures to incentivize goal achievement in academia.

Shapers

Shapers' interplay between professional and leader identity. The fourth emerging type were *shapers* who were driven by the desire to shape society as a whole, be it with regards to economy, politics, or education (Int. 7, 10, 20, 22, 24, 35). Interview partner 20 stated: "I want to make an impact. Already in school, I took over leadership responsibilities in a natural manner." Unlike the other types, *shapers* expanded their desired outreach beyond the scientific community and their students. Interviewee 10 emphasized that she wanted to shape other systemic spheres such as politics, higher education, and/or society: "[To me, success is] something that has a lasting impact on the minds of people–be it researchers or not–by offering insights (…) which are valuable for the benefit of mankind and not only for the scientific community." Interview partner 20 further explained that he defined success in terms of how many of his students reached top leadership positions themselves: "When I see how many of our graduates have become executives or members of the board, it is highly satisfying." Thus, influence was also defined as educating future leaders who would themselves exert influence throughout their careers.

Shapers stated that they had declined other leading positions in industry or for political parties because they wanted to remain independent and wished to shape society themselves without being influenced by political or economic stakeholders. Interview partner 20 explained that he had always been a politically motivated person, eager to change his environment for the better: "To me, it is of utmost importance to have the right of initiative. Whenever I was convinced about pushing new ideas or regulations, I convinced my employees, and then we marched."

Interviewee 10 aspired for continuous improvement and sometimes faced resistance by others who preferred "sticking to the way things always used to be." Relatedly, interview partner 22 explained that seeing himself as a leader sometimes led to conflicts, because members of his research group might have perceived him as too dominant and had different expectations:

> *I have always been a leader and I have the feeling to know how things work. But there are different levers. I guess, my employees do have a different picture of how things go (…) Thus, I still see myself as a leader, but I probably ought to be rather a researcher and teacher. I do want to move things, to change, to build something.*

Many *shapers* actively sought opportunities where they could engage in political activities. Interviewee 24 reported a shift in her career from rather traditional activities towards active involvement in higher education politics and management on a national level. Similarly, interviewee 35 explained that whenever there was a free position to lead an institute or to engage in a council, she could not resist to accept:

> *Pretty early in my career, another heart started to beat* [besides research]*: to engage in higher education politics which I have always found most interesting. I have been part of many advisory boards and engage in different activities. And I guess there was a shift at the expense of active involvement in research activities.*

She had changed universities as full professor, because the new university (her current employer) offered her to found a new research institute. Her aim was to build bridges between different disciplines, but also between administration and research, and she admitted that in her former role in a traditional research professorship, she did not feel important. In line with

that, she explained that writing scientific articles did not play a major role for her personally: "It doesn't give me a thrill anymore." Overall, these interview statements led me to the conclusion, that *shapers emphasized* their leader identity over their other role identities.

Shapers' leader identity variations. *Shapers'* strong desire to have an impact and to shape society as a whole revealed that their leader identity was *dominant* in their self-view. This group clearly understood themselves as leaders and aimed to use their formal leader role to impact and influence as many people as possible, be it members of the scientific community, students, practitioners, or society as a whole. *Shapers* understood themselves as leaders in various areas of their life, and their leader identity seemed to be highly central and salient. Thus, being a leader was *fully integrated* into *shapers'* self-concepts. In terms of *leader identity meaning*, they understood their leader role as exerting influence on others and shaping their larger environment. For instance, interviewee 35 explained:

> *I have a certain idea where I want to get eventually. The idea doesn't need to be specific at first. This is basically the idea: We should try harder to investigate, reflect, and shape the role of science and technology in society.*

With that approach she managed to achieve several changes. To her, it was important that others perceive her as unusual: "People have to think, 'man, this lady is nuts'. That's what I have to live with. I know that quite a few people do not agree with me in several regards."

When asked to select a picture, they could identify with, four *shapers* chose the sailing boat and two the horses. Overall, the interpretations of these two pictures seemed to be quite similar: The sailing boat meant that, in order to have an effective and functional team, leadership was needed as in somebody who gave clear directions. For instance, interviewee 22 explained: "Nobody can steer a sailing boat on his own. There needs to be somebody to give directions (…) There are many people that *need* [emphasis added] to be led. Somebody needs to scream 'right or left'." Interview partner 10 stated that she needed to rely on her crew, because "you can't do everything on your own–in the end, we are leading because we

have the right people to be successful". The herd of horses was associated with leading a team of individuals with strong personalities and making them run into the same direction (Int. 7, 35).

Shapers' leader identity enactment. *Shapers* took on a clear leader role in seeking change and improving their environments for the better. A pre-interview online investigation of the interview participants had revealed that all professors, whom I later categorized as *shapers*, had taken initiatives to become administrative leaders, for instance within their universities, as members of the board of the professional association of professors in Germany (DHV), or by seeking other possibilities of influence. *Shapers* aimed to foster their team's innovativeness and to provide inspiration through a clear vision. Interviewee 7 explained that his vision was to establish the globally leading group in his field, linking research and application, theory and practice. He aspired that his graduates became the best on the market and that organizations would apply to hire them. Interview partner 22 described the benefit of engaging in different contexts to gain inspiration: "I switch between two different worlds [research and practice] and therefore look at the same thing from different angles. To me, this offers an added value."

Shapers highly valued research integrity and aimed to influence not only their team members but also society. Interview partner 10 regularly communicated her values in public: She held speeches titled 'Don't trust me, I am a scientist' to sensitize for integrity but also to invite others to "look in the ethical mirror". In her opinion, the intellectual elite of the past decade–be it in politics, industry, or academia–set "scandalous examples". Interview partner 20 also enjoyed taking over responsibility for the younger generation:

> *Today's 20-30-year olds are a lot more apolitical than my generation was (….) I notice that they benefit from having a powerful boss who strongly stands in for them and takes away their worries.*

Interviewee 35 described that she had established clear responsibilities in her team so that she could easily delegate new projects and tasks. To her it was important to make her

"team feel confident and understand how things work." She herself mostly engaged in relationship building, networking, and representation of the research institute to external collaborators and stakeholders. In that sense, she seemed to make her team matter.

DISCUSSION

In this research, I studied in what way professionals with a strong domain-specific identity interpret their formal leader role, how they construe a leader identity and, in consequence, how they enact their leader identity. I have chosen a high-discretion context in which professionals act with high autonomy in their formal leader role: academia. Based on the analysis of 35 semi-structured interviews with professors of German universities, I found important differences in the interplay between their professional identity and their leader identity, high variations in leader identity, and diverse forms of leader identity enactment. Figure 2 summarizes the findings in a model.

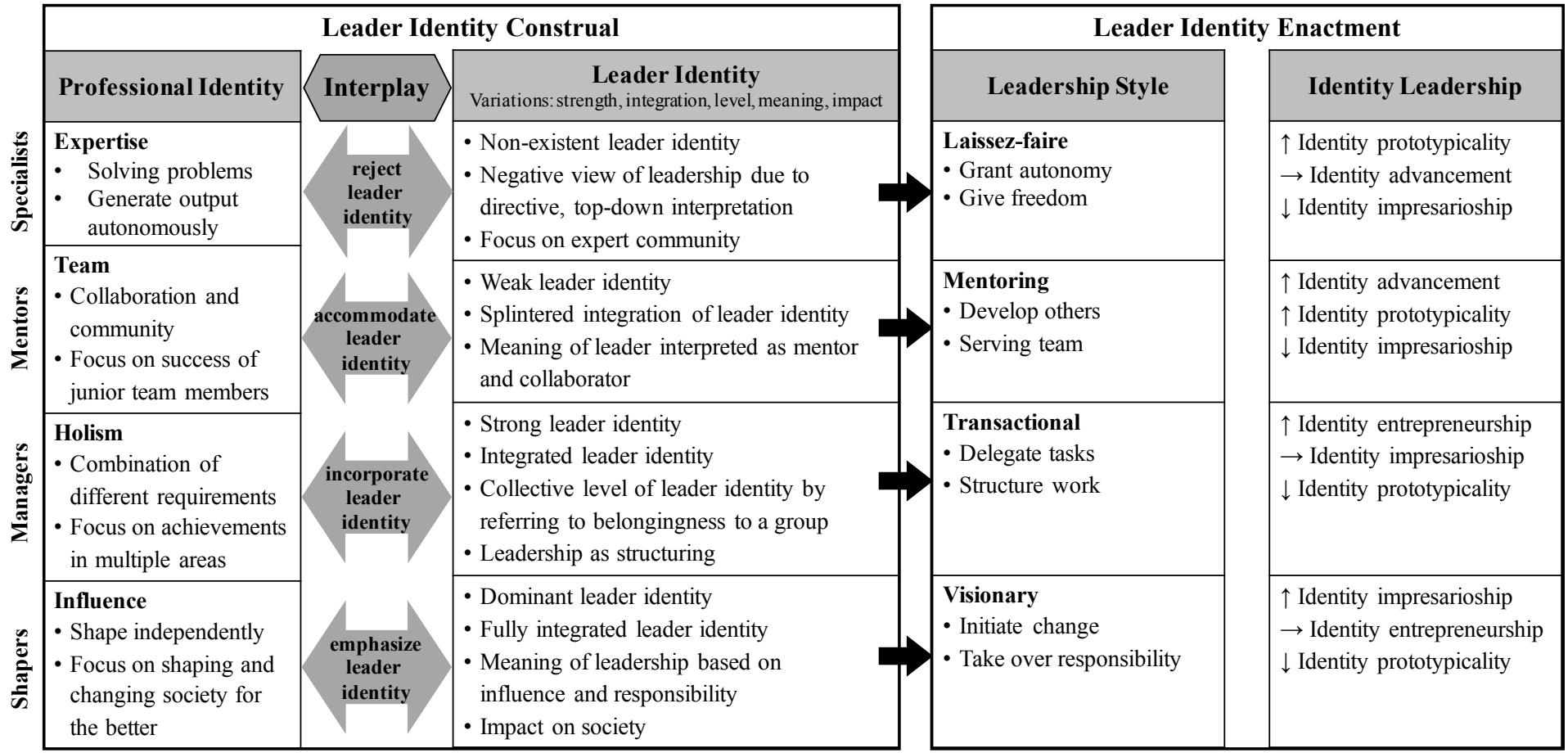
Contributions

Building on a qualitative approach, the findings advance the understanding of how professionals interpret a formal leader role and enact their leader identity, and thus contribute to leadership and identity research in three ways.

Interplay between professional identity and leader identity. My first contribution is the integration of the literature on professional identity and leader identity, previously separate lines of theorizing, allowing for a more coherent conceptual understanding of how these identities interact with each other. This perspective is novel in that I consider the interplay of individuals' professional identity and leader identity in explaining leader identity construal. Having leadership responsibilities as a professional comes with the need to deal with a formal leader role despite a presumably strong identification with one's expertise in a specific field (Henkel, 2005; Knorr-Cetina, 2009; McGivern et al., 2015). This research shows that having a formal leader role can result in distinct forms of leader identity construal

Figure 2

Model Illustrating Professionals' Leader Identity Construal and Enactment



even within the same profession. More specifically, this study identified four different types of professionals:

First, specialists who *reject a leader identity* and identify primarily with their expert roles. Second, mentors who *accommodate their leader identity* by partly accepting a leader identity in their professional identity, as someone who mentors and develops followers. Third, managers who *incorporate their leader identity* in their professional identity, as an equally important identity among others, and who understand leadership as management in the first place. Fourth, shapers who *emphasize their leader identity* and who understand themselves as leaders in various areas of their life by influencing and shaping their environment, be it academia, industry, or society at large.

The findings help explain when and why a leader identity is rejected, accommodated, incorporated, or emphasized, based on the interplay between the professional and the leader identity. As an important theoretical implication, these findings suggest that the interplay between the existing role identity as a professional (e.g., being a researcher, being a doctor, being a software engineer) and the leader identity plays a key role for how the formal leader role shapes professionals' leader identity construal. Therefore, leader identity research should consider the influence of the professional identity.

Variations in leader identity. Second, the findings on leader identity variations go beyond previous empirical leader identity research, which has used helpful but simplified distinctions to describe leader identity (e.g., based on strength and/or centrality of the leader role for one's self-view, see Johnson et al., 2012; Rus et al., 2010), underrating its complexity. This research sheds light on variations in leader identity of members of one specific profession, even though variations of identity might not necessarily be expected in the same profession. Only recently, Hammond and colleagues (2017) have described four components of leader identity: strength, integration, level, and meaning. This research is one of the first to elaborate on these components of leader identity based on empirical data and

adds *leader identity impact* as a new component to grasp the external focus of the leader role, as in who professionals aim to impact in their leader role (in terms of proximity and size of group). I thereby allow for a more comprehensive and nuanced understanding of the *leader identity* construct. Altogether, this research shows how leader identity can vary in strength, integration, level, meaning, and impact.

More specifically, I find that the strength of leader identity is shaped by the strength of an individual's professional identity. The data shows that individuals who strongly identify with the role and tasks linked to their expert profession are unlikely to develop a leader identity which is fully integrated into their self-concept. Most notably, this study offers new insights into how differences in leader identity *meaning* serve as an explanation of how professionals construe their leader identity. Previous research suggests that the leader identity can be ambiguous and vague in meaning (DeRue, Ashford, & Cotton, 2009) and that we need to consider the 'nonexistence of leadership' (Alvesson & Sveningsson, 2003). The findings of this study support the idea that, for the group of professionals that I labelled *specialists,* leadership might be perceived as nonexistent. Going beyond Alvesson and Sveningssons' conclusions, the findings imply that leadership meanings vary from an authoritarian understanding (see *specialists*) to an egalitarian view of leadership (see *mentors*), and that these leadership meanings strongly relate to leader identity construal. If professionals equate leadership with authoritarian behavior–as *specialists* did–and cannot identify with such behavior, they will most likely not develop a leader identity. In contrast, if professionals interpret leadership as the opportunity to shape their environment and take influence and identify with these tasks–as *shapers* did–, they will construe a strong leader identity. Thus, the data support the notion that leadership is in the eye of the beholder and, even among individuals in the same role and profession, no universal understanding of leadership exists. This perspective underpins the importance of considering individuals' understandings of leadership, also described as implicit leadership theories (Lord, 1985; Lord, Brown, Harvey,

& Hall, 2001). Besides shedding light on differences in leader identity *meaning*, the findings expand previous thinking by suggesting that leader identity varies in terms of *strength*, *integration, level*, and *impact*.

Professionals' leader identity enactment. Third, I contribute to the literature by providing a more complete rationale of how professionals in a formal leader role enact their leader identity. By doing so, my work advances leadership research because I shed light on important identity-related foundations of leadership. I explain, from the perspective of professionals, how leader identity construal shapes leader identity enactment. Thereby, I go beyond previous research linking leader identity strength and leader identity level to behavioral outcomes (Johnson et al., 2012; Rus et al., 2010) and provide evidence that not the leader identity alone but its interplay with the professional identity shapes leader identity enactment.

In interpreting the differences in leader identity enactment, I build on earlier findings showing that leader identity leverages leadership behaviors, for instance, the occurrence of transformational or abusive leadership (Johnson et al., 2012) and self- versus group-serving behaviors (Rus et al., 2010). The results support the claim that leader identity serves as an important antecedent of leadership behavior.

In the data, I find that variations in leader identity can be associated both with leadership styles and concepts of the *identity leadership* framework, which grasps leaders' abilities to shape the social identity for their followers (Haslam et al., 2010). First, *specialists* emphasize behaviors that secure the primacy of their professional identity as researchers. Since they expect their followers to work autonomously and make their own decisions, their behavior can be interpreted towards laissez-faire leadership, which is characterized by the leaders' intention to give freedom and grant autonomy; this leadership style can be effective in contexts with high autonomy of followers (Bass, 1985; Kerr & Jermier, 1978).

Concurrently, this group of professors might be perceived as ‘exemplary members of the group’, thus as high in *identity prototypicality* (Steffens et al., 2014).

Second, *mentors’* supportive and serving form of leadership, which aims to develop and grow their team members, can directly be linked to mentoring behavior (Lapierre, Naidoo, & Bonaccio, 2012). It also contains parts of empowering leadership (Pearce et al., 2003) and servant leadership, where the leader serves others to grow (Greenleaf, 1991). Due to *mentors’* desire to advance and promote core interests of the group, this group might be perceived as high in *identity advancement*, as in ‘doing it for the group’ (Haslam et al., 2010).

Third, *managers’* leadership behaviors with a strong focus on clear structures and delegation might be interpreted as transactional leadership, which considers the leader-follower relationship to be a series of exchanges (Howell & Avolio, 1993). Furthermore, *managers* clearly emphasized the importance of inclusiveness of the group by creating group cohesion and ‘a shared sense of us’, representing *identity entrepreneurship* (Reicher, Haslam, & Hopkins, 2005).

Fourth, *shapers’* leadership behaviors are characterized by the wish to improve society at large based on a strong vision, which can be related to visionary leadership (Nanus, 1992), meaning that leaders act as change agents and think strategically when creating large-scale visions. Furthermore, the behaviors *shapers* reported seemed to put emphasis on ‘making their group matter’ by making it also visible to people outside the group, an aspect which is referred to as *identity impresarioship* in the literature (Haslam et al., 2010).

Overall, these findings suggest that leader identity construal results in differences in leader identity enactment. Specifically, I show that the interplay between the professional and the leader identity explains whether and how professionals construe and, in turn, enact a leader identity. Thus, this research sheds light on the reasons why different leadership styles are desired by leaders or not and what components of identity leadership are evoked through leader identity enactment.

In summary, by integrating multiple streams of research–role identity theory, leader identity, leadership styles, and identity leadership–, this study adds a novel perspective that helps to explain the interplay between the professional and the leader identity, leader identity variations, and leader identity enactment. This integration seems to be a particularly fruitful approach because an identity perspective transcends one-dimensional approaches to leadership and leader development (Day & Harrison, 2007).

Limitations and Avenues for Future Research

As I endeavor to build and elaborate theory based on a qualitative research design, I must take into account that the empirical material of this study is limited to the specific context I have chosen, namely the German academic system. How a leader identity is construed and enacted in other professions such as engineering, informatics, or medicine might be qualitatively different. However, although I investigated leader identity and identity work in the academic context, the insights into how the leader identity is construed and enacted by professionals may be partly generalizable to other settings with similar contextual characteristics. More specifically, similar variations in leader identity might be observed in contexts where professionals have formal leadership responsibilities in addition to their domain-specific expertise and have high autonomy in how they deal with their formal leader role, e.g., medicine or engineering. Future research is needed to generalize my propositions and generate additional evidence for the model in other contexts.

Second, group differences might impact leader identity construal, e.g., gender, age, and discipline. For instance, although I did not focus on gender differences, the person-oriented interpretations of leadership by *mentors* (e.g., caring for, supporting, and mentoring junior faculty) were more frequently mentioned by women compared to men in the sample. Similarly, the task-oriented interpretations of leadership by *managers* have been explicated by more men than women–which is both in line with gender stereotypes (see Eagly & Carli, 2003). Due to the qualitative nature of this study and the typically rather small sample size, I

refrain from drawing conclusions from this observation. I suggest that future research may further investigate such effects.

Third, I interviewed study participants at only one point in time. Even though this was useful to gain insights into professors' situational leader identity, I suggest that future research should integrate longitudinal approaches to learn more about identity dynamics and their impact on leader identity enactment over time and throughout one's career (see Fischer, Dietz, & Antonakis, 2017). For instance, all interviewees, who were categorized as *shapers*, were at advanced stages in their career (older than 49 years old), indicating that age might play a role in leader identity construal. I see the need to further investigate the stability of the hierarchy of identities and the circumstances under which changes may occur, for instance, experiences that are crucial in leader identity construal.

Last, this research provides a foundation towards understanding leader identity construal and enactment and thus opens up avenues for future research on identities as antecedents of leadership behavior and outcomes. For instance, in future quantitative studies, the five components of leader identity could be measured and linked to leadership outcomes. Additionally, studies with leader-follower dyads could investigate to what extent leaders' self-views are congruent with followers' respective perceptions.

Practical Implications

The findings of this study also offer practical implications on an individual and organizational level to improve leader development and selection practices, in particular for professionals who have leadership responsibilities but have not been trained nor necessarily aspire to be leaders. First, as self-awareness, reflection on critical incidents and mentoring can foster the discovery and development of one's own leader identity (DeRue et al., 2009; Muir, 2014), I encourage professionals to think about crucial parts of their identity. For instance, *specialists* might reject a leader identity because they think a leader should be authoritarian. Yet, Yukl's (2010) definition of leadership as influence goes beyond *specialists'*

interpretation, and understanding this might encourage *specialists* to adopt their leader role more actively and seek developmental opportunities. Knowledge about one's own leader identity may also stimulate self-regulated learning as it is likely to help in anticipating challenges and seeking early support (e.g., DeRue & Wellman, 2009). For instance, *mentors* who experience negative set-backs when their followers do not appreciate the effort and trust invested in them, might identify solutions on how to maintain flat hierarchies and participation while claiming authority.

Second, on an organizational level, the typology of leader identity construal may help to enhance person-job fit and to develop targeted development activities. I suggest that organizations should critically evaluate which people to select for formal leader roles, especially because some of them, such as *specialists*, are likely to be reluctant to accept a leader role. For those, other career paths should be offered that are equally attractive, for example an expert career track. Another challenge organizations face is understanding the highly complex underlying processes of adult development, which is needed for the conceptualization of leader development approaches (Day & Sin, 2011). Based on the data and conclusions of this study, I suggest more targeted leader development approaches that consider identity aspects of leadership and go beyond a "one-size-fits-all" approach. For instance, *mentors* might benefit from learning coaching tools to professionalize their guiding and mentoring, whereas *shapers* might appreciate tools to integrate differing expectations from their various stakeholders, specifically from their followers. To conclude, I suggest a strength-focused approach that builds on the types of leader identity construal that I have identified to achieve professionals' full potential and contribute to organizations' overall success.

3. RATE MY PROFESSOR: IMPLICIT LEADERSHIP THEORIES IN ACADEMIA[4]

Leadership in academia has gained increasing attention over the past years from scholars in higher education (Bryman, 2007; Evans, 2016, 2018; Evans, Homer, & Rayner, 2013; Macfarlane, 2011; Zacher & Johnson, 2015). While considerable attention has been given to administrative leadership (e.g., deans and chancellors leading universities, see Fincher, 2003; Lowman, 2010; Macfarlane, 2011), less is known about professors as leaders (Braun et al., 2016; Evans, 2017; Rehbock, 2020), and this although they have considerable influence on higher education and, thus, on societal development at large. This is particularly true for contexts in which the title "professor" is very exclusive and, as in most European countries, referring only to those "at the pinnacle of the academic staff hierarchy (full professors)" (Evans 2017, p. 124). In such contexts, a career as a professor is traditionally based on research and, in parts, teaching excellence and involves high levels of distinction and reputation. Notably, a limited but growing body of research indicates that professors are increasingly required to take on leadership responsibilities, making leadership an important part of prescribed professorial professionalism (Braun et al., 2016; Evans, 2016, 2017). This research builds on previous work on professorial leadership and aims to further advance our understanding of professors as leaders from the perspective of their followers.

While research on professors' leadership is generally scant, the focus has commonly been on professors themselves and how they see their role, while much less is known about followers and their perspective (Evans, 2018). Among the few studies in this field is Evans et al.'s work (2013) about how non-professorial academics from British universities perceive and evaluate the nature and extent of leadership they receive from professors. Yet, their study defined professorial leadership exclusively around positive features, equating it with

[4] This chapter is based on a manuscript by Rehbock, Pircher Verdorfer, & Knipfer (2019), accepted for publication at *Studies in Higher Education*.

mentoring and advising others. This might be one reason why the majority of respondents stated that professors should engage in this form of leadership. That said, we still lack a thorough understanding about what characteristics are ascribed to a *typical* professorial leader and the extent to which these characteristics are perceived as effective or ineffective by followers. By *typical,* I mean the most common characteristics of the average professorial leader (see van Quaquebeke, Graf, & Eckloff, 2014).

In the pertinent literature, *implicit leadership theories* (ILTs, Lord, 1985) represent everyday images of leaders, containing traits and behaviors that describe a typical leader (Epitropaki et al., 2013). These ILTs are highly relevant: Followers evaluate their leaders' effectiveness by comparing their subjective images of leaders with their actual leaders. Any deviations from these everyday images may negatively affect the overall impression about the leader (Epitropaki & Martin, 2005). This way, followers differentiate leaders from non-leaders (Lord et al., 1984). These findings stem predominantly from research in the business setting, like most research on leadership in general. However, professorial leaders act within different structures, face different challenges, and strive for other goals than leaders in the business context (Braun et al., 2016). Hence, it is questionable whether previous findings about ILTs can be transferred from the business to the academic context. In line with this argument, scholars have consistently noted that ILTs are context-sensitive (Epitropaki & Martin, 2004). However, the only study examining ILTs in the academic context has focused on deans and departmental heads in the US, finding notable differences between private and public universities (Smothers, Bing, White, Trocchia, & Absher, 2011). There is, however, no evidence regarding ILTs about professorial leaders. This is unfortunate because it limits both our theoretical and practical understanding of the perspective of 'the Led' (see Evans et al., 2013).

With these gaps in mind, the aim of this research is to elucidate the content of ILTs concerning professorial leadership. More specifically, I seek to specify the set of

characteristics that followers expect from a typical professorial leader and to determine whether these characteristics are considered to be effective versus ineffective. For this purpose, I surveyed pre- and postdoctoral researchers in Germany and based the inductive content analysis on 2,048 characteristics that respondents mentioned when asked to describe the typical professorial leader. The theoretical contributions of this research are twofold: First, I seek to expand our knowledge on leadership in academia by adding insights into pre- and post-doctoral researchers' implicitly held images of professorial leaders. Second, by investigating whether those characteristics are perceived as effective versus ineffective, I build on Schyns and Schilling's work (2011) in gaining a valence of characteristics of the typical professorial leader. By comparing and contrasting the findings with ILTs from the business context, I investigate to what extent the image of the typical professorial leader differs from more established theorizing on the typical business leader.

From a practical point of view, shedding light on ILTs about professorial leadership is also important because ILTs are an essential feature of the social context in which leadership occurs and are thus highly relevant for how leaders are selected, perceived, and developed (Schyns et al., 2011). Research in the field of leadership effectiveness and leader development has consistently stressed that individuals are more likely to attribute leadership to others and to accept their influence if they match their ILTs (DeRue & Ashford, 2010). The findings may, first, foster professors' self-reflective practice, enhancing their ability to influence others effectively. Second, frameworks for professorial leader development can strongly benefit from considering the findings about ILTs, and more specifically, about the perceived effectiveness of distinct characteristics. Finally, the new insights might improve selection processes of new professors and of professors who want to engage in administrative leadership (e.g., as vice-dean of education, coordinator of graduate degrees, etc.).

THEORETICAL BACKGROUND

Professorial Leadership

The academic system has changed tremendously in recent decades due to new public management (Deem, 2004), heightened international competition (Perkmann et al., 2013), and pressure from global accreditation bodies (Ryazanova & McNamara, 2016). With this, also the requirements for professors, as universities' key stakeholders, have changed. Scholars have increasingly stressed the critical role of leadership for research success (Antes, Mart, & DuBois, 2016; Braun et al., 2013; Bryman, 2007; Elkins & Keller, 2003). Braun et al. (2016) differentiated between two forms of leadership in academia: *administrative leadership* (i.e., leadership of universities) and *research leadership* (i.e., leadership in universities). Previous empirical studies have mostly focused on administrative leaders in the UK such as university presidents, department heads, and chancellors (Bolden et al., 2012; Knight & Trowler, 2001; D. Smith, Adams, & Mount, 2007), while research on professors as leaders has been widely neglected (Evans, 2017). Similar to Braun et al. (2016), Evans (2014) also used the term *research leadership*, but with a different connotation. The latter referred to research leadership as "the influence of one or more persons on the research-related behavior, attitudes or intellectuality of another/others" (Evans, 2014, p. 49). Evans and colleagues (2013) further used the term *professorial leadership* with regards to behaviors such as intellectual leadership, mentoring, and helping staff to develop. Similarly, Macfarlane (2011) used the term *intellectual leadership* which he associated with qualities of professors such as being a role model, a mentor, a guardian, or an ambassador.

Despite the dominant definition of professorial leadership as intellectual leadership and mentoring, Evans et al. (2013) discovered that followers expect much more of professors with regards to their leader role, for instance that they manage a research group effectively. Similarly, Braun et al. (2016) stated that professors need to lead research groups and research projects by providing support and creating an inspiring vision for their group and by

mentoring and developing junior scientists. Thus, in addition to achieving excellence in research and teaching, professors are required to engage in professorial leadership, even though they are often not adequately prepared for this or do not necessarily aspire for such a role in the first place (Braun et al., 2009; Rehbock et al., 2018; Rowley & Sherman, 2003). Hence, for the purpose of this research and to comprehensively capture the reality of professors as leaders, I expand the definition of professorial leadership to include more general leadership tasks, most notably initiating structure and consideration (see Judge, Piccolo, & Ilies, 2004). I define professorial leadership as: *providing intellectual stimulation and mentoring to followers, while also creating a vision, implementing and managing structure, shaping and coordinating teamwork, and managing budgets, projects and resources.*

Effective professorial leadership has become increasingly important for performance and research goal achievement in academia, as the majority of research is nowadays conducted by teams and larger research groups instead of single researchers (National Research Council, 2015; Wuchty et al., 2007). Previous research demonstrates the positive effects of positive leadership styles in academic and research settings (Braun et al., 2013; Elkins & Keller, 2003; Keller, 2006). For instance, Braun et al. (2013) showed that transformational leadership, with its strong focus on the leader acting as a role-model and providing a compelling vision (Bass, 1999), is positively associated with job satisfaction and publication output. At the same time, however, there are oftentimes discrepancies between 'enacted' and 'demanded' professionalism (Evans, 2011) and how leaders actually behave ('enact') might deviate from what followers require ('demand'). To counteract mismatched expectations, the present study is highly relevant in gaining insights into followers' perceptions of the so far underresearched group of professorial leaders and their perceived effectiveness.

What Are Implicit Leadership Theories (ILTs) and Why Do They Matter

ILTs refer to subjective schemas of the set of attributes that followers expect leaders to have (Eden & Leviatan, 1975; Lord, 1985). As such, they are part of follower-centric approaches to leadership that focus on the role of followers in the leadership process (Eden & Leviatan, 1975; Rush, Thomas, & Lord, 1977). Research in this field has consistently shown that followers' interpretations of leadership and their perceptions of leaders are pivotal for understanding leadership and its effectiveness (Uhl-Bien et al., 2014). ILTs, as everyday images of leaders, have a particularly strong influence on how followers perceive their leaders (Epitropaki & Martin, 2005; Lord & Maher, 1993; Schyns et al., 2007; Shamir, 1992) and are thus core to "understand whether and when individuals are willing to follow a leader" (Uhl-Bien et al., 2014, p. 86). As leader behavior can be interpreted differently by different followers, the notion of ILTs suggests that leadership is partially in the eye of the beholder (Lord & Emrich, 2000).

The theoretical foundation for ILTs was laid in the 1980s by Lord et al. (1984) who developed a theory of leadership categorization (see also Phillips & Lord, 1986) based on cognitive categorization theory (Rosch, 1978). Leadership categorization theory posits that followers compare their ILTs with their actual leader and then categorize a target person as either a leader or non-leader (Lord & Maher, 1993). These ILTs are developed by followers based on their prior experience with actual leaders (Kenney, Schwartz-Kenney, & Blascovich, 1996). High congruency of images of the typical leader and actual leader behavior has been shown to leverage the quality of leader-member exchange, improve well-being, and increase employee commitment (Epitropaki & Martin, 2005). Additionally, perceptions of leaders that deviate from the image of the typical leader decrease leader influence (Schyns & Schilling, 2011). As ILTs influence the perception and evaluation of leaders as leaders or non-leaders (Lord & Maher, 1993), they also impact leaders' advancement and success (Schyns &

Schilling, 2011). Thus, followers have a critical role in the leadership process, and it is necessary to understand what ILTs comprise.

Previous research explored the content and structure of ILTs in-depth in the business context. For instance, Lord and his associates (1984) identified 59 leader attributes, such as charismatic, dedicated, and decisive. In their multi-stage investigation in the 1990s, Offermann, Kennedy Jr, and Wirtz (1994) suggested 41 attributes that were comprised in eight higher-order factors, namely *Sensitivity, Dedication, Tyranny, Charisma, Attractiveness, Masculinity, Intelligence*, and *Strength*. Their findings were generalizable across gender as well as across students and working adults. Their 41-item ILTs scale served as the foundation for further work in this field (Epitropaki & Martin, 2004, 2005).

Epitropaki and Martin (2004) provided evidence for the general structural stability of Offermann et al.'s (1994) factors, although one factor was dropped (*Attractiveness*) and two were merged (*Strength* and *Charisma* into *Dynamism*), resulting in six factors eventually. Epitropaki and Martin's (2005) longitudinal study supported the stability of ILTs over a 12-month time period. The most recent replication study by Offermann and Coats (2018) supported a remarkable stability of ILTs over time as the factors defined in 1994 remained mostly unchanged. The key difference was that *Creativity* was revealed as one new emerging factor. In general, previous research shows that images of everyday leaders are often framed around effective attributes, thus referring to positive leader attributes. Schyns and Schilling (2011) found empirical support that ILTs of the typical leader can also comprise ineffective attributes such as being disinterested, weak, and unpleasant.

Recent research argues that ILTs are context-specific (Schyns & Schilling, 2011; Shondrick & Lord, 2010). More specifically, it is assumed that contextual factors influence ILTs and how actual leaders are perceived (Lord et al., 2001). For instance, a military context might emphasize characteristics such as being dominant and masculine, whereas in medical organizations being caring and compassionate might be ascribed to a typical leader. I argue

that the context-specific characteristics of academia need to be considered and that we cannot extrapolate insights gained in the business context to theorize about ILTs of professorial leaders. Hence, the aim of this study is to investigate the specific content and perceived effectiveness of ILTs in academia.

METHOD

As I am not aware of any study that explored ILTs in academia, I chose a qualitative approach to identify characteristics that pre- and post-doctoral researchers expect typical professors to have. I used established procedures of ILTs research (see Schyns & Schilling, 2011) to ensure comparability of my findings with existing evidence.

Research Design and Instrument

I employed an online survey that consisted of several questions on academic leadership and effectiveness as a professorial leader. First, I asked participants to imagine a professor in her/his role as a leader of a research team and/or chair. I instructed participants to consider all professors they have worked for throughout their careers and then asked them to name six characteristics of a typical leader in academia. As a next step, participants were asked to rate these characteristics in terms of their effectiveness on a 5-point scale ranging from 1 (*very ineffective)* to 5 (*very effective*). Although I did not focus on this in the first place, I also asked participants to rate the general importance of leadership in academia (i.e., "In your opinion, is leadership a critical factor when it comes to the success of research teams/units? Please rate the influence of leadership by using the following anchors: 1= very unimportant to 5= very important"). I concluded the survey by asking for demographic information.

Sample

This study was conducted in Germany in 2016, targeting followers of professors, thus, pre- and post-doctoral researchers from a wide range of disciplines and universities. To recruit participants, I approached academic associations and asked for permission to use their mailing

lists. Via those lists, I sent emails to pre- and post-doctoral researchers from multiple disciplines, explaining the study aim and providing a link to the online survey. Overall, 1,945 pre- and post-doctoral researchers accessed the link, out of which 1,062 started the survey. A total of 413 participants completed the study, accounting for a response rate of 38.9%. I excluded 32 participants because they worked for independent, non-university research institutions or due to missing information. I further excluded 13 participants who responded in English because language barriers may undermine the validity of the resulting ILTs categories.

The final sample consisted of 368 participants which met the criteria for data analysis. Sixty-seven percent of respondents were female (three participants did not report their gender). Forty-seven percent of participants were pre-doctoral researchers and 52% post-doctoral researchers. Four persons did not report their position but were still included in the analysis. The average age was 35.8 years (*SD* = 9.2). Participants came from different research fields: life sciences (31%), natural sciences (14%), social sciences (39%), and technical/engineering sciences (16%).

Content Analysis Procedure

To achieve a systematic and transparent way for data analysis, I combined inductive data analysis with traditional content analysis (Krippendorff, 1980; Mayring, 2010). On the one hand, the strength of inductive analysis is the discovery of categories that emerge from the data (Glaser & Strauss, 1967; Strauss & Corbin, 1998). On the other hand, I used traditional content analysis to reduce and quantify the data.

The data analysis process followed several steps: In a first step, I drew a random sub-sample (*n* = 128) from the final sample based on a balanced representation of disciplines. Two raters independently clustered and coded the characteristics obtained from this sub-sample to derive preliminary categories. On this basis, over a series of face-to-face

discussions and going back and forth between the data and the codes, the two raters agreed upon 23 preliminary categories.

In a second step, I validated and refined the categories by coding characteristics obtained from a second sub-sample (n = 100). Two raters and myself each coded two thirds of the sub-sample so that each characteristic was coded twice. We jointly discussed the assignment of codes when differences occurred and agreed on the final code. At this stage, I noticed that some participants entered broader labels such as “leadership competence”, “leadership abilities”, or “social competencies”, leaving much room for interpretation. As these responses were not specific characteristics of typical leaders, I decided to exclude them from further analysis.

In a third step, due to the high number of categories, I merged categories when the other raters agreed. For instance, the category *diligent* and *aspirational* was combined into *ambitious*. I further combined *fair* and *honest* into *integrity.* In order to reach higher accuracy, I adapted the category scheme several times in order to achieve a mutually exclusive and collectively exhaustive category scheme (Conger, 1998). For instance, I changed the category *intelligent* to *logical* to further include characteristics such as *well-structured* and *analytical*. I resolved conflicting coding decisions through thorough discussion with the two raters. On this basis, I eventually derived 18 categories and the generic category “other”. The 18 categories comprised 39 sub-categories (see Appendix A for full category scheme). In terms of inter-rater reliability for the first 100 respondents, the two raters and myself reached 93.3% agreement and Cohen’s Kappa of 0.928 which means near perfect agreement.

Consequently, the remaining responses of 268 participants were split up among the raters and myself and coded using the finalized category scheme and applying the coding guidelines. In total, 2,048 characteristics were coded. To complete the content analysis, I conducted descriptive analyses of frequencies and effectiveness ratings of all codes.

RESULTS

The majority of respondents rated leadership as very important or important with an average of 4.3 on a scale ranging from 1 to 5 *(SD* = 1.1). Less than 10% stated that leadership would not play a role in the academic context. A variety of characteristics of a typical professor was mentioned which I will present in the following paragraphs. I also elaborate on absolute and relative frequencies of these characteristics and how these characteristics were evaluated in terms of their effectiveness.

Characteristics of Professorial Leaders

In total, participants provided 2,048 characteristics to describe the typical professorial leader. On average, the participants provided 5.7 characteristics (*SD* = 0.8, min = 1, max = 6). The resulting 18 categories that describe characteristics of a typical professor each included two or three sub-categories depending on the content.

Most categories (15) included two sub-categories that represent two extremes: *caring/inconsiderate* (e.g., compassionate, supportive vs. heartless, insensitive), *communicative/non-communicative* (e.g., eloquent, good rhetoric vs. communication weakness, aggressive communication), *competent/incompetent* (e.g., excellent know-how, scientific expertise vs. incompetent, superficial), *conflict managing/conflict avoidant* (e.g., mediator, integrating vs. need for harmony, conflict avoidant), *consistent/ambiguous* (e.g., clear, straight vs. moody, volatile), *cooperative/self-interested* (e.g., team-player, cooperative vs. egoistic, selfish), *extraverted/introverted* (e.g., approachable, social vs. taciturn, uncommunicatively), *good networking/bad networking* (e.g., politically skilled, well-connected vs. undiplomatic), *high integrity/low integrity* (e.g., authentic, fair vs. unreliable, non-transparent), *logical/illogical* (e.g., smart, intelligent vs. confused, forgetful), *open-minded/narrow-minded* (e.g., creative, openness vs. ignorant, one-dimensional), *organized/disorganized* (e.g., coordinated, strategic vs. chaotic, unpunctual), *passionate/apathetic* (e.g., enthusiastic, motivating vs. discouraging, frustrating),

relaxed/stressed (e.g., calm, considerate vs. restless, busy), and *status-oriented/non-status-oriented* (e.g., hierarchical, oppressive vs. modest, humble).

Other categories included three sub-categories as it seemed to be important to account for medium levels in addition to the extreme ends of the continuum: *insecure/confident/ overconfident* (e.g., weak, insecure vs. assertive, confident vs. arrogant, narcissistic), *unambitious/ambitious/overambitious* (e.g., procrastination, slow vs. conscientious, diligent vs. dogged, workaholic), and *authoritarian/participative/laissez-faire* (e.g., patriarchic, authoritarian vs. delegating, participative vs. absent, no involvement).

Frequencies

The data showed different results regarding the frequency of categories in general versus the frequency of sub-categories (see Table 2). The combined categories consisted either of two opposites (e.g., *introverted* vs. *extraverted*) or of different degrees of a specific characteristic (*low* vs. *high integrity*). The six most frequently mentioned categories were *caring/inconsiderate* (344; 16.8%)[5], *insecure/confident/overconfident* (179; 8.7%), *competent/incompetent* (169; 8.2%), *high integrity/low integrity* (160; 7.8%), *unambitious/ambitious/overambitious* (141; 6.9%), and *organized/disorganized* (135; 6,6%). When looking at sub-categories, a different picture emerged. Participants most often used characteristics coded as *caring* (234; 12.5%), followed by *competent* (163; 8.0%), *ambitious* (135; 6.6%), *high integrity* (126; 6.1%), *organized* (104; 5.1%), and *confident* (102; 5.0%). The least relevant sub-categories which were mentioned little or rarely were *unambitious* (2; 0.1%) and *bad networking* (2; 0.1%).

[5] (absolute number; percentage of all characteristics)

Table 2

Absolute and Relative Frequencies of Sub-Categories, Categories, and Mean Effectiveness

Sub-Categories[6]	**Frequencies of sub-categories**	**Frequencies of category**	**Mean effectiveness**[7]
Caring	234 (12.5%)	344 (16.8%)	3.7 (SD = 1.3)
Inconsiderate	88 (4.3%)		2.9 (SD = 1.5)
Insecure	17 (0.8%)	179 (8.7%)	1.9 (SD = 1.1)
Confident	102 (5.0%)		3.9 (SD = 1.3)
Overconfident	60 (2.9%)		2.7 (SD = 1.4)
Competent	163 (8.0%)	169 (8.3%)	4.0 (SD = 1.3)
Incompetent	6 (0.3%)		2.2 (SD = 0.8)
High integrity	126 (6.2%)	160 (7.8%)	3.6 (SD = 1.4)
Low integrity	34 (1.7%)		2.2 (SD = 1.5)
Unambitious	2 (0.1%)	141 (6.9%)	1.5 (SD = 0.7)
Ambitious	135 (6.6%)		4.1 (SD = 1.2)
Overambitious	4 (0.2%)		4.3 (SD = 0.5)
Organized	104 (5.1%)	135 (6.6%)	3.6 (SD = 1.4)
Disorganized	31 (1.5%)		1.7 (SD = 1.1)
Passionate	98 (4.8%)	108 (5.3%)	4.1 (SD = 1.3)
Apathetic	10 (0.5%)		3.0 (SD = 1.5)
Logical	82 (4.0%)	105 (5.1%)	4.0 (SD = 1.3)
Illogical	23 (1.1%)		2.4 (SD = 1.3)
Open-minded	93 (4.5%)	102 (5.0%)	3.8 (SD = 1.3)
Narrow-minded	9 (0.4%)		3.6 (SD = 1.7)
Cooperative	35 (1.7%)	91 (4.4%)	3.9 (SD = 1.4)
Self-interested	56 (2.7%)		3.1 (SD = 1.4)
Relaxed	53 (2.6%)	86 (4.2%)	4.2 (SD = 1.1)
Stressed	33 (1.6%)		2.6 (SD = 1.3)
Authoritarian	24 (1.2%)	84 (4.1%)	3.0 (SD = 1.5)
Participative	38 (1.9%)		3.8 (SD = 1.1)
Laissez-faire	22 (1.1%)		2.8 (SD = 1.4)
Consistent	33 (1.6%)	61 (3.0%)	3.5 (SD = 1.4)
Ambiguous	28 (1.4%)		1.7 (SD = 0.9)
Good networking	50 (2.4%)	52 (2.5%)	4.0 (SD = 1.2)
Bad networking	2 (0.1%)		3.0 (SD = 2.8)
Conflict managing	38 (1.9%)	50 (2.4%)	3.6 (SD = 1.3)
Conflict avoidant	12 (0.6%)		2.6 (SD = 1.4)
Communicative	43 (2.1%)	49 (2.4%)	3.9 (SD = 1.1)
Non-communicative	6 (0.3%)		4.0 (SD = 1.5)
Extraverted	37 (1.7%)	41 (1.9%)	3.8 (SD = 1.2)
Introverted	4 (0.2%)		2.0 (SD = 2.0)
Non-status-oriented	4 (0.2%)	35 (1.7%)	4.0 (SD = 1.4)
Status-oriented	31 (1.5%)		3.0 (SD = 1.4)
Other		58 (2.8%)	

[6] I sorted from highest to lowest absolute frequency of categories.
[7] 19 characteristics out of 2,048 missed an effectiveness score and were excluded from this analysis.

Effectiveness Ratings

The analysis of the effectiveness ratings revealed that participants used the entire range from 1 (=ineffective) to 5 (=effective). Nineteen characteristics of the total number of 2,048 were not rated on the effectiveness scale. The overall mean effectiveness score across all categories was 3.2 (*SD* = 0.8), indicating that the *typical professorial leader* is slightly more effective than ineffective. Table 2 summarizes the effectiveness ratings. *Overambitious* was rated as most effective (*M* = 4.3; *SD* = 0.5). However, this sub-category was based on only 4 statements, representing a rather small number of responses. Other characteristics with high effectiveness ratings, that is with an average above 4.0, were *relaxed* (*M* = 4.2; *SD* = 1.1), *ambitious* (*M* = 4.1; *SD* = 1.2), *passionate* (*M* = 4.1; *SD* = 1.3), *competent* (*M* = 4.0; *SD* = 1.3), *logical* (*M* = 4.0; *SD* = 1.3), *good networking* (*M* = 4.0; *SD* = 1.2), and *non-communicative* (*M* = 4.0; *SD* = 1.5). At the lower end of the effectiveness ratings was *unambitious* (*M* = 1.5; *SD* = 0.7), *disorganized* (*M* = 1.7; *SD* = 1.1), *ambiguous* (*M* = 1.7; *SD* = 0.9), and *insecure* (*M* = 1.9; *SD* = 1.1).

Characteristics of one category that represented opposites were often regarded as effective versus ineffective respectively, for instance *competent* (*M* = 4.0; *SD* = 1.3)/*incompetent* (*M* = 2.2; *SD* = 0.8) and *organized* (*M* = 3.6; *SD* = 1.4)/*disorganized* (*M* = 1.7; *SD* = 1.1). However, some characteristics representing opposites had in fact similar effectiveness ratings, for instance *open-minded* (*M* = 3.8; *SD* = 1.3)/*narrow-minded* (*M* = 3.6; *SD* = 1.7) and *communicative* (*M* = 3.9; *SD* = 1.1)/*non-communicative* (*M* = 4.0; *SD* = 1.5). Regarding task management, a *participative way* (*M* = 3.8; *SD* = 1.1) was rated as more effective than *authoritarian* (*M* = 3.0; *SD* = 1.5) and *laissez-faire* (*M* = 2.8; *SD* = 1.4).[8]

[8] I thank one anonymous reviewer who asked to check whether the respondents, who rated unfavorable characteristics as effective, differed from the entire sample. In an exploratory analysis, however, I found no systematic differences based on demographic information.

DISCUSSION

To the best of my knowledge, this study is the first to explore ILTs in academia. To specify which characteristics a professorial leader is expected to have and how these characteristics are evaluated in terms of effectiveness, I collected data from pre- and post-doctoral researchers in Germany. According to the data, the most frequently mentioned characteristics that describe a typical professorial leader are *caring, competent, ambitious, possessing high integrity*, and *organized*. The most effective characteristics of the typical professorial leader were *overambitious, relaxed, ambitious*, and *passionate*. The least effective characteristics were *unambitious, disorganized, ambiguous*, and *insecure*. This study contributes to research on both leadership in academia in general and ILTs in academia specifically in several ways.

As a first advancement to the literature, I offer new and valuable insights into professorial leadership in the academic context. So far, research on academic leadership has focused on administrative leaders such as department heads (Knight & Trowler, 2001; D. Smith et al., 2007). Only little attention has been given to the role of professorial leadership (cp. Braun et al., 2013; Evans, 2018; Rehbock, 2020). The findings go beyond previous research which has mostly understood leadership by professors as intellectual leadership and mentoring (Evans et al., 2013; Macfarlane, 2011). I provide evidence for the perspective that a broad range of additional characteristics are ascribed to typical professorial leaders (e.g., ambitious, confident, organized, passionate). Moreover, the findings suggest that ILTs contain both favorable and unfavorable characteristics, expanding established notions of professors as intellectual leaders and mentors (e.g., Evans et al., 2013). This work allows for a more comprehensive and thus realistic picture of how followers perceive the professorial leader.

The findings imply that images of the typical professorial leader differ from images of the typical business leader. Specifically, characteristics such as competence, status orientation, and caring appear as more salient characteristics of typical leaders in academic

settings, whereas others seem less relevant or even irrelevant: From Offermann et al.'s (1994) eight ILTs categories (sensitivity, dedication, tyranny, charisma, attractiveness, masculinity, intelligence, and strength), six were confirmed in the data. Neither attractiveness nor masculinity were mentioned by study participants. Compared to Schyns and Schilling's (2011) category system, fourteen of their fifteen categories were included in the present category system with the exception of the category attractive/unattractive. Moreover, the data add five new categories that were not established by previous research on ILTs, namely competent/incompetent, relaxed/stressed, good/bad networking, conflict managing/conflict avoidant, and status-oriented/non-status-oriented. Related to this, I go beyond the findings of Schyns and Schilling (2011) in that I provide a more complete picture of ILTs because I included characteristics that refer to both traits and behaviors of typical leaders. The findings highlight that ILTs are highly complex and different from other contexts, which emphasizes the importance of context-specific investigations (Epitropaki & Martin, 2004).

As a second contribution, I provide novel insights into which characteristics of professorial leaders are perceived as effective or ineffective by their followers. Previous research has shown that ILTs comprise both effective and ineffective characteristics (Schyns & Schilling, 2011). Similarly, the findings suggest that the typical professorial leader can be described by a broad range of both effective and ineffective characteristics. Interestingly, the results indicate some notable differences between academia and the business context with regard to effectiveness ratings. Whereas being self-interested is perceived as rather ineffective in the business setting, it was rated as being partly effective for professorial leaders (M = 3.1; SD = 1.4). Surprisingly, being non-communicative was rated as quite effective in academia (M = 4.0; SD = 1.5), whereas it was rated as highly ineffective in the business context (Schyns & Schilling, 2011). Also, characteristics such as non-communicative, narrow-minded, authoritarian, and bad networking received average effectiveness ratings of 3.0 or higher. Thus, effective characteristics are not necessarily favorable and vice versa. In other words,

this research provides novel evidence that characteristics that are generally regarded as unfavorable (e.g., unpleasant, individualistic, non-charismatic, see Offermann et al., 1994) can indeed be perceived as effective in the academic context. This finding is, to some degree, in line with the growing literature on leadership paradoxes (Jiang, Xu, Houghton, & Manz, 2019; Zhang, Waldman, Han, & Li, 2015) and dialectical thinking (Collinson, 2014). Research and theorizing in this area support that leaders sometimes show contradicting behaviors and that these behaviors represent "opposites that coexist harmoniously" (Zhang et al., 2015, p. 539). It is, therefore, conceivable that followers acknowledge that professors are sometimes faced with paradoxical demands, including the simultaneous use and integration of apparently converse behaviors, such as being both communicative and non-communicative. Nevertheless, whether these unfavorable characteristics should be desirable for professorial leaders, certainly requires a critical discussion in the academic community.

The findings about followers' images of the typical professorial leader offer important practical implications. As ILTs influence the perception of leadership effectiveness, they also impact the success of professorial leaders and the probability of academic career advancement. On the individual level, professorial leaders themselves should be sensitized with insights into followers' implicit images of typical leaders in academia to enhance their effectiveness to influence others. Second, on an organizational level, raising awareness of ILTs and their effectiveness may enhance the effectiveness of leadership development measures. More specifically, professors could be trained in leadership by discussing ILTs in academia with colleagues and coaches, and by creating action plans with regards to their own behaviors (see Knipfer et al., 2017). Furthermore, they could ask their own followers to provide feedback on how they are perceived (e.g., through 360° feedbacks) and critically reflect the results in light of the ILTs found in this study. Due to the unique challenges and the lack of leadership training in academia, Morris (2012) aptly warned that "there is a leadership deficit that is taking place in higher education" (p. 33) which may be counteracted by findings

from the present study. And third, the newly generated insights might be integrated in selection and appointment processes for professors to enhance fit and effectiveness of the selected leader in the future. It may be of particular importance to sensitize and train decision-makers and researchers on the relevant requirements for effective academic leadership. Last, the findings may raise awareness and motivate the discussion on the content of ILTs in the academic context and what it needs to be perceived as an effective professorial leader.

LIMITATIONS AND FUTURE RESEARCH

Even though the research findings generate valuable new insights, this study is not without limitations. First, I conducted the study in the German academic context which has very specific characteristics and differs, to some extent, from the academic system in other countries. Accordingly, I cannot generalize the findings to different higher education systems and therefore, future research would benefit from replicating this study in other countries and cultures. Still, my insights expand the state-of-the-art because our understanding of leadership in academia has been largely shaped by research in the UK, US, and Australia until now (e.g., Bryman, 2007; cp. Braun et al., 2013; Evans, 2018).

Second, I focused on commonalities across participants and thus did not examine differences in ILTs based on group differences, such as career stage, gender, or discipline (except for the six attributes which were unfavorable and rated as effective). Future research might investigate how different career stages (pre- vs. post-doctoral researcher) and different disciplines (e.g., social sciences vs. technical sciences) impact the perception of the typical professorial leader and his/her effectiveness. Particularly, cultural differences in disciplines might impact what is perceived as typical and effective for professorial leaders. Such studies will require a meaningful sample size in each of the relevant sub-groups, to enhance the chances of detecting potential differences between those groups.

Third, future research will benefit from a more thorough investigation of why opposing attributes (such as *communicative* versus *non-communicative)* are rated as similarly

effective. On the one hand, it will be useful to assess potential individual differences in how followers define effectiveness. Alternatively, this study could be replicated while providing respondents with a clear definition of effectiveness, for instance, with regards to research output, student supervision, or teaching. On the other hand, the lens of dialectical and paradoxical thinking (Collinson, 2014; Zhang et al., 2015) may help to better understand why and how followers come to rate opposing attributes as equally effective. In a similar vein, future studies may have a deeper look into the potential situational factors, such as task structure or authority systems (see Vroom & Jago, 2007), that may help explain when and why a leader's behavior is perceived as unfavorable but still effective.

CONCLUSION

This study highlights the specifics of ILTs in academia in terms of content and structure. Additionally, I show that other characteristics are deemed to be effective in academia compared to the business context. As high congruency between characteristics individuals expect a leader to have and the characteristics of their actual leader leverages leader influence and leadership effectiveness, this research is highly relevant for professorial leaders and academic institutions. I hope that the findings will stimulate critical reflection on leadership effectiveness in academia.

Appendix A:

Category Scheme and Examples

Caring compassionate, respectful, trusting *Inconsiderate* heartless, demanding, strict	*Competent* professional expertise, knowledgeable *Incompetent* incompetent, superficial
High integrity honest, loyal, fair *Low integrity* unreliable, irresponsible, manipulative	*Organized* coordinated, punctual, well-planned *Disorganized* chaotic, unpunctual, disorganized
Insecure restrained, insecure, weak *Confident* assertive, confident, determined *Overconfident* arrogant, dominant, narcissistic	*Unambitious* procrastination, slow *Ambitious* hard-working, conscientious, devoted *Overambitious* dogged, workaholic
Enthusiastic enthusiastic, motivating *Apathetic* discouraging, frustrating	*Logical* smart, intelligent, structured *Illogical* confused, forgetful
Open-minded creative, openness *Narrow-minded* ignorant, one-dimensional	*Cooperative* team-player, cooperative *Self-interested* egoistic, exploitative, selfish
Relaxed calm, considerate, serenity *Stressed* restless, busy, overstrained	*Consistent* clear, straight, precise *Ambiguous* erratic, moody, volatile
Good networking politically skilled, well-connected *Bad networking* undiplomatic	*Conflict managing* mediator, integrating *Conflict avoidant* need for harmony, conflict avoidant
Communicative eloquent, good rhetoric *Non-communicative* communication weakness/difficulties	*Extraverted* approachable, social *Introverted* taciturn, uncommunicatively
Laissez-faire absent, inactive, no involvement *Participative* delegating, participative	*Non-status-oriented* informal, modest, humble *Status-oriented* hierarchical, oppressive
Authoritarian patriarchic, authoritarian	*Other*

4. WHAT GOT YOU HERE, WON'T HELP YOU THERE: SHIFTING REQUIREMENTS IN THE PRE- VERSUS THE POST-TENURE CAREER STAGE IN ACADEMIA[9]

Despite decades of insightful research on gender imbalance and efforts to counteract inequality, women remain under-represented in advanced academic career stages, particularly in the male-dominated STEM (science, technology, engineering, and mathematics) disciplines (Ceci & Williams, 2007; Diehl & Dzubinski, 2016). Specifically in Germany, one of the most male-dominated academic communities globally (Best, Sanwald, Ihsen, & Ittel, 2013), only 13% of STEM professors are women, and this although 35% of PhD candidates in STEM disciplines are female (DESTATIS, 2017). These figures illustrate that the potential of qualified men and women is not equally exploited throughout their academic career. Instead, female talent is left behind (Knipfer et al., 2017; van den Brink & Benschop, 2012, 2014). This is problematic for two reasons: First, universities are confronted with the challenge of attracting and retaining excellent female scientists in academic leadership positions, such as professorships (Moss-Racusin, Dovidio, Brescoll, Graham, & Handelsman, 2012). Second, female scientists themselves face unique challenges when it comes to advancing to professorship (Knipfer et al., 2017). Previous research has identified several explanations for the under-representation of women, which is particularly salient in advanced career stages in male-dominated contexts, such as academia.

The dominant explanation for the under-representation of women is a perceived *lack of fit* (Heilman, 1983, 2001) for women and academic leadership positions which is based on gender stereotypes, images of the typical leader, and images of the typical scientist (Carli et al., 2016; Deem, 2003; Eagly & Karau, 2002; Schein, 2001). Research on gender stereotypes shows that women are more associated with *communal* attributes (e.g., caring, supportive, kind) than men. In contrast, men are associated more with *agentic* attributes (e.g., dominant,

[9] This chapter is based on a working paper by Rehbock, Knipfer, & Peus (2019), currently under review at the journal *Gender, Work and Organization*.

proactive, and competitive) than women (Eagly & Karau, 2002; Hentschel, Heilman, & Peus, 2019). Concurrently, there is a strong overlap between the attributes of the typical man and the typical leader who is also portrayed as highly *agentic,* referring to stereotypically male qualities, such as assertive, dominant, and proactive. These *agentic* qualities further overlap with stereotypic attributes of academics who have been described as independent, competitive, and male (Bleijenbergh et al., 2012; Carli et al., 2016). Overall, previous research suggests a better fit for men in scientific leadership roles–and thus higher chances for men to eventually reach tenure (van den Brink & Benschop, 2012).

Reaching tenure constitutes a key step in academic career advancement when one is promoted to senior faculty (Corley, 2010). In Germany, tenured professors have concentrated power in that they solely decide whom to supervise and whom to support in their pursuit of an academic career (Harley, Muller-Camen, & Collin, 2004). Moreover, they are decision-makers in appointment procedures when applicants are selected for professorships. In other words, professors' subjectively held expectations leverage the chances of junior researchers to advance to senior stages of an academic career. However, while previous studies focused mainly on formal selection processes and how structural and organizational barriers for women may explain the under-representation of female researchers in professorships (e.g., van den Brink & Benschop, 2012, 2014), we lack profound insights into what tenured professors expect from junior researchers. At the same time, tenured professors can provide realistic and valid insights into requirements that are crucial at the tenured stage. This research thus seeks to answer the question of *what attributes are required in the pre-tenure versus the post-tenure career stage.* By taking a gender perspective, I explore whether these requirements are linked to gender stereotypes, which may pose a previously neglected barrier for women in climbing the academic ladder to tenure.

I conducted and analyzed 25 semi-structured interviews with tenured STEM professors on their views about requirements pre- and post-tenure. Based on a qualitative

content analysis (Mayring, 2010), I found that professors mentioned different attributes when speaking about the pre-tenure stage, than when speaking about attributes needed post-tenure. More specifically, the attributes seem to change considerably from being an *ambitious 'agentic' junior researcher* to a *supportive 'communal' professor*. These findings suggest that pre- and post-tenure requirements are not only shifting, but are also linked to gender stereotypes. Consistent with previous literature, the findings support the preference of agentic over communal attributes for early career stages as a scientist, suggesting a *lack of fit* for stereotypically female attributes and early career requirements (Carli et al., 2016; Heilman, 2001). However, the findings also indicate a shift from what is expected pre-tenure to the senior career stage (i.e., post-tenure). I thus challenge the predominant stereotype 'think professor–think male' by showing that, post-tenure, the preference for a clearly agentic profile switches to a preference for communal over agentic attributes. This implies that we lose female scientists already at the early career stages due to the focus on agentic–stereotypically male–attributes, even though stereotypically female attributes seem to better fulfill the requirements of the senior career stage.

This research extends previous research which has consistently shown that universities are gendered institutions and that gender bias exists on several levels, thus hindering women from reaching tenure (Treviño, Balkin, & Gomez-Mejia, 2017; Treviño et al., 2015; van den Brink & Benschop, 2012). Furthermore, I shed light on the previously neglected senior career stage which has remained rather elusive and opaque (Mroz, 2011; Zacher et al., 2019). The findings of this study may thus also be of interest to career development researchers who focus more generally on requirements over the course of an academic career. My findings offer practical implications for academic selection, promotion, and development initiatives that aim to contribute to further convergence towards gender balance in academia.

THEORY

Think Professor–Think Male: Gender Stereotypes in Academia

Even though there has been a strong gender imbalance in senior positions in academia for decades, the *leaky pipeline* has not been 'caulked' in recent years, showing the continued existence of an invisible glass-ceiling, specifically in the STEM disciplines (Hill, Corbett, & St Rose, 2010). Previous research from the business context has identified gender stereotypes as the dominant explanation for a perceived *lack of fit* (Heilman, 1983, 2001) between women and senior positions which negatively impacts upon women's career advancement. Gender stereotypes are generalizations about women and men that are merely based on their gender (Heilman, 2012). More specifically, women are generally associated with *communal* characteristics, such as being affectionate, helpful, kind, and gentle. In contrast, men are generally said to possess *agentic* qualities, for example, being assertive, confident, ambitious, and dominant (Eagly & Karau, 2002). These *agentic* qualities are also associated with typical attributes of leaders, especially in male-dominated fields (e.g., STEM): As early as in the 1970s, Schein (1973, 2001) identified the strongly held belief that the qualities of managers were more likely associated with male than female qualities, described as the 'think manager–think male phenomenon'. In relation to this, recent research adds that people associate stereotypically male competencies more with engineers than stereotypically female competencies ('think engineer–think male'; Male, Bush, & Murray, 2009). Similarly, there is a commonly held belief that scientists are intelligent, independent, and male. Carli et al. (2016) summarize these stereotypical beliefs in academia as 'women ≠ scientists'. Bleijenbergh et al. (2012) further specified that "the ideal academic is often construed as a lone, independent individual, who is self-protective, competitive, ruthless and not that collegiate or supportive of colleagues and students." (p. 24). These stereotypes, as well as the numerous studies indicating a perceived *lack of fit* for women and senior positions, imply that

the stereotype of academics in senior positions should also be highly agentic, i.e., associated with male qualities (‘think professor–think male’).

Even though gender stereotypes only reflect the mostly implicit images of the typical woman or the typical man and not their actual characteristics, they can influence perceived fit in personnel selection and in performance evaluations (see Heilman, 1983, 2001, 2012). The perceived *lack of fit* between women and senior positions results in negative expectations about a woman’s performance in those positions. Particularly in male-dominated fields, this *lack of fit* is even greater in that men are generally perceived as being more effective leaders than women (Gardiner & Tiggemann, 1999; Paustian-Underdahl et al., 2014). Although much research has examined the assumptions of the *lack of fit*-model (Heilman, 2012) in the business context, there is empirical evidence pointing to the same hindrances for women’s career advancement in academia: For instance, Fox (1999) identified that valued attributes for senior career stages in academia are ascribed more to men than women. Similarly, van den Brink and Benschop (2012) highlighted that a relationship exists between excellence and gender. This relationship is problematic, as the commonly held notion of academic excellence reflects more the masculine, than the feminine stereotype. As a consequence, female scientists suffer from a *lack of fit* to this stereotype that may result in women experiencing a *glass-ceiling* in reaching senior positions in academia.

In summary, a vast amount of previous research demonstrates that men are perceived as a better fit for leadership positions, as well as a career in science, in comparison to women (Heilman, 1983, 2012; Carli et al., 2016). Due to the same stereotypes, women themselves perceive a lower fit with senior academic positions (Knipfer et al., 2017). Thus, gender stereotypes result in disadvantages which hinder women from applying, being selected, promoted, and perceived as leaders, specifically in the male-dominated academic context (Heilman, 2012; Schein, 2001; Zacher et al., 2019). The strong influence of fairly stable gender stereotypes (Hentschel et al., 2019; Ibarra, Ely, & Kolb, 2013) is particularly

problematic, because it remains elusive as to whether those stereotypes adequately represent the actual requirements at senior stages of an academic career (Evans, 2017; Mroz, 2011; van den Brink & Benschop, 2012).

Advancement from the Pre- to the Post-Tenure Career Stage

Advancing as an academic is a unique career path with context-specific requirements for each career stage (Zacher et al., 2019). To progress in an academic career from PhD level to professorship, the development of discipline-specific expertise and maximization of research output is most relevant (Bedeian, 2004; Braun et al., 2013; McGrail, Rickard, & Jones, 2006; West, Smith, Feng, & Lawthom, 1998; Zacher et al., 2019). Only few reach tenure due to the already highly demanding requirements at junior stages: In the pre-tenure phase, junior researchers face immense uncertainty and great competition with peers due to fixed-term contracts and a shortage of tenured positions (Feldman & Turnley, 2004; Huisman, de Weert, & Bartelse, 2002). They are further challenged with the pressure to 'publish or perish' (Ryazanova & McNamara, 2016). Due to the importance of research output, several studies have investigated factors related to research productivity, such as the reputation and productivity of one's PhD granting institution and supervisor (see Judge, Kammeyer-Mueller, & Bretz, 2004; Miller, Glick, & Cardinal, 2005; Seibert, Kacmar, Kraimer, Downes, & Noble, 2017).

In contrast, once tenure is reached, new demands, such as leadership and managerial responsibilities, are added to scholars' research and teaching activities (McCaffery, 2010; Morris, 2012). Whilst reaching tenure is a central tenet in an academic career, there is surprisingly little known about what attributes are expected of professors and it remains very vague what they actually do (Evans, 2017). Only few studies point out that tenured professors not only need to balance research, teaching, and administration, but also that they need to possess considerable skills to lead (Braun et al., 2009; Bryman, 2007; Evans, 2017; Macfarlane, 2011; Rowley & Sherman, 2003). More specifically, professors supervise junior

researchers during their qualification phase, act as career counselors and mentors, influence others as role models, manage research teams, and develop compelling visions for their group. Concurrently, they are constantly being challenged by managing autonomy, change, and uncertainty, even though they have not been systematically prepared for these leadership responsibilities (Braun et al., 2016; B. L. Smith & Hughey, 2006). Due to the specifics of the academic system, Lowman (2010) summarizes that leadership in academia is substantially more complex than leadership in a corporate context.

As previous investigations have mainly focused on the formal requirements for academic career advancement, such as peer-reviewed publications, networking, and mobility (Baruch & Hall, 2004; Bedeian, 2004; Stephan & Levin, 1997), as well as on formal selection processes, such as appointment procedures (van den Brink, Fruytier, & Thunnissen, 2013), we lack empirical evidence on the informal requirements to succeed as a scientist over the course of an academic career. Specifically, I argue that we need to understand what tenured professors consider to be crucial requirements to advance throughout an academic career, as they act as gatekeepers and decision-makers who select and promote junior researchers. Furthermore, we need an integrative perspective of different career stages as most research on academic career development has focused on early career stages (Evans, 2017; Zacher et al., 2019). Due to the seemingly changing, and yet unclear, requirements throughout their career, this study will provide insights into what kind of attributes are perceived to be required in the pre- versus the post-tenure career stage.

So far, I have synthesized literature from two research streams: gender stereotypes and academic career advancement. In summary, a great deal of empirical evidence suggests that gender stereotypes are the predominant explanation for the perceived misfit of women and scientists which contributes to the under-representation of women in senior academic positions, specifically in STEM disciplines. A more separate line of research is focusing on formal criteria for academic career advancement, such as peer-reviewed publications (Baruch

& Hall, 2004; Bedeian, 2004) and the professorial role more generally (Braun et al., 2016; Evans, 2017). Bringing both research streams together, this research aims to answer the questions of what is actually required in the career stages before and after reaching tenure, and whether this may shed light on additional explanations for the academic gender gap, which pose a previously neglected barrier to female scientists who want to advance to professorship.

METHODS

Given the focus on investigating what attributes are required informally pre- and post-tenure, I chose a qualitative approach and conducted 25 semi-structured interviews with tenured STEM professors. These interviews are part of a larger project on academic careers. In this study, I used the in-depth interviews to explore and describe patterns of requirements at the career stages of *pre-* versus *post-tenure*.

Setting of the Study

By conducting an exploratory study in the STEM fields at universities in Germany, I chose an unconventional and extreme context, in which gender stereotypes should be more pronounced than in less male-dominated settings (Bamberger & Pratt, 2010): First of all, STEM fields in general show the lowest percentage of female scholars (European Commission, 2015). Second, German academia has been characterized as one of the most male-dominated contexts globally (Best et al., 2013) and, third, the higher education system in Germany is extreme in terms of career stages, as there are no assistant or associate professorships (note: only recently, the first tenure-track professorships have been established in Germany). Typically, experienced post-doctoral researchers apply directly for full professorships (Harley et al., 2004). This country-specificity may lead to greater visibility in the differences in requirements pre- versus post-tenure than in other countries. Studying the research question in this specific context thus represents an ideal extreme case upon which to

build and elaborate theory about requirements in these two academic career stages (Eisenhardt, 1989).

Recruitment and Sample Description

The universities in my sample were four research- and technically-oriented public universities with 25,000 to 51,000 students (Times Higher Education, 2018). As I am employed at one of the four universities from the sample, I am familiar with both the specifics of academic careers, and the characteristics of the German academic system. I had no previous contact to any of the interview partners to ensure impartiality and confidentiality. As I was interested in exploring requirements pre- and post-tenure, I focused the theoretical sampling strategy on tenured professors in STEM disciplines (Eisenhardt et al., 2016).

I chose tenured professors as interview partners for three reasons. First, they can provide insights into informal pre-tenure requirements which applied to their own respective careers. Second, they act as gatekeepers, in that they determine, to a large extent, who will advance to more senior stages by mentoring, selecting, and supporting junior researchers' career progress. Their subjective views on requirements for an academic career are thus highly relevant for the career advancement of junior researchers. Third, tenured professors can provide information as to which attributes are required to deal with their daily job demands in the post-tenure career stage.

I aimed at achieving diversity in the study sample with regards to age, gender, fields of research, and years of tenure, and obtained data from 25 professors. I recruited the interview partners via email, briefly introducing my research interest, that is, their subjective view on academic career requirements, and requesting a one-hour face-to-face interview. Some interview partners supported me by recruiting additional participants from their own network. The final sample (see Table 3) included eight women and 17 men. The average age of participants was 54 years, ranging from 39 to 76 years. On average, the participants had completed their doctoral dissertation at the age of 30 (women: 28 years; men: 31 years) and

Table 3

Sample Overview

Gender	Age	Research area	Years of tenure
f	40	Quantum Technologies	3
f	43	Experimental Physics	10
f	46	Stochastics	4
f	49	Stochastics	15
f	50	Soft-Matter Physics	14
f	60	Theoretical Informatics	23
f	61	Applied Informatics	23
f	63	Molecular Nutrition	25
m	39	Software Technology	6
m	40	Software Technology	3
m	45	Spatial Planning	3
m	48	Continuum Mechanics	9
m	49	Aircraft Design	2
m	51	Sustainable Resource Management	14
m	56	Mathematical Finance	16
m	57	Aerodynamics	13
m	57	Automatic Control	20
m	59	Biopolymer Chemistry	16
m	59	Theoretical Physics	16
m	60	Environmental Policy	23
m	62	Food and Bioprocess Engineering	17
m	62	Manufacturing Technologies	22
m	63	Aerodynamics	20
m	65	Algebraic Geometry	26
m	76	Agriculture Management	38

Note. To protect interviewees' anonymity, interview partners are ordered by gender and age in this table. In the findings section, I use the chronological order of interviews to refer to interview partners.

had been appointed as a full professor 15 years ago (ranging from two to 38 years) at the average age of 39 (women: 37 years; men: 40 years).

Data Collection

I conducted the semi-structured in-depth interviews between December 2016 and January 2018. The interviews were conducted in German and in person to maintain consistency. The majority of interviews took place in professors' offices, two in other rooms

at the university. In their daily environment, I hoped that the interviewees would feel comfortable and secure to ensure open responses (King & Horrocks, 2010). The interview guideline included questions around three major themes: 1) The professors' work routine, including typical tasks, behaviors and challenges they personally experience and encounter in their day-to-day work; 2) requirements of the junior researchers they supervise (pre-tenure) (e.g., "When you think about your team members, who would you identify as a junior researcher who has the potential for an academic career, and why?") and personal success factors for their own advancement to professorship ("What attributes were important for your own career advancement before you reached tenure?"); 3) the perception of requirements in the role of a tenured professor ("What traits and behaviors are important in your current role?"). At the end of the interview, I verified the demographic information, which I researched beforehand on the professors' official online profiles.

The average interview duration was 62 minutes, ranging from 36 to 118 minutes. All the interviews were audio-recorded and transcribed verbatim (1540 minutes; 757 pages) in preparation for data analysis.

Data Analysis

I conducted a qualitative content analysis (Mayring, 2010) to combine the strength of inductive analysis techniques (Glaser & Strauss, 1967; Strauss & Corbin, 1998) in identifying emerging themes and traditional content analysis (Krippendorff, 1980) to specify and quantify pre- and post-tenure requirements from the professors' subjective view. In a first step, I analyzed every interview and assigned descriptive codes to statements about attributes[10] pre-tenure versus post-tenure. In a second step, I clustered similar statements to derive higher order codes for attributes pre- and post-tenure, for instance, *strategic*, *cooperative*, *independent*, and *supportive*. In a third step, I assigned theoretical categories using the

[10] Attributes comprised both personal traits and behaviors. I did not code contextual factors (e.g., prestige of institution).

established dichotomy *agentic* versus *communal*. For example, when interview partners mentioned the need to be 'independent', I coded the statement as *agentic*, whereas I coded the attribute 'supportive' as *communal* (based on Gaucher, Friesen, & Kay, 2011). A few attributes were coded as *neutral,* such as being flexible or creative. To ensure reliability of the coding process, the codes of two thirds of all the interviews were reviewed by a second rater to gain an intersubjective consensus of the findings. Disagreements were discussed and solved by going back into the transcripts and discussing respective passages. I challenged and verified the final assignment of codes by discussing it with several experts in the field of gender and academic career research. I further presented and discussed the findings of this research at several international conferences, for instance at the Annual Meeting of the Academy of Management 2019.

FINDINGS

The purpose of this study was to explore tenured professors' subjective perspective on pre-and post-tenure career requirements. As a key result, I found a noticeable difference between the required attributes pre- versus post-tenure. Specifically, the findings indicate that professors mostly mentioned highly agentic–stereotypically male–attributes when asked about the pre-tenure requirements for an academic career (e.g., being *competitive*, *independent*, *achievement-oriented*). In contrast, when the interview partners spoke about being successful in their advanced career stage as tenured professors, they strongly emphasized communal–stereotypically female–attributes (e.g., being *collaborative*, *inspiring*, *compassionate*). I will provide an overview of the most frequent attributes[11] mentioned, and details on these attributes, separately for the pre- versus post-tenure career stages in the following paragraphs.

[11] In the findings section, I focus on presenting communal and agentic attributes only as the number of neutral attributes was negligible.

Stereotypically Male Pre-Tenure Career Requirements

As requirements in early academic career stages, professors mostly mentioned agentic attributes which I coded as *competitive*, *proactive*, and *strategic planning* (see Table 4 for the ten most frequently mentioned attributes).

Table 4

Overview of the Ten Most Frequently Mentioned Attributes Pre-Tenure

#	Required attributes pre-tenure	Dimension	Absolute frequency	Relative frequency
1	Achievement orientation	Agentic	79	19.6 %
2	Competitive ambition	Agentic	62	15.3 %
3	Independence, self-management	Agentic	61	15.1 %
4	Proactive behavior	Agentic	44	10.9 %
5	Strategic (career) planning	Agentic	33	8.2 %
6	Persistence	Agentic	31	7.7 %
7	Leadership	Agentic	27	6.7 %
8	Cooperation	Communal	24	5.9 %
9	Critical self-reflection	Communal	22	5.4 %
10	Enthusiasm	Communal	21	5.2 %

Of all the required attributes for junior researchers, the majority of codes were agentic (79%). In the following paragraphs, I will exemplify the top three attributes that professors described as required in the pre-tenure career stage: achievement orientation (79 statements; 19.6%), competitive ambition (62 statements; 15.3%), and independence (61 statements; 15.1%).

(1) Achievement orientation

The majority of the professors interviewed emphasized the importance of achievement orientation for an academic career, as Prof. 23[12] explained: “The most important aspect is, of course, excellence in research: which results have been achieved, how profound are they?

[12] I use the chronological order of interviews to refer to participants in the findings section to protect interviewees’ anonymity, whereas in Table 3 (sample description), interview partners are ordered by gender and age.

This is by far the number one." In order to fulfill these high requirements, an engineering professor (Prof. 3) explained:

> *We search for individuals who are not only interested in finding the fastest solution, but who are motivated to orientate themselves on basic research and substantially contribute to a problem's solution.*

One informatics professor (Prof. 18) added that he had extremely high expectations, but that, in return, he offered good grades and excellent education for students' future careers. Another informatics professor (Prof. 1) added that, in her career, excellent performance had always compensated for little confidence: "[After finishing my studies,] I was offered a research position. Apparently, I caught enough attention based on my performance, even though I never actively pushed for it or screamed 'here'." She further elaborated that she had always worked extremely hard: "During my mathematics studies, I repeated the past semester's content in every break, worked through all books, and looked into forthcoming course content."

When deciding on whom to supervise for their doctoral thesis, several professors stated that they mainly looked at previous achievements as in past performance, for example, the grade point average of previous studies and the master thesis. Prof. 9 explained: "The best indicator or predictor for future performance, is past performance. That's why I aim to understand an applicant's past performance." Considering appointment procedures for professorships, Prof. 17 stated: "It is somewhat sad, but the first hurdle is the scientific track-record–this is not relevant for the final decision, but whether you will be invited in the first place."

(2) Competitive ambition

During the interviews, professors explained that they considered it an important requirement for junior researchers to show competitiveness–and even selfishness–to succeed in academia, as Prof. 2 emphasized: "Ms. Mayer is a competitive type; she enjoys sports which I recognized immediately in her CV. She likes to compete; she enjoys great

achievements and needs corresponding incentives." A physics professor (Prof. 11) further emphasized the importance of showing extremely strong ambition: "I want [junior scientists] to show the willingness to work so hard, that they try to become the best worldwide in a specific domain–the first and the best." Prof. 20 stated that an academic career was a never-ending competition. A physics professor (Prof. 17) explicated that speed and ambition was important, considering the risk that another research group may be pursuing the same research and succeed faster:

> *If anyone does the same research faster, it was all for nothing. It's a tough competition, and I tell students who come to me that they have to face this competition. The best [students] are then challenged by this, and I enjoy collaborating with these kinds of people*.

The important role of competition was further emphasized by an informatics professor (Prof. 24) who stated that the evaluation of research output had increasingly been conducted by excluding the negative: "The lower the acceptance quote, the better the conference."

A chemist (Prof. 9) further explained that competitive ambition was a crucial success factor for an academic career: "Something that all great people have in common is an inner drive to accomplish something great, and the ambition to achieve a successful project." This ambition and grit were emphasized in several interviews, for instance, by a mathematics professor (Prof. 19) who explained that scholars who left academia might not possess the grit and ambition needed to take sacrifices into account: "You need grit, this very great ambition, and, obviously, there is a pay-off: You can make more money elsewhere and have more security, but this is not important to me." An engineering professor (Prof. 12) similarly stated that, for him, it was most important to look at someone and see the "burning fire of ambition for their work." At the same time, Prof. 16 explained that, in his interpretation, this strong focus on individuals' ambition was inherent to completing a dissertation as PhD candidates have to ultimately write and submit it on their own. He believed that this competitive ambition "pushes junior researchers in the direction of doing everything on their own."

(3) Independence and self-management

The third most named requirement for junior researchers was the ability to work independently and to manage one's time and resources adequately. Prof. 3 stated:

> *It is important that junior researchers recognize what needs to be done, and that they self-initiate such. This means assuming responsibility on their own and not only waiting to be put in charge.*

Several professors stated that they preferred working with junior researchers who act completely autonomously and do not ask detailed questions, for instance, Prof. 8: "To be honest, I prefer researchers who ideally know exactly what to do and who work totally autonomously, so that all I have to do is confirm: 'Great, that's done.'" As far as rather unexperienced PhD candidates are concerned, professors saw it as their task to foster their independence and self-management skills, as this was seen as crucial for an academic career; for instance, Prof. 3 said: "In the long run, my idea is to force or educate junior researchers to work autonomously."

The reasons for emphasizing independent working varied throughout the interviews. Some professors highlighted the importance of independence, because they considered it to be the general key to success for an academic career. Specifically, post-doctoral researchers need to show the ability to work autonomously for self-marketing reasons and in learning to solely decide and take responsibility as preparation for their academic future. Another professor (Prof. 9) highlighted:

> *People who cannot imagine permanently working for somebody else–that's the best predictor for an academic career, complemented by an inner drive. People who say: 'I fit in well and I am team-oriented, it's all the same to me if I receive instructions, I even like it because I don't have to take over responsibility'–these people feel more comfortable in industry. Professors are individualists.*

Other professors expected autonomous working from junior researchers because it facilitated and relieved their supervision effort; as Prof. 24 put it: "I don't like PhD students who are extremely good, but need a lot of guidance or don't dare to follow their own ideas. They are the least pleasant." Professors therefore preferred to recruit PhD candidates from

their undergraduate students or research assistants. To succeed in academia, one engineering professor (Prof. 3) concluded: "You need to prove that you managed yourself in overcoming difficulties, in searching for alternative solutions, ways to solve problems, which were not given."

In summary, these top three requirements for junior researchers (*achievement orientation, competitive ambition, independence*) accounted for 50% of the ten most frequently mentioned requirements, and can be clearly categorized as agentic–stereotypically male–attributes.

Stereotypically Female Post-Tenure Career Requirements

I found that, once having reached tenure in an academic career, the perceived requirements change towards communal attributes, such as *cooperative*, *caring*, and *supportive* (see Table 5 for the ten most frequently mentioned attributes).

Table 5

Overview of the Ten Most Frequently Mentioned Attributes Post-Tenure

#	Required attributes post-tenure	Dimension	Absolute frequency	Relative frequency
1	Cooperation	Communal	62	13.1 %
2	Coaching	Communal	54	11.4 %
3	Critical self-reflection	Communal	54	11.4 %
4	Strategic planning	Agentic	53	11.2 %
5	Supporting and helping junior faculty	Communal	53	11.2 %
6	Taking time for team, being approachable	Communal	46	9.7 %
7	Achievement orientation	Agentic	45	9.5 %
8	Trusting and giving freedom to others	Communal	39	8.2 %
9	Open communication	Communal	35	7.4 %
10	Enthusiasm	Communal	32	6.8 %

Of all the required attributes post-tenure, 60% were coded as communal as compared to 40% as agentic. In the following paragraphs, I explain in more detail the top three requirements for professors post-tenure: cooperative behavior (62 statements; 13.1%), coaching skills (54 statements; 11.4%), and being self-critical (54 statements; 11.4%).

(1) Cooperation

Once tenure is reached, professors highlighted the importance of being a good team-player. Prof. 6 emphasized that cooperativeness is the key for each successful research project:

> *You have to be willing and able to cooperate, otherwise you will never succeed in a joint research proposal, and you will never be fully accepted in the scientific community. The scientific community is a mix of strong competition and great respect for other researchers.*

Several interviewees stated that cooperation was key in achieving successful research and that they put high priority on a collaborative climate by introducing flat hierarchies and team-building activities for their research groups. Prof. 14 explained "Everybody should have the feeling of being part of this team. This is extremely important." Moreover, Prof. 10 stated: "We are all leading [scientists], because we have the right people." The importance of collaboration for the purpose of knowledge-sharing was also mentioned, as in-depth knowledge was usually distributed among researchers in a group. Prof. 5 admitted that he sought advice from his research group when making decisions about the research strategy.

An informatics professor (Prof. 18) further added that research was becoming increasingly more interdisciplinary: "In fact, we have to collaborate with everybody to achieve progress in important fields." Due to the importance of collaborations for research progress, Prof. 8 stated that being able to cooperate was a key criterion in appointment procedures for full professors: "People are selected based on their willingness to cooperate. The university wants to know: is this woman or man open to collaboration? If not, they are not chosen."

(2) Coaching

Next to cooperation, the second most mentioned requirement for professors was coaching, especially when leading and supervising junior researchers and accompanying their scientific progress. A mathematics professor (Prof. 7) stated: "I try to nurture my students'

competencies, so that they develop further." Several professors stated that they held individual (bi-)annual feedback sessions with every member of their research group and the junior researchers they supervised. They discussed personal career goals and how to achieve these and reflected on the past collaboration. One mathematics professor in her forties explained (Prof. 19): "My generation of professors asks junior researchers: 'What do you need?'" Similarly, Prof. 7 added:

> *I try to help my students to forge their own path, wherever it is. As a mentor, I don't only focus on getting the best [PhD] students, but consider carefully what is best for them. I want to coach them towards having all the opportunities they want and not having to decide whether they want to have a family and should therefore not pursue their PhD, or similar choices.*

Besides the individual coaching of junior researchers, professors highlighted their role as mediators in the case of conflicts. One informatics professor (Prof. 16) explained: "Whenever there is an issue, I try not to take sides, but listen instead." He further explained that he usually tried to mediate as a coach and not to act "like the big boss." His underlying objective was to discuss among equals and to contribute by sharing best practices which had supported his own career development. An engineering professor (Prof. 20) further explained that it was of utmost importance for junior colleagues to learn from his experience, and for him to pass on his experience to them, not only knowledge-wise, but also in respect of personal development.

(3) Critical self-reflection

As the third most important requirement in the role of a professor, interview partners emphasized the importance of taking time to self-reflect on a regular basis and seeking feedback. Regarding self-awareness, Prof. 8 explained: "You have to look inside yourself: What are my strengths? I recommend that everyone unleashes these strengths." Another professor (Prof. 4) explained that she gained thorough feedback from a life coach she met bi-weekly. Besides knowing one's strengths and weaknesses, interviews illustrated that it was

furthermore important to reflect on one's position within the university, for instance, Prof. 12 explained:

> *In the long-run, we have to ask ourselves: 'Do we agree with the current university and our system?' I think, specifically in academia, it is important to question ourselves and the structures which have developed over decades. To me this is part of academic self-conception, i.e., that you take nothing as given.*

An informatics professor (Prof. 1) added that it was important to ask yourself how to deal with your profession, as in questioning "Is this how I want to be? Do I want to work in the lab or on the computer every day from 8am until midnight? Or do I want to pursue other priorities in my life, whether this be a relationship, family, friends, or a hobby?" She found it rather tough to reflect on these questions, specifically the question as to whether there is a need to be constantly available, this being linked to universities' alignment towards omnipresent excellence. The importance of reflecting on one's higher-level goals was further highlighted to prevent having regrets about decisions later on. Regarding regrets, one engineering professor (Prof. 22) explained:

> *It is important to be able to let go and be open even, though it might be painful. It is not easy to admit that you were wrong, to say 'I can't afford this anymore', or 'We need to change our direction.' To be able to take a step back and follow a new route is not easy. I wish we had more time to think about the next steps. Often, we are pushed into ad-hoc decisions, because time is ticking.*

Several professors emphasized the crucial role of feedback for self-development. For instance, one engineering professor (Prof. 13) decided to hire a coach to video-record his lecture and give him feedback, because he had never received formal training. Another professor (Prof. 1) admitted that she used to receive rather negative evaluations on lectures and therefore now seeks direct contact with students in small learning groups in an effort to understand their key challenges and ways of thinking to improve her teaching. At the same time, several interview partners believed that some professors did not want to participate in coaching programs or formal training, because "they are afraid to make a fool of themselves or show weaknesses." (Prof. 13)

In summary, these top three requirements for tenured professors (*cooperation, coaching, critical self-reflection*) accounted for 36% of the ten most frequently mentioned requirements and can be clearly categorized as communal–stereotypically female–attributes.

Comparing and Contrasting the Pre- and Post-Tenure Requirements

Throughout the interviews, most professors acknowledged that there was a discrepancy between requirements pre- and post-tenure. Due to these different requirements, professors reported that they experienced several challenges. Throughout their careers, professors had been socialized and fostered to show agentic–stereotypically male–attributes to reach success. In many reported challenging incidents, a lack of preparation, in terms of communal capabilities, became evident. Specifically, the interview partners mentioned that they often faced role conflicts when they had to choose between behaviors which I later rated as either communal or agentic. This became salient when interview partners spoke of the need to work as a team and collaborate with others whilst, at the same time, needing to gain a competitive advantage over others. Another role conflict occurred with regard to how much authoritarian and directive behavior was needed as a research group leader, as opposed to trusting junior researchers by granting them autonomy and the freedom to reliably carry out their work. These role conflicts illustrated that professors' agentic attributes had been emphasized throughout their careers as junior researchers, but that communal attributes were needed in the post-tenure stage. This shift in requirements was mainly attributed to external factors specific to the academic system, such as the high priority of publications in selection processes, the long period of insecurity until reaching tenure, and how incentives in universities are distributed.

Even though some requirements were mentioned for both career stages, for instance, *strategic planning*, *cooperation*, and *critical self-reflection*, professors highlighted different aspects of these attributes: For junior researchers, the capability to plan strategically was linked to individual career planning and strategic decision-making, such as avoiding gaps in

their CVs, selecting their research institution based on its reputation, and as one professor (Prof. 2) summarized: “It comes down to you needing to understand the rules of the game.” In contrast, strategic planning at the post-tenure stage referred to creating a compelling vision for one’s research program and giving orientation to an entire research group as one interviewee (Prof. 18) explained: “It is important that we move in the same direction. If my team regularly runs in two or four different directions, it costs a lot of energy which we need for other things.”

A second requirement mentioned for both the pre-tenure and the post-tenure career stage was cooperation. Whilst the professors emphasized the importance of cooperating within the scientific community and across departments on their post-tenure level, they explained that, above all, junior researchers should work towards being well-integrated in their own research group. For example, Prof. 6 elaborated: “It is important that a new researcher becomes part of the team by both supporting colleagues and, in turn, accepting their support.” Junior researchers were required to “be open for knowledge exchange and be able to get along well with other team members” (Prof. 7), whereas for professors it was more important to bring people together and create an atmosphere where cooperation was encouraged and rewarded.

To conclude the presentation of the major findings, this study not only provides evidence for a considerable shift in required attributes from the pre- to the post-tenure career stage, but also implies the existence of gendered requirements in academic career stages.

DISCUSSION

Despite the numerous efforts to counteract gender inequality, universities lose female talents on their way upwards and, as a consequence, women remain under-represented in tenured professorships (Moss-Racusin et al., 2012). Considering the *leaky pipeline* and changing demands throughout an academic career, I sought to answer the questions of what attributes are required in the pre-tenure versus the post-tenure career stage from the

perspective of professors, and whether these requirements are gendered. This study constitutes one of the first to examine the informal requirements for an academic career from tenured professors' subjective views, whilst previous research has focused on organizational and system barriers for the advancement of women to professorships, for instance, by investigating formal criteria in selection and recruitment processes (e.g., van den Brink & Benschop, 2012, 2014). I conducted 25 semi-structured interviews with tenured STEM professors in Germany to grasp their perception of expectations and requirements of scientists before and after reaching tenure. I first analyzed the mentioned requirements with regards to the pre- and post-tenure career stage and, in a second step, applied the established dichotomy agentic versus communal to cluster attributes according to stereotypically male or female associations. Professors reported a massive change of requirements from a pre-tenure *ambitious 'agentic' junior researcher* to a post-tenure *supportive 'communal' professor.* The findings have important implications for theory and practice.

Contribution

As the major contribution, the findings advance our understanding of why women remain under-represented at senior stages in academia. The findings imply that organizational and structural barriers for female scientists (van den Brink & Benschop, 2012) are reproduced in professors' subjective assumptions of what is required for an academic career. Consistent with the *lack of fit*-model (Heilman, 1983, 2001) and previous literature, which has linked the stereotype of scientists to the stereotype of men (see Bleijenbergh et al., 2012; Carli et al., 2016), I found that the required attributes in the pre-tenure phase are associated with the male stereotype, providing new evidence for the *lack of fit*-model at early career stages in academia. Going beyond previous research, the findings illustrate that communal attributes are mentioned as key requirements at senior career stages (e.g., cooperation with multiple stakeholders, coaching junior researchers, and self-reflection on one's decisions and goals). This finding contradicts the stereotype of senior academics which is, as yet, dominantly

agentic ('think professor–think male'; see Bleijenbergh et al., 2012; Carli et al., 2016) and in fact suggests a good *fit* between stereotypically female attributes and the requirements for academic senior positions (in contrast to a *lack of fit*).

The importance of communal attributes at the post-tenure stage indicates the existence of an advantage for showing communal attributes in senior positions in academia. In fact, previous research from the business context increasingly postulates a female leadership advantage as women are more likely to lead in ways that have been shown to be effective in research (e.g., transformational leadership; Eagly, 2007; Eagly & Carli, 2003). It should be noted that not only women may benefit from a communal leadership advantage, as recent research has shown that male leaders benefit even more than female leaders from displaying communal behaviors (see communality bonus effect; Hentschel, Braun, Peus, & Frey, 2018). By highlighting that communal attributes become more important than agentic attributes at the tenured career stage, I am also adding to research on requirements at different academic career stages, especially at the previously neglected senior career stage (Zacher et al., 2019). I thereby shed light on the opacity of the professorial role (Evans, 2017) and provide more transparency on the requirements for professors.

Limitations and Avenues for Future Research

Due to the qualitative nature of this study, the empirical findings have several strengths, but one inherent limitation is that I explored only one specific context, STEM-disciplines in Germany. The goal of this research was to explore an extreme case of a highly male-dominated field, in which the difference between the pre-tenure and post-tenure career phase is extremely strong. Both criteria are met in the male-dominated German academic system because–now still–there are hardly any career levels between post-doctoral researchers and full professors. Future research should therefore investigate whether the findings are generalizable to other geographical regions (e.g., academia in the US). I further chose STEM-disciplines as my sample because the under-representation of female scientists is most salient

in these fields and gender stereotypes may be particularly present. Future research should therefore explore whether the shift of career requirements and a link to gender stereotypes also exist in other academic disciplines and, if so, to what extent (e.g., humanities, social sciences).

Although I gained new insights into professors' subjective perspective on requirements throughout an academic career, it might be interesting to investigate junior researchers' perspectives on attributes they perceive as important in their own role pre-tenure, as well as attributes they desire or expect from tenured professors. Comparing and contrasting these different perspectives could be a valuable next step to expanding my findings. Another interesting sample could be non-tenured professors or scientists, who left the academic system. Adding their understanding of academic career requirements may complement the perspective taken in this study.

Practical Implications

The findings have several practical implications for the selection, promotion, and development processes in academia. These are particularly relevant in the STEM fields, due to their great importance for innovation, progress, and global competitiveness (Beede et al., 2011) and the shortage of (female) talents in STEM (Xue & Larson, 2015).

First of all, communal attributes seem to outmatch agentic attributes at later stages of the academic career. Based on the findings, I must conclude that we are promoting individuals to tenured positions based on agentic attributes who may, in fact, lack the attributes that are necessary after tenure. The findings point to the need to promote researchers with communal abilities–be these women or men–into senior academic positions. Criteria in academic promotion processes should be broadened to prevent an overemphasis on agentic attributes. Specifically, I suggest a stronger consideration of communal attributes when selecting candidates for professorships (at all levels).

Second, it is of particular importance to sensitize decision-makers to gender stereotypes (‘making the invisible visible’, see Diehl & Dzubinski, 2016) and to train them to identify the relevant requirements for each academic career stage, i.e., considering both agentic and communal attributes. Most importantly, raising awareness about the complexity and change of requirements from agentic to communal attributes throughout an academic career might result in more valid–less biased–evaluations of scientists in tenure decisions. If agentic stereotypes continue to influence how future leaders are selected and evaluated, the academic glass-ceiling for women scientists will not break in the near future. Specifically, I claim that we are losing female talent in early career stages which we need in tenured leadership positions.

Third, human resource development activities should foster and comprise both agentic, i.e., goal-oriented behaviors, and communal behaviors, as in cooperative behavior, compassion, and supporting others. Leadership development programs for junior researchers should aim to foster communal qualities earlier, so as to effectively prepare scholars for their demanding roles as professors. Similarly, tenured professors can be supported in understanding and integrating seemingly conflicting–agentic versus communal–requirements.

I hope that my findings stimulate critical reflection on the success factors which shape an academic career and the implementation of gender-fair support measures.

CONCLUSION

The aim of this research was to answer the call for more research on the academic glass-ceiling which contributes to the low number of female scientists who eventually reach tenure. To this end, I interviewed tenured professors about their subjectively held expectations of pre- versus post-tenure requirements and compared and contrasted the mentioned attributes. Whereas professors mostly required agentic–stereotypically male–attributes for junior researchers, the requirements for tenured professors shifted towards communal–stereotypically female–attributes. By showing that pre- and post-tenure requirements are

linked to gender stereotypes, the findings add to previous research on why women remain under-represented in professorships. At the same time, this study indicates that scientists with communal attributes are very much needed in senior positions in academia.

5. GENERAL CONCLUSIONS

Summary of Findings

Recent research on leadership has continuously highlighted the importance of subjective images of leadership (Lord & Dinh, 2014) and leader identity (Epitropaki et al., 2017) for leadership effectiveness. In this work, I took on three different perspectives to advance leadership research on (1) professionals' leader identity construal and enactment, (2) follower perceptions of effective leadership, and (3) requirements before and in a leadership position (pre- versus post-tenure) in the academic context.

In **chapter 2**, I explored professors' leader identity construal and enactment in a qualitative interview study, as we lack insights on how professionals who are experts in their field deal with leadership responsibilities once a formal leader role is added to their expert role. Going beyond previous research, I identified four different types of professionals who varied in their leader identity construal: First, specialists who *reject a leader identity* and identify primarily with their expert roles. Second, mentors who *accommodate their leader identity* by partly accepting a leader identity in their professional identity, as someone who mentors and develops followers. Third, managers who *incorporate their leader identity* in their professional identity, as an equally important identity among others, and who understand leadership as management in the first place. Fourth, shapers who *emphasize their leader identity* and who understand themselves as leaders in various areas of their life by influencing and shaping their environment, be it academia, industry, or society at large.

Each type can be characterized by different variations of leader identity, based on leader identity strength, integration, level, meaning, and impact. In addition, I integrated previously separate streams of research by shedding light on the interplay between the professional identity and leader identity, which allows to explain, how professionals' leader identity construal shapes their leader identity enactment. The different forms of leader identity construal can be associated both with leadership styles and concepts of the identity leadership

framework, which grasps leaders' abilities to shape the social identity for their followers (Haslam et al., 2010).

Besides the importance of understanding how leaders see themselves, we lack evidence on the follower perspective on leadership in the academic context. Therefore, in **chapter 3**, I investigated followers' ILTs. Findings show that the typical professor is described as *caring, competent, ambitious, possessing high integrity*, and *organized.* In terms of effectiveness, the most effective characteristics of the typical academic leader were *overambitious, relaxed, ambitious, and passionate.* These results show that the content of ILTs in academia differs from ILTs in the business context. Moreover, certain attributes that are perceived as effective in the business context turned out to be ineffective in the academic context and vice versa. These findings provide further evidence that ILTs are context-specific and expand research on the relevance of context for an enhanced understanding of leadership.

In **chapter 4**, I shifted my research focus on perceptions of career requirements and the still remaining gender gap in academia to find a more nuanced explanation for the academic glass-ceiling, which contributes to the under-representation of female scientists in tenured professorships. As professors act as decision-makers in academic selection and promotion processes, I investigated their subjective perspective on career requirements pre- and post-tenure. In the data analysis, I took a gender perspective to explore whether the mentioned requirements were linked to gender stereotypes. Findings indeed indicated a discrepancy of requirements in that agentic–stereotypically male–attributes are crucial at the pre-tenure career stage, whereas post-tenure requirements change towards mainly communal–stereotypically female–attributes.

Main Contributions for Theory and Practice

The first and main contribution of this dissertation certainly is that I answer the call for more research on leadership perceptions (Lord & Dinh, 2014) and leaders' identities as antecedents of leadership behavior (Epitropaki et al., 2017). Despite the advancement of

leadership research over the past decades (Dinh et al., 2014; Lord, Day, Zaccaro, Avolio, & Eagly, 2017), evidence is accumulating that we need to consider leaders' and followers' perspectives on leadership perceptions and subjective images of leadership to fully understand the leadership process (Foti et al., 2017; Uhl-Bien et al., 2014). This dissertation provides empirical evidence from three qualitative and quantitative studies while considering characteristics of a compelling context: academia (Bamberger & Pratt, 2010; Liden & Antonakis, 2009; Peus et al., 2016). The newly generated evidence allows us to comprehend the complex phenomenon of leadership perceptions in a specific context in a more nuanced way and contributes to theory building on leader identity, implicit leadership theories, and career requirements.

Second, the exploration of professionals' leader identity paves the way to explain how a leader identity is construed and how this shapes leader identity enactment. More specifically, the findings of the first study add to our understanding when and why a leader identity is rejected, accommodated, incorporated, or emphasized, based on the interplay between the professional and the leader identity. Moreover, I explain how professionals' leader identity construal shapes leader identity enactment which may serve as a foundation to explain and predict actual behavior of professionals with a formal leader role. By integrating multiple streams of research–role identity theory, leader identity, leadership styles, and identity leadership– this study adds a novel perspective to the call for research on how leaders see and define themselves (Epitropaki et al., 2017). The integration of several research streams seems to be a particularly fruitful approach because an identity perspective transcends one-dimensional approaches to leadership and leader development (Day & Harrison, 2007). This further adds to our understanding of the highly complex underlying processes of adult development which are needed for the conceptualization of suitable leader development approaches (Day, Harrison, & Halpin, 2009).

Third, I contribute to research on both leadership in academia and the context-sensitivity of implicit leadership theories by investigating followers' perspective on typical academic leaders and their effectiveness. As an advancement to the literature, I offer new and valuable insights into the specifics of professorial leadership as opposed to administrative leadership (e.g., deans, heads of department) in the academic context. Furthermore, the findings imply that images of the typical academic leader differ from images of the typical business leader. More specifically, characteristics such as competence, status orientation, and caring appear as more salient characteristics of typical leaders in academic settings. Moreover, certain attributes are perceived as effective in the academic context that may be rated as ineffective in the business context and vice versa. For instance, attributes that may be perceived as unfavorable in the business context (e.g., unpleasant, individualistic) can indeed be rated as effective in the academic context. These findings are not only relevant for academic leaders themselves who aim to tailor their own behaviors to be more effective; they can also provide a framework for selecting and training more effective leaders in academia in general.

Fourth, I highlight the importance of communal attributes in academic senior positions through evidence from the perspective of professors (chapter 4), which is in line with the findings of investigating the followers' perspective (chapter 3). Not only followers expect their leaders to be caring, but also professors themselves emphasized the need to be supportive and cooperative in the post-tenure career stage. These findings challenge the dominant implicit image 'think professor–think male' derived from both gender stereotypes and the stereotype of the typical scientist (Bleijenbergh et al., 2012; Carli et al., 2016).

Fifth, I expand research on gender stereotypes and leadership in that I show that agentic attributes are perceived as required in the junior career stage before reaching a leadership position. The high value of agentic attributes in junior career stages might present a previously neglected barrier for women in climbing the academic ladder to tenure.

Considering these findings in academic selection, promotion, and development processes may contribute to more transparency about academic career advancement as well as advanced and individualized training which is still mostly lacking in academia (Morris, 2012).

Sixth and finally, I consider context-specifics (Liden & Antonakis, 2009) and expand leadership research by considering one specific and previously underinvestigated context. In academia, highly autonomous expert professionals need to respond to changing external requirements while becoming more professional internally in terms of their leadership, talent management, and human resource development practices. So far, this context was not given the empirical focus it warrants (Braun et al., 2016; Evans, 2018). By adding empirical evidence on professors' subjective views of their leader role, followers' perspective on implicit leadership theories in academia, and professors' perceptions of career requirements over the course of an academic career, this dissertation advances the research on leadership in academia and offers implications for practice.

Overall, the studies in this dissertation emphasize that leadership is in the eye of both leaders and followers and that more attention needs to be brought to subjective interpretations and perceptions of leadership to fully grasp and understand antecedents of leadership behaviors and cognitive frameworks for leader evaluations. I have discussed avenues for future research in chapters two, three, and four, but would like to emphasize the importance of taking different perspectives into account and considering context. I hope that with this dissertation, I can stimulate critical reflection on the role of subjective images of leadership and that the findings will be applied to enhance transparency and fairness through professionalized leader selection, promotion, and development practices.

REFERENCES

Alvesson, M., Lee Ashcraft, K., & Thomas, R. (2008). Identity matters: Reflections on the construction of identity scholarship in organization studies. *Organization, 15*(1), 5-28.

Alvesson, M., & Sveningsson, S. (2003). The great disappearing act: Difficulties in doing "leadership". *The Leadership Quarterly, 14*(3), 359-381.

Antes, A. L., Mart, A., & DuBois, J. M. (2016). Are leadership and management essential for good research? An interview study of genetic researchers. *Journal of Empirical Research on Human Research Ethics, 11*(5), 408-423.

Antonakis, J., Schriesheim, C. A., Donovan, J. A., Gopalakrishna-Pillai, K., Pellegrini, E. K., & Rossomme, J. L. (2004). Methods for studying leadership. In J. Antonakis, A. T. Cianciolo, & R. J. Sternberg (Eds.), *The nature of leadership* (pp. 48-70). Thousand Oaks, CA: Sage.

Ashforth, B. E. (2001). *Role transitions in organizational life: An identity-based perspective*. Mahwah, NJ: Erlbaum.

Ashforth, B. E., Kreiner, G. E., & Fugate, M. (2000). All in a day's work: Boundaries and micro role transitions. *Academy of Management Review, 25*(3), 472-491.

Ashforth, B. E., & Schinoff, B. S. (2016). Identity under construction: How individuals come to define themselves in organizations. *Annual Review of Organizational Psychology and Organizational Behavior, 3*, 111-137.

Askling, B., & Stensaker, B. (2002). Academic leadership: Prescriptions, practices and paradoxes. *Tertiary Education & Management, 8*(2), 113-125.

Baker, S. E., & Edwards, R. (2012). *How many qualitative interviews is enough? Expert voices and early career reflections on sampling and cases in qualitative research*. National Centre for Research Methods Reviews. Southhampton, GB. National Centre for Reseach Methods.

Bamberger, P. A., & Pratt, M. G. (2010). Moving forward by looking back: Reclaiming unconventional research contexts and samples in organizational scholarship. *Academy of Management Journal, 53*(4), 665-671.

Bansal, P., Smith, W. K., & Vaara, E. (2018). From the editors. New ways of seeing through qualitative research. *Academy of Management Journal, 61*(4), 1189-1195.

Baruch, Y., & Hall, D. T. (2004). The academic career: A model for future careers in other sectors? *Journal of Vocational Behavior, 64*(2), 241-262.

Bass, B. M. (1985). *Leadership and performance beyond expectations*. New York, NY: Free Press.

Bass, B. M. (1999). Two decades of research and development in transformational leadership. *European Journal of Work and Organizational Psychology, 8*(1), 9-32.

Bedeian, A. G. (2004). Peer review and the social construction of knowledge in the management discipline. *Academy of Management Learning & Education, 3*(2), 198-216.

Beede, D. N., Julian, T. A., Langdon, D., McKittrick, G., Khan, B., & Doms, M. E. (2011). Women in STEM: A gender gap to innovation. *Economics and Statistics Administration Issue Brief 04-11*.

Best, K. L., Sanwald, U., Ihsen, S., & Ittel, A. (2013). Gender and STEM in Germany: Policies enhancing women's participation in academia. *International Journal of Gender, Science and Technology, 5*(3), 292-304.

Bleijenbergh, I. L., van Engen, M. L., & Vinkenburg, C. J. (2012). Othering women: Fluid images of the ideal academic. *Equality, Diversity and Inclusion: An International Journal, 32*(1), 22-35.

Bolden, R., Gosling, J., O'Brien, A., Peters, K., Ryan, M. K., Haslam, S. A., Longsworth, L., Davidovic, A., Winklemann, K. (2012). *Academic leadership: Changing conceptions,*

identities and experiences in UK higher education. London, UK: Leadership Foundation for Higher Education.

Bosak, J., & Sczesny, S. (2011). Gender bias in leader selection? Evidence from a hiring simulation study. *Sex Roles, 65*(3-4), 234-242.

Braun, S., Nazlic, T., Weisweiler, S., Pawlowska, B., Peus, C., & Frey, D. (2009). Effective leadership development in higher education: Individual and group level approaches. *Journal of Leadership Education, 8*(1), 195-206.

Braun, S., Peus, C., Frey, D., & Knipfer, K. (2016). Leadership in academia: Individual and collective approaches to the quest for creativity and innovation. In C. Peus, S. Braun, & B. Schyns (Eds.), *Leadership lessons from compelling contexts* (pp. 349-365). Bingley, UK: Emerald Group Publishing Limited.

Braun, S., Peus, C., Weisweiler, S., & Frey, D. (2013). Transformational leadership, job satisfaction, and team performance: A multilevel mediation model of trust. *The Leadership Quarterly, 24*(1), 270-283.

Brown, A. D. (2015). Identities and identity work in organizations. *International Journal of Management Reviews, 17*(1), 20-40.

Bryman, A. (2007). Effective leadership in higher education: A literature review. *Studies in Higher Education, 32*(6), 693-710.

Burke, P. J. (1980). The self: Measurement requirements from an interactionist perspective. *Social Psychology Quarterly, 43*(1), 18-29.

Burke, P. J., & Reitzes, D. C. (1981). The link between identity and role performance. *Social Psychology Quarterly, 44*(2), 83-92.

Burke, P. J., & Reitzes, D. C. (1991). An identity theory approach to commitment. *Social Psychology Quarterly, 54*(3), 239-251.

Burkhardt, J. C. (2002). Boundary-spanning leadership in higher education. *Journal of Leadership Studies, 8*(3), 145-150.

Cardon, M. S., Wincent, J., Singh, J., & Drnovsek, M. (2009). The nature and experience of entrepreneurial passion. *Academy of Management Review, 34*(3), 511-532.

Carli, L. L., Alawa, L., Lee, Y., Zhao, B., & Kim, E. (2016). Stereotypes about gender and science: women≠ scientists. *Psychology of Women Quarterly, 40*(2), 244-260.

Carli, L. L., & Eagly, A. H. (2011). Gender and leadership. In A. Bryman, D. Collinson, K. Grint, B. Jackson, & M. Uhl-Bien (Eds.), *The SAGE handbook of leadership* (pp. 103-117). London, UK: Sage.

Ceci, S. J., & Williams, W. M. (2007). *Why aren't more women in science: Top researchers debate the evidence*. Washington, DC: American Psychological Association.

Charmaz, K. (2014). *Constructing grounded theory*. Thousand Oaks, CA: Sage.

Chreim, S., Williams, B. E., & Hinings, C. (2007). Interlevel influences on the reconstruction of professional role identity. *Academy of Management Journal, 50*(6), 1515-1539.

Collinson, D. (2014). Dichotomies, dialectics and dilemmas: New directions for critical leadership studies? *Leadership, 10*(1), 36-55.

Conger, J. A. (1998). Qualitative research as the cornerstone methodology for understanding leadership. *The Leadership Quarterly, 9*(1), 107-121.

Corley, K. G. (2010). Letter from a newly-tenured professor (A response to Hambrick and a call to action for my fellow associate professors). *Journal of Management Inquiry, 19*(4), 393-396.

Creed, W. D., DeJordy, R., & Lok, J. (2010). Being the change: Resolving institutional contradiction through identity work. *Academy of Management Journal, 53*(6), 1336-1364.

Day, D. V., & Harrison, M. (2007). A multilevel, identity-based approach to leadership development. *Human Resource Management Review, 17*(4), 360-373.

Day, D. V., Harrison, M., & Halpin, S. (2009). *An integrative theory of leadership development: Connecting adult development, identity, and expertise*. New York, NY: Psychology Press.

Day, D. V., & Sin, H.-P. (2011). Longitudinal tests of an integrative model of leader development: Charting and understanding developmental trajectories. *The Leadership Quarterly, 22*(3), 545-560.

Day, D. V., Sin, H. P., & Chen, T. T. (2004). Assessing the burdens of leadership: Effects of formal leadership roles on individual performance over time. *Personnel Psychology, 57*(3), 573-605.

Deem, R. (2003). Gender, organizational cultures and the practices of manager-academics in UK universities. *Gender, Work & Organization, 10*(2), 239-259.

Deem, R. (2004). The knowledge worker, the manager-academic and the contemporary UK university: New and old forms of public management? *Financial Accountability & Management, 20*(2), 107-128.

DeRue, D. S., & Ashford, S. J. (2010). Who will lead and who will follow? A social process of leadership identity construction in organizations. *Academy of Management Review, 35*(4), 627-647.

DeRue, D. S., Ashford, S. J., & Cotton, N. C. (2009). Assuming the mantle: Unpacking the process by which individuals internalize a leader identity. In L. M. Roherts & J. E. Dutton (Eds.), *Exploring positive identities and organizations: Building a theoretical and research foundation* (pp. 213-232). New York, NY: Taylor & Francis.

DeRue, D. S., & Wellman, N. (2009). Developing leaders via experience: The role of developmental challenge, learning orientation, and feedback availability. *Journal of Applied Psychology, 94*(4), 859-875.

DESTATIS. (2017). Statistisches-Bundesamt: Bildung und Kultur: Personal an Hochschulen - Frauenanteile. [Statistics on Personnel in Higher Education - Proportion of Women].

Retrieved from https://www.destatis.de/DE/ZahlenFakten/GesellschaftStaat/BildungForschungKultur/Hochschulen/Tabellen/FrauenanteileAkademischeLaufbahn.html

Diehl, A. B., & Dzubinski, L. M. (2016). Making the invisible visible: A cross-sector analysis of gender-based leadership barriers. *Human Resource Development Quarterly, 27*(2), 181-206.

Dinh, J. E., Lord, R. G., Gardner, W. L., Meuser, J. D., Liden, R. C., & Hu, J. (2014). Leadership theory and research in the new millennium: Current theoretical trends and changing perspectives. *The Leadership Quarterly, 25*(1), 36-62.

Dorf, Y. J. (1999). *Der Universitätsprofessor: Hochschullehrer im Beamtenverhältnis - Selbstverständlichkeit und/oder Notwendigkeit? [The university professor: University teachers as civil servants].* Frankfurt am Main: Peter Lang Verlag.

Eagly, A. H. (2007). Female leadership advantage and disadvantage: Resolving the contradictions. *Psychology of Women Quarterly, 31*(1), 1-12.

Eagly, A. H., & Carli, L. L. (2003). The female leadership advantage: An evaluation of the evidence. *The Leadership Quarterly, 14*(6), 807-834.

Eagly, A. H., & Karau, S. J. (2002). Role congruity theory of prejudice toward female leaders. *Psychological Review, 109*(3), 573-598.

Ecklund, E. H., Lincoln, A. E., & Tansey, C. (2012). Gender segregation in elite academic science. *Gender & Society, 26*(5), 693-717.

Eden, D., & Leviatan, U. (1975). Implicit leadership theory as a determinant of the factor structure underlying supervisory behavior scales. *Journal of Applied Psychology, 60*(6), 736-741.

Eisenhardt, K. M. (1989). Building theories from case study research. *Academy of Management Review, 14*(4), 532-550.

Eisenhardt, K. M., Graebner, M. E., & Sonenshein, S. (2016). Grand challenges and inductive methods: Rigor without rigor mortis. *Academy of Management Journal, 59*(4), 1113-1123.

Ekman, M., Lindgren, M., & Packendorff, J. (2018). Universities need leadership, academics need management: Discursive tensions and voids in the deregulation of Swedish higher education legislation. *Higher Education, 75*(2), 299-321.

Elkins, T., & Keller, R. T. (2003). Leadership in research and development organizations: A literature review and conceptual framework. *The Leadership Quarterly, 14*(4-5), 587-606.

Epitropaki, O., Kark, R., Mainemelis, C., & Lord, R. G. (2017). Leadership and followership identity processes: A multilevel review. *The Leadership Quarterly, 28*(1), 104-129.

Epitropaki, O., & Martin, R. (2004). Implicit leadership theories in applied settings: Factor structure, generalizability, and stability over time. *Journal of Applied Psychology, 89*(2), 293-310.

Epitropaki, O., & Martin, R. (2005). From ideal to real: A longitudinal study of the role of implicit leadership theories on leader-member exchanges and employee outcomes. *Journal of Applied Psychology, 90*(4), 659-676.

Epitropaki, O., Sy, T., Martin, R., Tram-Quon, S., & Topakas, A. (2013). Implicit leadership and followership theories "in the wild": Taking stock of information-processing approaches to leadership and followership in organizational settings. *The Leadership Quarterly, 24*(6), 858-881.

European Commission. (2015). *She figures 2015. Gender in research and innovation*. Luxembourg: Publications Office of the European Union.

Evans, L. (2011). The 'shape'of teacher professionalism in England: Professional standards, performance management, professional development and the changes proposed in the 2010 White Paper. *British Educational Research Journal, 37*(5), 851-870.

Evans, L. (2014). What is effective research leadership? A research-informed perspective. *Higher Education Research & Development, 33*(1), 46-58.

Evans, L. (2016). *The purpose of professors: Professionalism, pressures and performance*. London, UK: Leadership Foundation for Higher Education.

Evans, L. (2017). University professors as academic leaders: Professorial leadership development needs and provision. *Educational Management Administration & Leadership, 45*(1), 123-140.

Evans, L. (2018). *Professors as academic leaders: Expectations, enacted professionalism and evolving roles*. London, UK: Bloomsbury Academic.

Evans, L., Homer, M., & Rayner, S. (2013). Professors as academic leaders: The perspectives of 'the led'. *Educational Management Administration & Leadership, 41*(5), 674-689.

Evans, L., & Nixon, J. (2015). *Academic identities in higher education: The changing European landscape*. London, UK: Bloomsbury Publishing.

Feldman, D. C., & Turnley, W. H. (2004). Contingent employment in academic careers: Relative deprivation among adjunct faculty. *Journal of Vocational Behavior, 64*(2), 284-307.

Fincher, C. (2003). *Administrative leadership: In academic governance and management*. Lanham, MD: University Press of America, Inc.

Fischer, T., Dietz, J., & Antonakis, J. (2017). Leadership process models: A review and synthesis. *Journal of Management, 43*(6), 1726-1753.

Flanagan, J. C. (1954). The critical incident technique. *Psychological Bulletin, 51*(4), 327-358.

Foti, R. J., Hansbrough, T. K., Epitropaki, O., & Coyle, P. T. (2017). Dynamic viewpoints on implicit leadership and followership theories: Approaches, findings, and future directions. *The Leadership Quarterly, 28*(2), 261-267.

Fox, M. F. (1999). Gender, hierarchy, and science. In J. S. Chafetz (Ed.), *Handbook of the sociology of gender* (pp. 441-457). Boston, MA: Springer.

Frost, P. J., & Taylor, M. S. (1996). Commentary. In P. J. Frost & S. Taylor (Eds.), *Rhythms of academic life: Personal accounts of careers in academia* (pp. 485-496). Thousand Oaks, CA: Sage.

Gardiner, M., & Tiggemann, M. (1999). Gender differences in leadership style, job stress and mental health in male-and female-dominated industries. *Journal of Occupational and Organizational Psychology, 72*(3), 301-315.

Gaucher, D., Friesen, J., & Kay, A. C. (2011). Evidence that gendered wording in job advertisements exists and sustains gender inequality. *Journal of Personality and Social Psychology, 101*(1), 109-128.

Gioia, D. A., Corley, K. G., & Hamilton, A. L. (2013). Seeking qualitative rigor in inductive research: Notes on the Gioia methodology. *Organizational Research Methods, 16*(1), 15-31.

Glaser, B., & Strauss, A. (1967). *The discovery of grounded theory: Strategies for qualitative research*. Chicago, IL: Aldine.

Greenleaf, R. K. (1991). *The servant as leader*. Indianapolis, IN: Robert K. Greenleaf Center.

Guillén, L., Mayo, M., & Korotov, K. (2015). Is leadership a part of me? A leader identity approach to understanding the motivation to lead. *The Leadership Quarterly, 26*(5), 802-820.

Hammond, M., Clapp-Smith, R., & Palanski, M. (2017). Beyond (just) the workplace: A theory of leader development across multiple domains. *Academy of Management Review, 42*(3), 481-498.

Harley, S., Muller-Camen, M., & Collin, A. (2004). From academic communities to managed organisations: The implications for academic careers in UK and German universities. *Journal of Vocational Behavior, 64*(2), 329-345.

Harper, D. (2002). Talking about pictures: A case for photo elicitation. *Visual Studies, 17*(1), 13-26.

Haslam, S. A., Reicher, S. D., & Platow, M. J. (2010). *The new psychology of leadership: Identity, influence and power*. New York, NY: Psychology Press.

Heilman, M. E. (1983). Sex bias in work settings: The Lack of Fit model. *Research in Organizational Behavior, 5*, 269-298.

Heilman, M. E. (2001). Description and prescription: How gender stereotypes prevent women's ascent up the organizational ladder. *Journal of Social Issues, 57*(4), 657-674.

Heilman, M. E. (2012). Gender stereotypes and workplace bias. *Research in Organizational Behavior, 32*, 113-135.

Henkel, M. (2005). Academic identity and autonomy in a changing policy environment. *Higher Education, 49*(1-2), 155-176.

Hentschel, T., Braun, S., Peus, C., & Frey, D. (2018). The communality-bonus effect for male transformational leaders – leadership style, gender, and promotability. *European Journal of Work and Organizational Psychology, 27*(1), 112-125.

Hentschel, T., Heilman, M. E., & Peus, C. (2019). The multiple dimensions of gender stereotypes: A current look at men's and women's characterizations of others and themselves. *Frontiers in Psychology, 10:11*.

Hill, C., Corbett, C., & St Rose, A. (2010). *Why so few? Women in science, technology, engineering, and mathematics.* Washington, DC: AAUW.

Hogg, M. A., Terry, D. J., & White, K. M. (1995). A tale of two theories: A critical comparison of identity theory with social identity theory. *Social Psychology Quarterly, 58*(4), 255-269.

Howell, J. M., & Avolio, B. J. (1993). Transformational leadership, transactional leadership, locus of control, and support for innovation: Key predictors of consolidated-business-unit performance. *Journal of Applied Psychology, 78*(6), 891-902.

Huisman, J., de Weert, E., & Bartelse, J. (2002). Academic careers from a European perspective: The declining desirability of the faculty position. *The Journal of Higher Education, 73*(1), 141-160.

Ibarra, H. (1999). Provisional selves: Experimenting with image and identity in professional adaptation. *Administrative Science Quarterly, 44*(4), 764-791.

Ibarra, H., Ely, R., & Kolb, D. (2013). Women rising: The unseen barriers. *Harvard Business Review, 91*(9), 60-66.

Ibarra, H., Wittman, S., Petriglieri, G., & Day, D. V. (2014). Leadership and identity: An examination of three theories and new research directions. In D. V. Day (Ed.), *The Oxford handbook of leadership and organizations* (pp. 285-305). New York, NY: Oxford University Press.

Jiang, X., Xu, S., Houghton, J. D., & Manz, C. C. (2019). Shades of grey in implicit effective leadership: Searching for clarity in the midst of paradox. *Leadership*, *15*(6), 673-695.

Johnson, R. E., Venus, M., Lanaj, K., Mao, C., & Chang, C.-H. (2012). Leader identity as an antecedent of the frequency and consistency of transformational, consideration, and abusive leadership behaviors. *Journal of Applied Psychology, 97*(6), 1262-1272.

Judge, T. A., Kammeyer-Mueller, J., & Bretz, R. D. (2004). A longitudinal model of sponsorship and career success: A study of industrial-organizational psychologists. *Personnel Psychology, 57*(2), 271-303.

Judge, T. A., Piccolo, R. F., & Ilies, R. (2004). The forgotten ones? The validity of consideration and initiating structure in leadership research. *Journal of Applied Psychology, 89*(1), 36-51.

Kaiser, R. B., Hogan, R., & Craig, S. B. (2008). Leadership and the fate of organizations. *American Psychologist, 63*(2), 96-110.

Keller, R. T. (2006). Transformational leadership, initiating structure, and substitutes for leadership: A longitudinal study of research and development project team performance. *Journal of Applied Psychology, 91*(1), 202-210.

Kenney, R. A., Schwartz-Kenney, B. M., & Blascovich, J. (1996). Implicit leadership theories: Defining leaders described as worthy of influence. *Personality and Social Psychology Bulletin, 22*(11), 1128-1143.

Kerr, S., & Jermier, J. M. (1978). Substitutes for leadership: Their meaning and measurement. *Organizational Behavior and Human Performance, 22*(3), 375-403.

King, N., & Horrocks, C. (2010). *Interviews in qualitative research*. London, UK: Sage.

Knight, P., & Trowler, P. (2001). *Departmental leadership in higher education*. Buckingham, UK: Open University Press/SRHE.

Knipfer, K., Shaughnessy, B., Hentschel, T., & Schmid, E. (2017). Unlocking women's leadership potential: A curricular example for developing female leaders in academia. *Journal of Management Education, 41*(2), 272-302.

Knorr-Cetina, K. (2009). *Epistemic cultures: How the sciences make knowledge*. Cambridge, MA: Harvard University Press.

Krause, F., & Storch, M. (2006). Ressourcenorientiert coachen mit dem Zürcher Ressourcen Modell–ZRM [Resource-oriented coaching with the Zurich Resource Model]. *Psychologie in Österreich, 26*(1), 32-43.

Kreiner, G. E., Hollensbe, E. C., & Sheep, M. L. (2006). Where is the "me" among the "we"? Identity work and the search for optimal balance. *Academy of Management Journal, 49*(5), 1031-1057.

Krippendorff, K. (1980). *Content analysis: An introduction to its methodology*. Beverly Hills, CA: Sage.

Kumar, S., & Hsiao, J. K. (2007). Engineers learn “soft skills the hard way”: Planting a seed of leadership in engineering classes. *Leadership and Management in Engineering, 7*(1), 18-23.

Kyratsis, Y., Atun, R., Phillips, N., Tracey, P., & George, G. (2017). Health systems in transition: Professional identity work in the context of shifting institutional logics. *Academy of Management Journal, 60*(2), 610-641.

Lapierre, L. M., Naidoo, L. J., & Bonaccio, S. (2012). Leaders' relational self-concept and followers' task performance: Implications for mentoring provided to followers. *The Leadership Quarterly, 23*(5), 766-774.

Lewin, K. (1947). Frontiers in group dynamics: Concept, method and reality in social science; social equilibria and social change. *Human Relations, 1*(1), 5-41.

Liden, R. C., & Antonakis, J. (2009). Considering context in psychological leadership research. *Human Relations, 62*(11), 1587-1605.

Lord, R. G. (1985). An information processing approach to social perceptions, leadership and behavioral measurement in organizations. In B. M. Shaw & L. L. Cummings (Eds.), *Research in organizational behavior* (Vol. 7, pp. 87-128). Greenwich, CT: JAI Press.

Lord, R. G., Brown, D. J., Harvey, J. L., & Hall, R. J. (2001). Contextual constraints on prototype generation and their multilevel consequences for leadership perceptions. *The Leadership Quarterly, 12*(3), 311-338.

Lord, R. G., Day, D. V., Zaccaro, S. J., Avolio, B. J., & Eagly, A. H. (2017). Leadership in applied psychology: Three waves of theory and research. *Journal of Applied Psychology, 102*(3), 434.

Lord, R. G., & Dinh, J. E. (2014). What have we learned that is critical in understanding leadership perceptions and leader-performance relations? *Industrial and Organizational Psychology, 7*(2), 158-177.

Lord, R. G., & Emrich, C. G. (2000). Thinking outside the box by looking inside the box: Extending the cognitive revolution in leadership research. *The Leadership Quarterly, 11*(4), 551-579.

Lord, R. G., Foti, R. J., & De Vader, C. L. (1984). A test of leadership categorization theory: Internal structure, information processing, and leadership perceptions. *Organizational Behavior and Human Performance, 34*(3), 343-378.

Lord, R. G., & Hall, R. J. (2005). Identity, deep structure and the development of leadership skill. *The Leadership Quarterly, 16*(4), 591-615.

Lord, R. G., & Maher, K. J. (1993). *Leadership and information processing*. London, UK: Routledge.

Lowman, R. L. (2010). Leading the 21st-century college and university: Managing multiple missions and conflicts of interest in higher education. *The Psychologist-Manager Journal, 13*(4), 237-243.

Macfarlane, B. (2011). Professors as intellectual leaders: Formation, identity and role. *Studies in Higher Education, 36*(1), 57-73.

Male, S. A., Bush, M. B., & Murray, K. (2009). Think engineer, think male? *European Journal of Engineering Education, 34*(5), 455-464.

Mayring, P. (2010). Qualitative Inhaltsanalyse [Qualitative content analysis]. In G. Mey & K. Mruck (Eds.), *Handbuch qualitative Forschung in der Psychologie [Handbook of qualitative research in psychology]* (pp. 601-613). Wiesbaden: VS Verlag für Sozialwissenschaften.

McCaffery, P. (2010). *The higher education manager's handbook: Effective leadership and management in universities and colleges*. New York, NY: Routledge.

McGivern, G., Currie, G., Ferlie, E., Fitzgerald, L., & Waring, J. (2015). Hybrid manager-professionals' identity work: The maintenance and hybridization of medical professionalism in managerial contexts. *Public Administration, 93*(2), 412-432.

McGrail, M. R., Rickard, C. M., & Jones, R. (2006). Publish or perish: A systematic review of interventions to increase academic publication rates. *Higher Education Research & Development, 25*(1), 19-35.

Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook*. Thousand Oaks, CA: Sage.

Miller, C. C., Glick, W. H., & Cardinal, L. B. (2005). The allocation of prestigious positions in organizational science: Accumulative advantage, sponsored mobility, and contest mobility. *Journal of Organizational Behavior, 26*(5), 489-516.

Miscenko, D., Guenter, H., & Day, D. V. (2017). Am I a leader? Examining leader identity development over time. *The Leadership Quarterly, 28*(5), 605-620.

Mohrman, K., Ma, W., & Baker, D. (2008). The research university in transition: The emerging global model. *Higher Education Policy, 21*(1), 5-27.

Morris, A. (2012). Perspectives and thoughts on leadership development in higher education. *E-Journal of Organizational Learning and Leadership, 10*(1), 33-36.

Moss-Racusin, C. A., Dovidio, J. F., Brescoll, V. L., Graham, M. J., & Handelsman, J. (2012). Science faculty's subtle gender biases favor male students. *Proceedings of the National Academy of Sciences, 109*(41), 16474-16479.

Mroz, A. (2011). Leader: Absence-minded, ill-defined, Times Higher Education, 17 November. Retrieved from https://www.timeshighereducation.com/comment/leader/leader-absence-minded-ill-defined/418151.article

Muir, D. (2014). Mentoring and leader identity development: A case study. *Human Resource Development Quarterly, 25*(3), 349-379.

Muller-Camen, M., & Salzgeber, S. (2005). Changes in academic work and the chair regime: The case of German business administration academics. *Organization Studies, 26*(2), 271-290.

Nanus, B. (1992). *Visionary leadership: Creating a compelling sense of direction for your organization*. San Francisco, CA: Jossey-Bass.

National Research Council. (2015). *Enhancing the effectiveness of team science*. Washington, DC: The National Academies Press.

Offermann, L. R., & Coats, M. R. (2018). Implicit theories of leadership: Stability and change over two decades. *The Leadership Quarterly, 29*(4), 513-522.

Offermann, L. R., Kennedy Jr, J. K., & Wirtz, P. W. (1994). Implicit leadership theories: Content, structure, and generalizability. *The Leadership Quarterly, 5*(1), 43-58.

Patton, M. Q. (2002). *Qualitative research and evaluation methods (3rd ed.)*. Thousand Oaks, CA: Sage.

Paustian-Underdahl, S. C., Walker, L. S., & Woehr, D. J. (2014). Gender and perceptions of leadership effectiveness: A meta-analysis of contextual moderators. *Journal of Applied Psychology, 99*(6), 1129-1145.

Pearce, C. L., Sims Jr, H. P., Cox, J. F., Ball, G., Schnell, E., Smith, K. A., & Trevino, L. (2003). Transactors, transformers and beyond: A multi-method development of a theoretical typology of leadership. *Journal of Management Development, 22*(4), 273-307.

Perkmann, M., Tartari, V., McKelvey, M., Autio, E., Broström, A., D'Este, P., Fini, R., Geuna, A., Grimaldi, R., Hughes, A., Krabel, S., Kitson, M., Llerena, P., Lissoni, F., Salter, A., & Sobrero, M. (2013). Academic engagement and commercialisation: A review of the literature on university–industry relations. *Research Policy, 42*(2), 423-442.

Petriglieri, J. L. (2011). Under threat: Responses to and the consequences of threats to individuals' identities. *Academy of Management Review, 36*(4), 641-662.

Peus, C., Braun, S., & Frey, D. (2013). Situation-based measurement of the full range of leadership model–Development and validation of a situational judgment test. *The Leadership Quarterly, 24*(5), 777-795.

Peus, C., Braun, S., & Schyns, B. (2016). *Leadership lessons from compelling contexts*. Bingley, UK: Emerald Group Publishing Limited.

Phillips, J. S., & Lord, R. G. (1986). Notes on the practical and theoretical consequences of implicit leadership theories for the future of leadership measurement. *Journal of Management, 12*(1), 31-41.

Pratt, M. G. (2000). The good, the bad, and the ambivalent: Managing identification among Amway distributors. *Administrative Science Quarterly, 45*(3), 456-493.

Pratt, M. G., Rockmann, K. W., & Kaufmann, J. B. (2006). Constructing professional identity: The role of work and identity learning cycles in the customization of identity among medical residents. *Academy of Management Journal, 49*(2), 235-262.

Rehbock, S. K. (2020). Academic leadership: Challenges and opportunities for leaders and leadership development in higher education. In M. Antoniadou & M. Crowder (Eds.), *Modern day challenges in academia: Time for a change*. Cheltenham, UK: Edward Elgar Publishing.

Rehbock, S. K., Knipfer, K., Hubner, S., & Peus, C. (2018). Born Researcher or Political Influencer? Professorial Identity in Higher Education. *Academy of Management Annual Meeting Proceedings, 2018*(1), 14300.

Rehbock, S. K., Pircher Verdorfer, A., & Knipfer, K. (2019). Rate my professor: implicit leadership theories in academia. *Studies in Higher Education*, Online First.

Reicher, S., Haslam, S. A., & Hopkins, N. (2005). Social identity and the dynamics of leadership: Leaders and followers as collaborative agents in the transformation of social reality. *The Leadership Quarterly, 16*(4), 547-568.

Rosch, E. (1978). Principles of categorization. In E. Rosch & B. Lloyd (Eds.), *Cognition and categorization*. Hillsdale, NJ: Erlbaum.

Rowley, D. J., & Sherman, H. (2003). The special challenges of academic leadership. *Management Decision, 41*(10), 1058-1063.

Rus, D., van Knippenberg, D., & Wisse, B. (2010). Leader self-definition and leader self-serving behavior. *The Leadership Quarterly, 21*(3), 509-529.

Rush, M. C., Thomas, J. C., & Lord, R. G. (1977). Implicit leadership theory: A potential threat to the internal validity of leader behavior questionnaires. *Organizational Behavior and Human Performance, 20*(1), 93-110.

Ryazanova, O., & McNamara, P. (2016). Socialization and proactive behavior: Multilevel exploration of research productivity drivers in US Business Schools. *Academy of Management Learning & Education, 15*(3), 525-548.

Sang, K., Powell, A., Finkel, R., & Richards, J. (2015). 'Being an academic is not a 9–5 job': long working hours and the 'ideal worker'in UK academia. *Labour & Industry: A Journal of the Social and Economic Relations of Work, 25*(3), 235-249.

Saunders, M. N., & Townsend, K. (2016). Reporting and justifying the number of interview participants in organization and workplace research. *British Journal of Management, 27*(4), 836-852.

Schein, V. E. (1973). The relationship between sex role stereotypes and requisite management characteristics. *Journal of Applied Psychology, 57*(2), 95-100.

Schein, V. E. (2001). A global look at psychological barriers to women's progress in management. *Journal of Social Issues, 57*(4), 675-688.

Schimank, U. (2005). 'New public management'and the academic profession: Reflections on the German situation. *Minerva, 43*(4), 361-376.

Schyns, B., Felfe, J., & Blank, H. (2007). Is charisma hyper-romanticism? Empirical evidence from new data and a meta-analysis. *Applied Psychology, 56*(4), 505-527.

Schyns, B., Kiefer, T., Kerschreiter, R., & Tymon, A. (2011). Teaching implicit leadership theories to develop leaders and leadership: How and why it can make a difference. *Academy of Management Learning & Education, 10*(3), 397-408.

Schyns, B., & Schilling, J. (2011). Implicit leadership theories: Think leader, think effective? *Journal of Management Inquiry, 20*(2), 141-150.

Seibert, S. E., Kacmar, K. M., Kraimer, M. L., Downes, P. E., & Noble, D. (2017). The role of research strategies and professional networks in management scholars' productivity. *Journal of Management, 43*(4), 1103-1130.

Shamir, B. (1992). Attribution of influence and charisma to the leader: The romance of leadership revisited. *Journal of Applied Social Psychology, 22*(5), 386-407.

Shondrick, S. J., & Lord, R. G. (2010). Implicit leadership and followership theories: Dynamic structures for leadership perceptions, memory, and leader-follower processes. In G. P. Hodgkinson & J. K. Ford (Eds.), *International review of industrial and organizational psychology: Vol. 25* (pp. 1-33). New York, NY: Wiley-Blackwell.

Smith, B. L., & Hughey, A. W. (2006). Leadership in higher education–its evolution and potential: A unique role facing critical challenges. *Industry and Higher Education, 20*(3), 157-163.

Smith, D., Adams, J., & Mount, D. (2007). *UK universities and executive officers: The changing role of pro-vice-chancellors. Final report.* Leeds, UK: Higher Education Policy Unit, University of Leeds and Evidence Ltd.

Smothers, J., Bing, M. N., White, D., Trocchia, P. J., & Absher, K. (2011). From the follower's viewpoint: A configurational approach to the ideal academic leader. *Journal of Leadership & Organizational Studies, 18*(3), 293-307.

Snow, D. A., & Anderson, L. (1987). Identity work among the homeless: The verbal construction and avowal of personal identities. *American Journal of Sociology, 92*(6), 1336-1371.

Spyridonidis, D., Hendy, J., & Barlow, J. (2015). Understanding hybrid roles: The role of identity processes amongst physicians. *Public Administration, 93*(2), 395-411.

Steffens, N. K., Haslam, S. A., Reicher, S. D., Platow, M. J., Fransen, K., Yang, J., Ryan, M., Jetten, J., Peters, K., & Boen, F. (2014). Leadership as social identity management: Introducing the Identity Leadership Inventory (ILI) to assess and validate a four-dimensional model. *The Leadership Quarterly, 25*(5), 1001-1024.

Stephan, P. E., & Levin, S. G. (1997). The critical importance of careers in collaborative scientific research. *Revue d'économie industrielle, 79*(1), 45-61.

Strauss, A., & Corbin, J. (1994). Grounded theory methodology. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (pp. 273-285). Thousand Oaks, CA: Sage.

Strauss, A., & Corbin, J. (1998). *Basics of qualitative research: Procedures and techniques for developing grounded theory* (2nd ed.). Thousand Oaks, CA: Sage.

Stryker, S., & Burke, P. J. (2000). The past, present, and future of an identity theory. *Social Psychology Quarterly, 63*(4), 284-297.

Sveningsson, S., & Alvesson, M. (2003). Managing managerial identities: Organizational fragmentation, discourse and identity struggle. *Human Relations, 56*(10), 1163-1193.

Times Higher Education. (2018). World university rankings 2019. Retrieved from https://www.timeshighereducation.com/world-university-rankings/2019/world-ranking.

Treviño, L. J., Balkin, D. B., & Gomez-Mejia, L. R. (2017). How "Doing Gender" leads to gender imbalances in the higher ranks in colleges of business [and how to "Undo Gender"]. *Academy of Management Learning & Education, 16*(3), 439-453.

Treviño, L. J., Gomez-Mejia, L. R., Balkin, D. B., & Mixon Jr, F. G. (2015). Meritocracies or masculinities? The differential allocation of named professorships by gender in the academy. *Journal of Management, 44*(3), 972-1000.

U-Multirank. (2017). Universities compared. Your way. Retrieved from http://www.umultirank.org

Uhl-Bien, M., Riggio, R. E., Lowe, K. B., & Carsten, M. K. (2014). Followership theory: A review and research agenda. *The Leadership Quarterly, 25*(1), 83-104.

Unsworth, K. L., Kragt, D., & Johnston-Billings, A. (2018). Am I a leader or a friend? How leaders deal with pre-existing friendships. *The Leadership Quarterly, 29*(6), 674-685.

van den Brink, M., & Benschop, Y. (2012). Gender practices in the construction of academic excellence: Sheep with five legs. *Organization, 19*(4), 507-524.

van den Brink, M., & Benschop, Y. (2014). Gender in academic networking: The role of gatekeepers in professorial recruitment. *Journal of Management Studies, 51*(3), 460-492.

van den Brink, M., Fruytier, B., & Thunnissen, M. (2013). Talent management in academia: Performance systems and HRM policies. *Human Resource Management Journal, 23*(2), 180-195.

van Quaquebeke, N., Graf, M. M., & Eckloff, T. (2014). What do leaders have to live up to? Contrasting the effects of central tendency versus ideal-based leader prototypes in leader categorization processes. *Leadership, 10*(2), 191-217.

Vroom, V. H., & Jago, A. G. (2007). The role of the situation in leadership. *American Psychologist, 62*(1), 17-24.

Walsh, K., & Gordon, J. R. (2008). Creating an individual work identity. *Human Resource Management Review, 18*(1), 46-61.

West, M. A., Smith, H., Feng, W. L., & Lawthom, R. (1998). Research excellence and departmental climate in British universities. *Journal of Occupational and Organizational Psychology, 71*(3), 261-281.

Wuchty, S., Jones, B. F., & Uzzi, B. (2007). The increasing dominance of teams in production of knowledge. *Science, 316*(5827), 1036-1039.

Xue, Y., & Larson, R. C. (2015). STEM crisis or STEM surplus? Yes and yes. *Monthly Labor Review, 138*(5), 1-16.

Yukl, G. A. (2010). *Leadership in organizations (7th ed.)*. Upper Saddle River, NJ: Prentice Hall.

Zacher, H., & Johnson, E. (2015). Leadership and creativity in higher education. *Studies in Higher Education, 40*(7), 1210-1225.

Zacher, H., Rudolph, C. W., Todorovic, T., & Ammann, D. (2019). Academic career development: A review and research agenda. *Journal of Vocational Behavior, 110*, 357-373.

Zhang, Y., Waldman, D. A., Han, Y.-L., & Li, X.-B. (2015). Paradoxical leader behaviors in people management: Antecedents and consequences. *Academy of Management Journal, 58*(2), 538-566.