



AALBORG UNIVERSITY
DENMARK

Aalborg Universitet

Leading or Being Led: The Authentic Leadership Dilemma

Kringelum, Louise Brøns ; Mortensen, Lucia; Holmgren, Jens

Published in:
The Emerald Handbook of Authentic Leadership

Publication date:
2023

Document Version
Version created as part of publication process; publisher's layout; not normally made publicly available

[Link to publication from Aalborg University](#)

Citation for published version (APA):
Kringelum, L. B., Mortensen, L., & Holmgren, J. (2023). Leading or Being Led: The Authentic Leadership Dilemma. In R. V. Turcan, J. E. Reilly, K. M. Jørgensen, Y. Taran, & A. I. Bujac (Eds.), *The Emerald Handbook of Authentic Leadership* (pp. 417). Emerald Group Publishing.

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal -

Take down policy

If you believe that this document breaches copyright please contact us at vbn@aub.aau.dk providing details, and we will remove access to the work immediately and investigate your claim.

Chapter 19

Leading or Being Led: The Authentic Leadership Dilemma

Louise B. Kringelum, Lucia Mortensen and Jens Holmgren

Abstract

This chapter explores how industrial PhD students are engaged in authentic leadership processes while coping with challenges through self-leadership. The authors illustrate how self-leadership can be a helpful approach to managing the leading-and-being-led dilemma. They argue that self-leadership is a process of goal achievement in collaboration with key stakeholders and, therefore, an important aspect of authentic leadership. The authors identify four aspects of self-leadership that influence authenticity: roles, resources, relations and results. Kringelum, Mortensen and Holmgren call for research into the emergence of self-leadership and authentic leadership, the leadership capabilities required and the double-sidedness and dilemmas inherent in such emergences across different contexts.

Keywords: Industrial researchers; self-leadership; research dilemmas; research process reflexivity; researcher role; engaged scholarship; authenticity in research; authentic leadership; industrial PhD; PhD project; leading; being led

Q1

Introduction

Leadership is a relational process between those leading and those being led in which awareness of and interaction with oneself and others affect the degree and perception of authenticity (Fairhurst & Uhl-Bien, 2012; Sparrowe, 2005). Authenticity, an ambiguous term, can be understood as the conscious pursuit of being true to oneself and in relation to others. To emphasise the intricate balance of inward and outward leadership, we build on the work of Walumbwa et al. (2008, p. 94), who define the concept of authentic leadership as *a pattern of leader behaviour that draws upon and promotes both positive psychological capacities and a positive ethical climate, to foster greater self-awareness, an internalized moral*

perspective, balanced processing of information, and relational transparency on the part of leaders working with followers, fostering positive self-development. In the process of leading and being led, individuals continuously undergo a process of self-leadership that shapes authenticity. While the notion of people leading themselves has been fairly prevalent for the past 40 years (Manz & Sims, 1980), this aspect of it and its associated challenges and dilemmas with regard to authenticity are overlooked in research on authentic leadership. In particular, the phenomenon of authentic (self-)leadership is underexplored.

Industrial PhD fellows engage in leadership processes while coping with challenges related to self-leadership dualities and their ambition to remain authentic. That makes them exemplary cases for exploring dilemmas in authentic (self-)leadership. The challenges in the industrial PhD process are evident in the fact that PhD fellows must switch back and forth between leading (in research and practice) and being led. ‘Leading or being led’ is one of the most consistent dilemmas in industrial PhD research, though the literature lacks a focus on self-leadership and authentic leadership in this context. Self-leadership encompasses leading oneself to achieve a purpose by collaborating with relevant stakeholders through self-awareness, reflexivity and relational capabilities.

In this chapter, we explore the challenges and dilemmas related to authentic leadership from a self-leadership perspective based on our practical experiences as industrial PhD fellows. Notably, many of the dilemmas discussed can also arise in traditional PhD programmes. We discuss how self-leadership is a necessary approach to manage the ‘lead-or-be-led’ dilemma related to authentic leadership, which arises in PhD projects embedded in industrial organisations. The remainder of this chapter is organised as follows. First, we introduce the context of industrial PhD research. Next, we offer a brief review of the literature on self-leadership and its relationship with authenticity in light of the lead-or-be-led dilemma. Based on this review, we identify four aspects of self-leadership for authentic leadership founded on experiences from two industrial PhD projects (Vignette 19.1). The vignettes in this chapter provide personal examples of challenges related to the lead-or-being-led dilemma.

The Context of Industrial PhD Research

The employment of industrial PhD fellows represents a collaboration between universities, early-career researchers and private or public organisations. Organisations, for various reasons, are increasingly engaging researchers in joint knowledge production (Lam, 2007) through various forms, including collaborative research, consulting, information sharing and contract research (Perkmann & Walsh, 2008) and embedded insider-action research (Coghlan, 2007). The value of industrial PhD programmes has garnered increased attention, especially in the fields of technology and engineering (Sundström et al., 2016; Thune & Børing, 2015). Research on industry–university collaborations explores the output and impact on universities, practice and firms as well as the commercial possibilities of industrial PhD programmes (Perkmann et al., 2013). However, the literature overlooks the complexity of industrial PhDs in the social sciences, in which output is rarely patentable and the value created tends to be less tangible than in, for

example, technology and engineering programmes. In addition, the methodological challenges during such research collaborations are complex but rarely elaborated. Many of these challenges relate to the recurring dilemma of how and when to lead or be led, which stems from the relational nature of the research process and joint knowledge production.

One way to mitigate the dilemma is through van de Ven's (2007) engaged scholarship methodology. This is founded on the belief that scholars, through stakeholder interactions, should conduct participative research that can advance scientific knowledge while creating change in practice. This perspective provided the point of departure for the industrial PhD projects undertaken by two of the authors – Louise and Lucia – at the Port of Aalborg in Denmark in 2013–2020 (see Kringelum, 2017; Mortensen, 2020). During this period, the third author, Jens, was part of both the Port of Aalborg and Aalborg University, where Louise and Lucia were enrolled.

Vignette 19.1. Experiences From Industrial PhD Projects.

In August 2013, Louise was employed by the Port of Aalborg as a research assistant. Within a period of six months, she became acquainted with the day-to-day activities in departments ranging from quay piling and feeder traffic planning to strategic change processes at the top management level. During her PhD project, Louise explored the interdisciplinary concept of business model innovation at port authorities. Gaining an in-depth understanding of the organisation was a prerequisite for the second tier of her research project, leading the facilitating processes of establishing collaboration with external stakeholders and following other relevant initiatives as part of a strategic change process in practice. Thus, Louise followed various projects in practice while leading her research project.

Lucia was employed by the Port of Aalborg in January 2017 as a research and development employee with financial support from the Innovation Fund Denmark (grant no.: 5189-00211A). Her project was anchored and integrated in the Environment⁺⁺ initiative, which sought to facilitate the emergence of collaborative business models based on industrial symbiosis. The emergence of industrial symbiosis led to a complex field. Lucia had to lead her research process while mobilising and navigating multiple stakeholders and managing the process in practice. At various points, Lucia found herself as a follower of the happenings within the Environment⁺⁺ initiative, which sometimes dictated the course of her action research strategy.

While employed by the Port of Aalborg, both Lucia and Louise were affiliated with Aalborg University. The port's call for theoretical knowledge, the existing initiatives in practice and the conduct of both PhD research projects provided an ideal setting for the engaged scholarship approach: exploring the empirical field and obtaining competent professional feedback from practitioners while providing insights into and a deep understanding of the scientific field.

Authenticity and Self-Leadership

Current approaches to authentic leadership are multivariate and complex. While no universal definition of authentic leadership exists, components such as self-awareness, balanced processing, relational transparency and internalised moral perspective (Walumbwa et al., 2008) are consistently included in explorations of the concept, especially those from a social-psychological perspective. Complementary to this perspective is the more political perspective of self-formation, which, as argued by Townley (1995), is directed towards interaction with others and the reciprocity involved when one takes part in processes that require some form of management or leadership. Both perspectives relate to the process of self-leadership.

Inspired by Neck and Manz (2010), we define self-leadership as *the process of influencing oneself to achieve a specific purpose and goal and reach it with the help of the stakeholders of the project*. Authenticity entails being original, sincere and truthful to oneself and to others. Industrial PhD fellows are researchers in the making searching for self-development and working to craft their authenticity. This process demands a high degree of self-discipline and self-leadership, both of which require self-reflexivity, awareness and management strategies.

Since Manz (1986) and Manz and Sims (1980) introduced the concept of self-leadership, many scholars have contributed to understanding self-leadership as the regulation of one's thoughts and behaviours (Stewart et al., 2010) in pursuit of a final goal. Three strategy paths have been particularly prominent in the field of self-leadership: (1) behaviour-focused strategies (e.g. self-goal setting, self-reward, self-punishment, self-observation, self-cueing); (2) natural reward strategies; and (3) constructive thought pattern strategies (e.g. visualising successful performance, self-talk, evaluating beliefs, assumptions) (Houghton et al., 2012). As shown through the vignettes of two industrial PhD journeys, behavioural strategies have been central in guiding the self-leadership process.

Behaviour-focused strategies can be used to foster productive behaviours and eliminate unfavourable behaviours (Neck & Houghton, 2006). The focus should be on one's own behaviour to mitigate discrepancies between current and desired states by self-regulatory strategies (Carver & Scheier, 1998). A behaviour-modifying goal is set (desired condition) by self-goal setting. To monitor the discrepancies between the present and desired outcome, self-observation is used, on which basis behaviour is regulated through self-reward and self-punishment. *Self-leadership strategies* also require natural reward strategies (Furtner et al., 2013; Manz, 1986; Neck & Houghton, 2006). Through these strategies, some argue that people can directly influence their task-related intrinsic motivation. The focus is on the pleasant aspects of a task, so intrinsic joy and self-determination are prevalent. Self-regulation, based on underlying mechanisms of emotional regulation, is an integral part of self-leadership (Furtner et al., 2013). *Constructive thought pattern strategies*, applied in self-leadership actions, include the positive and explicit control of habitual thinking patterns (Neck & Manz, 1992). Here, pessimistic self-talk – inner dialogue demeaning one's own abilities – is replaced by reflexive analysis

and optimistic self-talk (Seligman, 1991). By evaluating one's own beliefs and assumptions, irrational or dysfunctional thought patterns can be eliminated.

These three strategies show that self-leadership covers a wide range of themes encapsulated in three central theories (Neck & Houghton, 2006): *self-regulation and control theory* (Carver & Scheier, 1998), *social cognitive theory* (Bandura, 1986, 1991) and *self-determination theory* (Deci & Ryan, 1987). Self-leadership can be connected to the prominent constructs of the need for goal achievement, self-regulation and self-efficacy.

The need for achievement is a basic and fundamental motive (McClelland et al., 1953). People are motivated to exhibit high performance and meet high internal standards (Spangler, 1992). Self-regulation theory (Carver & Scheier, 1998) concerns the distance between a standard (goal) and a current state (perceived input). Two psychological processes are associated with this distance: assessment and locomotion (Kruglanski et al., 2010; Lord et al., 2010). Assessment refers to the critical comparison of different (prospective) alternatives with regard to the advantages and disadvantages of goal options. Locomotion refers to actual behaviour with a focus on the distance between the current and desired state (Kruglanski et al., 2010).

Self-efficacy is a belief in one's own abilities, capabilities and exercise of control that impacts self-regulatory processes (Bandura, 1991). This belief determines whether and how we pursue goals and tasks, cope with different situations, investigate the pursuit of goals, deal with setbacks and, ultimately, maintain perseverance.

Self-leadership, need for achievement, self-regulation and self-efficacy are tied together by their relationship with effectiveness and performance (Bandura, 1991; Brunstein, 2008; Carver & Scheier, 1998; Neck & Houghton, 2006). Self-leadership is an acquirable competence that can provide tools for how people (e.g. industrial PhD fellows) can influence their patterns of habitual thought and behaviour to more effectively pursue results. In the pursuit of achievement, self-leadership can be used directly and indirectly to influence others (stakeholders). People must acquire self-leadership abilities to understand and manage their authenticity before being able to communicate it to others through leading and following (Pearce, 2007).

In essence, self-leadership occurs when one considers a situation, engages in comparing actions to relevant standards, suggests activities and cognitions to encourage desired behaviours and assesses how one's behaviour moves the situation towards achieving the desired result (Manz, 1986). These self-leadership components are often described through Bradley's (2014) seven leadership elements: knowing yourself; living by a vision; having trust; realising your potential; embracing influence; taking effective action; and engaging in social and personal processes.

As evident in the review of authentic leadership by Gardner et al. (2011), these self-leadership elements are prevalent in definitions of authentic leadership, mostly when defined from socio-psychological and psychological perspectives. Although aspects of authenticity have been introduced in conceptual discussions of self-leadership (e.g. Bracht et al., 2017), authenticity remains mostly in the

internal values of the leader. In contrast to the inward-looking aspects of self-leadership, authentic leadership broadens the horizon to emphasise how authentic leadership identity is co-constructed through relational and social processes, including self-leadership processes (DeRue & Ashford, 2010).

As emphasised in the definition of authentic leadership presented by Walumbwa et al. (2008), authentic leadership concerns the ability to create space for self-awareness in a way that aligns with one's own values while self-regulating, processing information and recognising one's own biases by presenting the true self to others. As *participating subjects, equally active in creating processes that require managing* (Townley, 1995, p. 285), interaction with others must be explicated, as this affects the way in which authentic leaders adjust to the expectations of others.

Due to the relational nature of the industrial PhD fellows' research process, rooted in close collaboration with practitioners, the need for authentic leadership in the research process is crucial, reflecting the socio-psychological and political dimensions of the concept. While on their journey, PhD fellows continuously shift between *roles*, leading their research project on one hand and, on the other hand, following the practice (i.e. being led by practice processes, their *relations* with supervisors and organisational stakeholders). These shifts are driven by the *resources* and objectives that surround an industrial PhD fellow, from gaining a foothold in academia through theoretical contributions to producing a tangible *result* (or even a large-scale societal impact) for the organisations involved in the project. Recurring challenges for PhD fellows include knowing when and why to take on the role of leader and knowing when and whom to follow. These, we argue, are inherently questions of self-leadership.

The interdependency between authentic leadership and self-leadership is evident, as both include the personal process of leadership, which is never done in isolation from the self. Leadership in industrial PhD processes entails taking action, taking responsibility and, at times, making difficult decisions for both research and practice. They must set management strategies to achieve their planned results. Leadership is relational: While it relies on the values, skills and competences of the person leading, thus activating its internal resources, it rests equally on the resources at hand and its relations. The quality and the capacity for self-leadership create authenticity within the leadership process – authentic leadership. Vignette 19.2 exemplifies this.

Vignette 19.2. PhD Process: An Authentic Self-Leadership Process.

Industrial PhDs such as ours deal with a high degree of complexity. We were part of both a university and a firm. Being immersed in Aalborg University as well as the organisational context of the Port of Aalborg, we kicked off our careers as novices in academia and in practice. This required a relatively high degree of interaction, engaging with multiple stakeholders and managing

multiple agendas. The lead-or-be-led dilemma emerged shortly after we started our PhD projects: Who was to take the lead? At what times? Regarding what results?

Leading, to us, meant using our ability to influence our research while guiding change processes in practice and achieving the desired results. Leading entailed complex challenges, such as balancing multiple roles in relation to practice and research process, accessing personal and organisational resources, managing a multitude of (practice and academic) relations and providing inputs through the co-creation of knowledge in pursuit of change. Such challenges triggered an internal process of reflexivity and self-leadership that entailed continual self-observation, reflexive analysis of our own and others' behaviour and perpetual adjustments in our thought patterns and behavioural strategies. It proved that self-determination was the proper path towards authenticity in both leading and being led.

As engaged scholars, we enjoyed a high degree of autonomy in defining our research direction while being immersed in the organisational context. This was both a blessing and a curse for us. The decision was ours; we could be the masters of our own research – we could lead it. At the same time, we were highly dependent on organisational factors, including organisational interests, stakeholders' agendas and colleagues' competences and knowledge, making us, in a sense, led.

While leading the PhD project was an individual process, leading change in an organisation was a collective process. Leading our research seemed straightforward, as it was entirely dependent on our own interests, capacities, skills and knowledge. Leading organisational change proved to be more complex and challenging: It required a high degree of relational transparency challenged by the multitude of objectives at play. Lucia recalls, 'I remember a time when I could see the next step clearly and could not really understand why they [i.e., the practitioners] would not see it and not want to react to this'.

In both cases, research capacities and self-awareness evolved, shaping our 'researcher' and 'practitioner' identities. This evolution depended on our ambitions to create research at a high academic level while interacting in practice and creating value for organisational stakeholders. Although these ambitions were not incompatible, the practical process of navigating between the interests of practitioners and those of academics provided a complex context for the self-leadership process and the dual focus. It required ongoing self-assessment and -awareness of when we were leading the process and when we were allowing ourselves to be led.

Self-reflexivity and self-leadership abilities provided us the ground on which to exercise authentic leadership. They also provided tools with which to navigate the complexity of our industrial PhD process – not only the multitude of stakeholders and agendas but also the uncertainty of the results and the difficult tensions between conducting research and producing change. Our research depended on happenings in practice being uncovered step by step,

(Continued)

(Continued)

leaving us with little potential to produce research results in advance and requiring a high degree of flexibility and readiness to act when a situation occurred. Louise remembers, 'The ability and desire to collaborate was in the hands of the firms, which left me dependent on their process and actions and eventually, when the collaboration failed, added new perspectives to the research field I was involved in'.

We believe that doing research supposes a relatively high degree of control and leadership, and that initiating change involves little control by PhDs, as it is dependent on the context of uncertainty that the industrial PhDs activate. Being amid uncertainty and managing it was a critical feature for us – an integral aspect of being an industrial PhD – and likely greatly contributed to crafting our authenticity.

Self-Leadership Towards Authenticity in Research and Change Processes

The nature of an industrial PhD project is two-sided. It is rooted in the interests and research of its PhD fellows and aimed at creating change in the embedded organisation. It is a process of joint knowledge production dependent on the fellows' self-awareness and competences as well as the organisation's complexity. This complexity, exemplified in Vignette 19.1, presents a multitude of challenges and requires rigorous self-reflexivity, self-determination and strategic adjustment, resulting in self-leadership processes. The challenges relate to industrial PhD fellows' *roles, relations, resources and results* (Fig. 19.1).

The choices made by PhD fellows pertain to leading or being led in both the research process and the change-making process. This presents a recurring dilemma when trying to remain true to oneself, the research and the organisation. This is the challenge of creating authenticity, which is closely linked to the interaction between those leading and those being led (followers). Authenticity is built up and *determined over time, as followers judge the extent to which a leader acts consistently, reliably takes certain stances, and behaves in accordance with organizational and societal norms* (Ladkin, 2008, p. 38). Thus, the choices throughout the self-leadership process – with PhD fellows shifting regularly between inwards and outwards reflexivity and leading and being led, playing a variety of roles, managing a multitude of relations, activating multiple resources and aiming at meaningful results – create ambiguities and consequences for the research process. We exemplify this by elaborating on the four aspects – *roles, relations, resources and results* – experienced by two of the authors.



Fig. 19.1. Four Aspects of Self-Leadership for Authenticity.

Roles

Throughout the collaborative knowledge-production process, industrial PhD fellows are faced with various expectations that represent a number of roles. Fulfilling and balancing multiple roles is challenging and depends on the self-efficacy of each PhD fellow. When moving between contexts, different objectives affect decisions. Taking on the role of (self-)leader in their research, industrial PhD fellows must believe in their ability, capabilities and internal regulation while actively pursuing their desired result. Otherwise, conducting the research while coping with different situations, managing uncertainty and handling setbacks is impossible. Capabilities develop over time and are constructed with stakeholders in organisations through self-awareness and self-development. The ability to act on one's own values (Gardner et al., 2011) is central to the creation of authenticity but can be a challenge due to varying contexts and expectations.

Being immersed in an organisation and its specific research initiatives can be rather fluid (Robson & McCartan, 2016). Industrial PhD fellows continually shift in positioning relative to the research field and the practice. This perpetual shift shapes the insider and outsider roles in relation to their position in the organisation. Managing this duality influences the research and its results. Industrial

PhD fellows benefit from shifting between modes of engaging with research and practice, though the optimal approach depends on the aim of the research and engaged scholarship (van de Ven, 2007): (1) basic research with stakeholder advice; (2) co-production of knowledge with collaborators; and (3) action/intervention research for a client. The shifts between the different forms of engaged scholarship have implications for the researcher's identity, which is created through the interplay of *doing* the research and *being* a researcher (Cunliffe & Karunanayake, 2013). So, while the research process is founded on self-leading, it is dependent on an ability to create authenticity through interaction with others leading and being led (Ladkin, 2008) to gain the necessary foothold within the organisation, which is required to explore the phenomena *with* and *in* practice (Vignette 19.3).

Vignette 19.3. The Challenge of Roles in the PhD Process.

Perceiving the researcher's positionality as influenced by degrees of engagement with practice and academia, we struggled to balance between reflecting on our accumulated experiences, co-creating knowledge with practitioners, actively participating in solving problems and moving back to basic research based on the collected data. Thus, the research processes became, for us, the outcome of these interactions. The outsider position towards the practice permitted us to create insightful reflections focused on identifying specific solutions that, when acting as an insider, permitted us to play a role in empowering the practitioners. These experiences shaped our approach and engagement with the research field and the way we engaged with respondents in our data-collection process. This reciprocally contributed to our identity generation as researchers and enabled the creation of our authenticity in the process.

Lucia recalls, 'When initiating the Environment⁺⁺ project, I was strongly engaged in "doing" the initiative along with the practitioners. At other times, I had to remain the "fly on the wall" in order to grasp the various facets of the researched phenomenon'. However, the shift between when to facilitate and when to observe proved a challenge on numerous occasions.

According to Lousie, 'During my research, it became clear that a collaboration between two companies was not feasible. As my main research question revolved on how to establish interorganisational collaboration, this required a significant reorientation from "doing" action research "for" a client to "being" a researcher observing how collaboration could not be established and accepting this process without intervention'.

We continuously worked to find a balance between taking an active role in the practice and accepting the observer role of a researcher. The knowledge we created provided answers and solutions that, at certain times, were out of our hands. Being an integrated part of an organisation but unable to implement

developed solutions conflicted with our desired impact and result, which was difficult to accept. As engaged scholars, we sought a higher degree of leadership over practice than was available to us, as the ability to lead was limited by the interchanged roles between being a researcher and practitioner and leading and being led.

We experienced the ambiguity of the duality of roles and the self-perception or self-identity. Even though we perceived ourselves as practitioners when working with practitioners and as researchers, our perceptions were frequently not shared when working with researchers. Lucia recalls, 'I remember at a meeting with colleagues from the organisation, one was treating me as the researcher who is an outsider for the firm, while at the university, a colleague was asking me to make decisions on behalf of the organisation'. Practitioners perceived us as researchers and representatives of the organisation with which we collaborated. Research colleagues asked, since we were taking part in the change processes of the organisations, how we could be anything other than process consultants? The dilemma between leading by acting and being led by following practitioners influenced our considerations of self-leadership and the reflexive insight into the degree of activism, the awareness of our role shifts and professional ambitions.

Relations

A central component of self-leadership is engagement in social and personal processes (Bradley, 2014). During the research process, creating relations with actors in both the industry and university contexts is fundamental. However, this process can be rife with practical and ethical challenges. The researcher can decide to enter the field covertly or overtly (Stafford & Stafford, 1993). When being covert, the true nature and role of the research are not revealed to those who are part of the research process; it unfolds without their explicit knowledge. Notably, this requires profound ethical considerations. Being overt allows the researcher to share the objectives of the research openly with those who are part of it, the intentions being embedded clearly within the organisational context.

As argued by Caza and Jackson (2011), a central component of authentic leadership is relational transparency (i.e. *representing oneself in relation to others according to how one perceives one's true self*). The need to find a balance between being covert and overt creates challenges for industrial PhD fellows with regard to how open they should be with whom throughout the research process. Conducting covert research hinders fellows' relational transparency and, potentially, their ability to show their true selves during the research process.

Being immersed in an organisation, it is impossible to remain a complete outsider. Whether one engages as a *participant as observer* or an *observer as participant* (Gold, 1958) shapes their potential to be authentic in the relations created during the research process. Managing this process of creating relations

with stakeholders within the organisational setting and striking the right balance ethically and methodologically is central to the research process.

This challenge can be partially addressed by defining the research question. When moving between the research questions defined (1) up close by embracing the question experienced by practitioners in the empirical field and (2) afar based on a broader theoretical context (Hatch et al., 2015; van de Ven, 2007), the research process may be characterised by a degree of co-creation with practitioners. By engaging in this process, the PhD fellow allows the organisational stakeholder to lead the research by getting to know the challenges from their perspective. This movement between up-close and afar engagement allows for the conceptualisation of real-world challenges as ontological entities and objects of scientific investigation and theory generation (Jahn et al., 2012; Wickson et al., 2006). However, as authentic leadership cannot be dissociated from the organisation in which it occurs (Algera & Lips-Wiersma, 2012), maintaining authenticity is a contextual process. When organisational actors claim and grant identities as leaders or followers throughout their social interaction within the organisational context, it provides a foundation for reciprocal role adaptation. Thus, industrial PhD fellows must be conscious of their approaches to leading and being led, as they affect their research and contributions to the entire organisation (Vignette 19.4).

Vignette 19.4. Managing Relations in the PhD Process.

Being simultaneously immersed in our research and practice, we worked in a transdisciplinary manner (Jahn et al., 2012) to identify, co-create and contextualise our research questions with practitioners while theoretically conceptualising the empirical phenomena with researchers.

A multitude of aspects of the relations challenge affected our research processes. We needed to continuously and consciously balance between working 'up close' with practitioners and working 'afar' from them (van de Ven, 2007). Many questions emerged, such as: 'How do we embrace the ever-changing practice environment?', 'How do we integrate the interests of relevant actors?', 'How can we balance knowledge creation and action in practice?' and 'When do we let ourselves be led instead of leading the research process?' These questions reflect the challenges that we encountered in the self-leadership process towards authenticity. The choices expressed themselves through the degree of relational transparency that we adopted. We had to alternate between being covert and overt as well as between being a participant in and being an observer of practice.

The relations with and variation between closeness and distancing from both researchers and practitioners offered us feelings of sameness and difference at different times. Sameness and difference were rooted in our perceptions of our own identities, education and language. Being close and acting as an

insider to practice gave us a feeling of belonging to a practitioner's group and a community spirit founded in a common language. Alternated distancing from practice and research enabled us to nurse relationships with practice and research and assured the necessary researcher reflexivity. Shifting the physical location (when distancing from practice, we worked from the office at the university and vice-versa) reinforced the conditions for stimulating our reflexivity.

These diverse contexts represent relations with academic colleagues, practitioners and ourselves. Balancing this myriad of relationships was challenging. Among the researcher colleagues, Lucia was perceived as a practitioner, while she perceived herself a researcher. She experienced the opposite dynamic among her colleagues from practice, however. Becoming conscious of one's own perceptions and the perceptions of others helped to navigate the relationships and contributed to identity development. Lucia reflects, 'I thought that I would always be between two worlds: a legitimate peripheral participant, a member and non-member of both research group and Port of Aalborg. Or one can say that I maybe benefitted from two worlds. In my case, I tried to activate all relations and turn them for the benefit of my research'. We, as industrial PhD fellows, have a choice between being and acting as a researcher or a practitioner. Remaining authentic to ourselves is possible when embracing this dual identity and consciously choosing which to enact based on the situation.

Resources

During an industrial PhD project, access to resources – both fellows' own and others – is often beyond their control. Resource dependency can create roadblocks that can potentially be alleviated when PhD fellows consciously lead their projects while simultaneously assessing the risk of unmanageable aspects. Self-leadership is partially based on self-regulation theory, which addresses the differences and distances between a current state and a desired state (Carver & Scheier, 1998). Due to the complexity of organisational settings and the often-divergent aims of stakeholders, input variables depend on the support of these stakeholders. While PhD fellows can attempt to assess alternatives and manage the resources at their disposal (namely their time), resource dependency still has an impact on the research process. In this sense, leading an industrial PhD project does not differ much from the resource scarcity present in traditional project management, for which reason the process of self-leadership is highly dependent on resource management.

Resource dependency differs across the industry and university contexts. In industry collaborations, dependency resides in the organisational challenges of access to the right people, data availability and legitimacy granted by the organisational actors. As the industry partner invests in the PhD project without knowing the exact outcome, the project requires clarification, sufficient access to

data and management support to tackle resource dependency upfront. Authentic leadership can help the industrial PhD fellow ensure the long-term endorsement of the project and secure commitment from central stakeholders. In doing so, they must follow Peus et al. (2012), who show empirically how authentic leadership can positively affect followers' organisational commitment and effort. Being authentic self-leaders, PhD fellows must secure commitment to their project from a diverse group of organisational stakeholders, leading the process in such a way that the managers of the organisation essentially become the followers of the research project, ensuring organisational support.

Resource dependency in the university context is less severe but still crucial. Access to constructive feedback from supervisors and colleagues supports the continuous loop of learning required in the cycle of engagement, analysis and reflexivity. Constructive feedback sparks energy and engagement to continue exploring while reflecting on the requirement of self-leadership and the internal challenges that this requirement could pose. All PhD fellows are dependent on interaction with peers to learn self-evaluation and develop appropriate thought patterns suited to the context.

In the self-regulatory assessment of alternative goals (Kruglanski et al., 2010), the advantages and disadvantages of authenticity must be considered. Authenticity is required to create legitimacy for the research process and support across various contexts. However, as leadership is co-constructed through relational and social processes (DeRue & Ashford, 2010), it takes time to achieve and vigour to maintain, but it is challenged by the divided attention of the PhD fellow and the expiry date of the organisation's involvement. This is further complicated by the diverse objectives of the stakeholders (Vignette 19.5).

Vignette 19.5. Resources for the PhD Process.

Becoming a part of the port organisation, both formally through a desk and ID card and informally through social activities across multiple departments, offered us access to plenty of physical, technological, human and informational resources. This access enabled us to collect data through a triangulation of methods alternating between direct observations, daily interactions, dialogue with colleagues from practice and research and in-depth interviews. Our challenge was to navigate the massive amount of information available to us and justify the highly contextual information through established research methods. Lucia often asked herself, 'What should I do with so much information? How should I make sense of the small talk and conversations at the lunch table with my colleagues?'

Our immersion in the organisation and dependence on organisational development posed challenges, as our research goals and designs had to be adaptable to developments in the organisation. Remaining true to our research

goals was hard at times. What we viewed as necessary was not necessarily perceived as relevant at that point in the organisation. This left us with no choice but to be followers of the larger processes unfolding within the organisation. Reflecting on the research process as part of a larger organisational context provided conscientisation (i.e. a deeper understanding, awareness of type and nature and acknowledgement) of relationships between our research process, the researched field and the practice, which not only provided research data but, later, could apply the results. We consider this conscientisation to be the first step towards authenticity: having your own research aim, being flexible in research design, acknowledging the interrelatedness and dependency of the research process and the larger organisational context and reflecting on one's contribution to that context. All of these may be steps towards authentic leadership that can be taken while also being led.

Results

The results of a PhD process are multifaceted and can move across multiple zones of impact, as discussed by Nielsen (2018). For the PhD fellow, the goal is to obtain a PhD degree, which requires a research product in alignment with the standard of academic rigour within the discipline. The process of self-leadership in obtaining this goal is tightly coupled with the need for achievement, which assumes that people are motivated to exhibit high performance and obtain their goals (Spangler, 1992). However, the diverse expectations of impact found in the intricate links between stakeholders presuppose diverse aspects of authenticity in the research process, which may clash with the personal need for achievement.

The focus among industry partners is closely linked to the practical impact of the research on the daily operations or strategic development of the organisation. However, as many industry partners that enter a PhD project know, the output may not be in alignment with the substantive (or temporal) expectations of the stakeholders, meaning that the motivation to engage in the project can fluctuate. What seemed like the best development path for the organisation in the first year of a PhD project may seem unnecessary by the third year. That is a risk PhD fellows must constantly manage. Sustaining a focus and motivation for the project requires authenticity in the communication and leadership of a PhD fellow.

The role of motivation in self-leading and creating authentic leadership is based on the zones of the academic, societal and practical impacts at play. As emphasised by Kempster and Parry (2012), the motivation that drives action is dependent on incentives and affected by characteristics activated in particular contexts. These characteristics can shape the nature of one's authenticity and affect one's motivation to engage in projects to gain a desired outcome (Vignette 19.6).

Vignette 19.6. The Results and Impact of the PhD Process.

One may think that the ultimate goal of a PhD fellow is to obtain a PhD degree. While this goal is true in the case of all PhDs, as industrial PhDs, we added an additional layer of complexity to the goal by striving: (1) to provide deeper insights into the researched field through data collected and often co-created alongside practitioners and (2) to contribute to practice through relevant and contemporary research. From that ambition, we continuously reflected on how to meet the practical and academic requirements while obtaining a balance between the intrinsic goal of obtaining the PhD degree and serving the organisation's interests. Balancing these expectations and our ambitions required continuous reflection on the research process and the actions needed to meet these requirements. We set in place dynamics of learning and empowering stakeholders through consistent meetings with them to ensure knowledge transfer and the co-production of knowledge.

We worked to enable the practitioners to contribute to the knowledge-creation and integration process. However, practitioner engagement fluctuated. Reflections on how to deal with practitioners' individual capacities, values and beliefs while nursing our own capacities, values and beliefs were part of the entire PhD process. It required high commitment, flexibility and openness. We had to make continual theoretical and methodological adjustments and prioritise between research activities and engagement in practice/organisational initiatives. Our longitudinal research design in both PhD processes allowed us to balance academic interests with the practitioners' expectations.

Although communication challenges were an integral part of the PhD process, the research results and contributions constituted an outcome of our relational communication with organisational stakeholders. During the PhD process, we reflected on countless questions, such as: How exactly should we communicate with practitioners to pursue the co-creation of knowledge? With whom should we try to communicate? When and what should we communicate from our research? We acquired a new common vocabulary and strong communication skills rooted in an understanding of the organisational and local context and through consistent interactions with practitioners. This enabled us to formulate the results of our PhD projects in a manner that was accessible to the practitioners without compromising on academic standards. This translation was a process of maintaining authenticity and commitment from both academic and practitioner followers throughout the process.

Implications

At the nexus of practice and research, industrial PhD fellows find themselves dealing with a multitude of challenges and dilemmas, of which the lead-or-be-led dilemma is the most intricate. By focusing on the under-explored phenomenon of authentic (self-)leadership in the context of two industrial PhD processes, this

chapter identified four factors that can influence authenticity and lead to authentic leadership.

The four factors are evident across multiple challenges that arise for industrial PhDs. They must methodologically and reflexively manage shifts between theoretical and practical exploration while orienting back and forth between *roles* in line with their research and the change in practice. They need to manage the multivariate nature of *resources* and the complexity of *relations* – aspects that are often beyond their control. This must be done while maintaining an individual focus on the desired *results* and in relation to industry and academic stakeholders. These continual shifts accentuate the need for self-leadership to create and maintain authenticity. Thus, authentic (self-)leadership is shaped and must be maintained as the PhD advances.

As emphasised throughout this chapter, self-leadership is a process of achieving goals in collaboration with stakeholders. For this reason, it is an important aspect of authentic leadership that must be explicated, as the two concepts are tightly linked. The implication of this link is two-fold, concerning the theoretical and practical interplay between self-leadership and authenticity and the organisational setup for authentic leadership. These implications are elaborated below.

First, underlining the need for exploring and optimising the interplay of inward and outward leadership and supporting the view of DeRue and Ashford (2010), we argue that authentic leadership broadens the horizon to emphasise how (authentic) leadership identity is co-constructed through relational and social processes, including self-leadership processes. Whether managing an industrial PhD project or a project within or between organisational units, where the significance of the different aspects, roles, resources, results and relations may differ, the need to consider the link between aspects of self-leadership and authenticity is essential. The link is prevalent in the four aspects shown in Fig. 19.1, as they reflect arenas of negotiation in which different strategies of self-leadership come into play. The mix of behaviour-focused, natural reward and constructive thought pattern strategies is consciously or unconsciously shaped by authenticity. Authentic leadership is highly relational in nature, depending equally on one's internal capacities, the conscientisation of those capacities (which helps leaders to make deliberate choices) and organisational resource relations. This reflects that, while the interplay between self-leadership and authentic leadership is overlooked in research, it has the potential to bridge goal-oriented behaviour with the socio-psychological aspects of authenticity. Further empirical exploration of the link between these concepts in practice is an important avenue for future research.

Second, initiating a change process – as exemplified by an industrial PhD – is collaborative, meaning that it requires an appropriate organisational setup, especially when the process (e.g. research) is oriented towards impacting both organisations and society. Managing diverse and potentially divergent objectives from different organisational (e.g. industrial, academic) contexts while self-leading in accordance with one's beliefs is a comprehensive task. The multivariate aims and ambitions and the contextual diversity create complexity, but they also provide means of creating distance from one context and getting closer

to another. The contexts must be prepared to ensure relations and allocate resources to the processes that they accommodate (e.g. from public stakeholders like Innovation Fund Denmark to firms that fund private PhD projects). This process is tied to the outcome of the research, which can impact organisational practices and the effects derived from employing researchers and allowing them access to the organisation.

The complexity of environments, relationships, resources and the shifts between roles require proficient assessment and navigation towards the ultimate goal. The PhD fellows, just like any other in processes of leadership and/or followership, must mobilise belief in their capacities and capabilities, stimulate self-efficacy in pursuit of their goals and adapt to different situations. Simultaneously, they must remain flexible and agile to be able to navigate their research field, the practice and stakeholder interests. Flexibility and agility enable them to navigate the lead-or-be-led dilemma. While this dilemma remains an integral part of the PhD process, it occurs in varying degrees of intensity alongside other research processes, reflecting the concept of temporality. The researcher finds themselves in different contexts and situations with various perceptions based on feedback from practitioners and research fellows, accentuating the self over time and reinforcing identity building towards the end of the research process. Acknowledging the entanglement of roles, resources, results and relations allows (in this case) PhD fellows to accept and embrace the duality of leading *and* being led.

Conclusion

While the duality between leading and being led constitutes a dilemma for industrial PhD fellows, the practical experiences presented above suggest that it is an integral feature of industrial research that every industrial PhD fellow will meet and need to learn to cope with. We argue that this dynamic is also present in other processes and contexts. Taking reflexive action and embracing this duality appears to be a way towards authentic leadership.

We recognise that authenticity is an ambiguous term. Our chapter, while providing new insights into certain aspects of leadership, may be seen as adding to the ambiguity. We see 'authenticity' as contextual, meaning it has chameleon-like qualities. Our dilemma – oscillating between leading and being led and seeking to establish different manifestations of our 'authenticity' across diverse environments – adds to the ambiguity of the term. We highlight fresh experiential perspectives on self-leadership as the basis for exercising leadership and essential to the creation of personal authenticity. Our auto-ethnographic case study suggests that this may be a fruitful field for further research. Is authenticity a process of negotiation? Should more attention be paid to being 'goal-oriented' as a key motivator in leadership, as argued here? Is the 'leading and being led' dual identity a general phenomenon in leadership? If so, what are its implications? Another area for future research is the self-evident but underexplored relationship between the exercise of leadership and access to resources.

Exercising authentic leadership rests on central aspects of self-leadership for industrial PhD fellows and leaders in general. Naturally, this leads to the question of whether self-leadership can be inauthentic and, if so, what the implications of inauthentic self-leadership may be. Can we thrive as leaders without authenticity? The emergence of self-leadership and authentic leadership across different contexts, the leadership capabilities required and the double-sidedness and dilemmas inherent in such emergences are important questions for future research.

References

- Algera, P. M., & Lips-Wiersma, M. (2012). Radical authentic leadership: Co-creating the conditions under which all members of the organization can be authentic. *The Leadership Quarterly*, 23(1), 118–131. <https://doi.org/10.1016/j.leaqua.2011.11.010>
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Prentice-Hall.
- Bandura, A. (1991). Social cognitive theory of self-regulation. *Organizational Behavior and Human Decision Processes*, 50(2), 248–287. [https://doi.org/10.1016/0749-5978\(91\)90022-L](https://doi.org/10.1016/0749-5978(91)90022-L)
- Bracht, E. M., Junker, N. M., & van Dick, R. (2017). Exploring the social context of self-leadership—Self-leadership-culture. *Journal of Theoretical Social Psychology*, 2(4), 119–130. <https://doi.org/10.1002/jts5.33>
- Bradley, D. J. (2014, May 14). *What is self-leadership*. Medium. <https://medium.com/leaders-of-the-future/what-is-self-leadership-6c2991969f0a>
- Brunstein, J. C. (2008). Achievement motivation. In J. Heckhausen & H. Heckhausen (Eds.), *Motivation and action* (pp. 137–183). Cambridge University Press. <https://doi.org/10.1017/CBO9780511499821.007>
- Carver, C. S., & Scheier, M. F. (1998). *On the self-regulation of behavior*. Cambridge University Press. <https://doi.org/10.1017/CBO9781139174794>
- Caza, A., & Jackson, B. (2011). Authentic leadership. In A. Bryman, D. Collinson, K. Grint, B. Jackson, & M. Uhl-Bien (Eds.), *Sage handbook of leadership* (pp. 350–362). Sage.
- Coghlan, D. (2007). Insider action research doctorates: Generating actionable knowledge. *Higher Education*, 54(2), 293–306. <https://www.jstor.org/stable/29735111>
- Cunliffe, A. L., & Karunanayake, G. (2013). Working within hyphen-spaces in ethnographic research: Implications for research identities and practice. *Organizational Research Methods*, 16(3), 364–392. <https://doi.org/10.1177/1094428113489353>
- Deci, E. L., & Ryan, R. M. (1987). The support of autonomy and the control of behavior. *Journal of Personality and Social Psychology*, 53(6), 1024–1037. <https://doi.org/10.1037//0022-3514.53.6.1024>
- DeRue, 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. <https://doi.org/10.5465/AMR.2010.53503267>
- Fairhurst, G. T., & Uhl-Bien, M. (2012). Organizational discourse analysis (ODA): Examining leadership as a relational process. *The Leadership Quarterly*, 23(6), 1043–1062. <https://doi.org/10.1016/j.leaqua.2012.10.005>

- Furtner, M. R., Baldegger, U., & Rauthmann, J. F. (2013). Leading yourself and leading others: Linking self-leadership to transformational, transactional, and laissez-faire leadership. *European Journal of Work & Organizational Psychology*, 22(4), 436–449. <https://doi.org/10.1080/1359432X.2012.665605>
- Gardner, W. L., Coglisier, C. C., Davis, K. M., & Dickens, M. P. (2011). Authentic leadership: A review of the literature and research agenda. *The Leadership Quarterly*, 22(6), 1120–1145. <https://doi.org/10.1016/j.leaqua.2011.09.007>
- Gold, R. L. (1958). Roles in sociological field observations. *Social Forces*, 36(3), 217–223. <https://doi.org/10.2307/2573808>
- Hatch, M. J., Schultz, M., & Skov, A. M. (2015). Organizational identity and culture in the context of managed change: Transformation in the Carlsberg Group, 2009–2013. *Academy of Management Discoveries*, 1(1), 58–90.
- Houghton, J. D., Dawley, D., & DiLiello, T. C. (2012). The Abbreviated Self-Leadership Questionnaire (ASLQ): A more concise measure of self-leadership. *International Journal of Leadership Studies*, 7(2), 216–232. <https://doi.org/10.1080/00223980.2010.548412>
- Jahn, T., Bergmann, M., & Keil, F. (2012). Transdisciplinarity: Between mainstreaming and marginalization. *Ecological Economics*, 79, 1–10. <https://doi.org/10.1016/j.ecolecon.2012.04.017>
- Kempster, S., & Parry, K. (2012). Exploring observational learning in leadership development for managers. *The Journal of Management Development*, 33(3), 164–181. <https://doi.org/10.1108/JMD-01-2012-0016>
- Kringelum, L. B. (2017). *Transcending organizational boundaries: Exploring intra- and inter-organizational processes of business model innovation in a port authority*. Doctoral dissertation, Aalborg University.
- Kruglanski, A. W., Orehek, E., Higgins, E. T., Pierro, A., & Shalev, I. (2010). Modes of self-regulation: Assessment and locomotion as independent determinants in goal pursuit. In R. H. Hoyle (Ed.), *Handbook of personality and self-regulation* (pp. 375–402). Wiley-Blackwell. <https://doi.org/10.1002/9781444318111.ch17>
- Ladkin, D. (2008). Leading beautifully: How mastery, congruence and purpose create the aesthetic of embodied leadership practice. *The Leadership Quarterly*, 19(1), 31–41. <https://doi.org/10.1016/j.leaqua.2007.12.003>
- Lam, A. (2007). Knowledge networks and careers: Academic scientists in industry–university links. *Journal of Management Studies*, 44(6), 993–1016. <https://doi.org/10.1111/j.1467-6486.2007.00696.x>
- Lord, R. G., Diefendorff, J. M., Schmidt, A. M., & Hall, R. J. (2010). Self-regulation at work. *Annual Review of Psychology*, 61, 543–568. <http://doi.org/10.1146/annurev.psych.093008.100314>
- Manz, C. C. (1986). Self-leadership: Toward an expanded theory of self-influence processes in organizations. *Academy of Management Review*, 11(3), 585–600. <https://doi.org/10.2307/258312>
- Manz, C. C., & Sims, H. P., Jr. (1980). Self-management as a substitute for leadership: A social learning perspective. *Academy of Management Review*, 5(3), 361–367. <https://doi.org/10.2307/257111>
- McClelland, D. C., Atkinson, J. W., Clark, R. A., & Lowell, E. L. (1953). Toward a theory of motivation. In D. C. McClelland, J. W. Atkinson, R. A. Clark, & E. L. Lowell (Eds.), *The achievement motive* (pp. 6–96). Appleton-Century-Crofts.

- Mortensen, L. (2020). *Industrial symbiosis emergence: In the Aalborg East Port Industrial Area*. Doctoral Dissertation.
- Neck, C. P., & Houghton, J. D. (2006). Two decades of self-leadership theory and research: Past developments, present trends, and future possibilities. *Journal of Managerial Psychology, 21*(4), 270–295. <http://doi.org/10.1108/02683940610663097>
- Neck, C. P., & Manz, C. C. (1992). Thought self-leadership: The influence of self-talk and mental imagery on performance. *Journal of Organizational Behavior, 13*(7), 681–699. <https://doi.org/10.1002/job.4030130705>
- Neck, C. P., & Manz, C. C. (2010). *Mastering self-leadership: Empowering yourself for personal excellence* (5th ed.). Prentice Hall.
- Nielsen, R. K. (2018). Impact zones. PowerPoint Presentation.
- Pearce, C. L. (2007). The future of leadership development: The importance of identity, multi-level approaches, self-leadership, physical fitness, shared leadership, networking, creativity, emotions, spirituality and on-boarding processes. *Human Resource Management Review, 17*(4), 355–359. <https://doi.org/10.1016/j.hrmr.2007.08.006>
- 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. <https://doi.org/10.1016/j.respol.2012.09.007>
- Perkmann, M., & Walsh, K. (2008). Engaging the scholar: Three types of academic consulting and their impact on universities and industry. *Research Policy, 37*, 1884–1891. <https://ssrn.com/abstract=1133581>
- Peus, C., Wesche, J. S., Streicher, B., Braun, S., & Frey, D. (2012). Authentic leadership: An empirical test of its antecedents, consequences, and mediating mechanisms. *Journal of Business Ethics, 107*(3), 331–348. <https://doi.org/10.1007/s10551-011-1042-3>
- Robson, C., & McCartan, K. (2016). *Real world research: A resource for users of social research methods in applied settings* (4th ed.). John Wiley & Sons.
- Seligman, M. E. P. (1991). *Learned optimism*. Knopf.
- Spangler, W. D. (1992). Validity of questionnaire and TAT measures of need for achievement: Two meta-analyses. *Psychological Bulletin, 112*(1), 140–154. <https://doi.org/10.1037/0033-2909.112.1.140>
- Sparrowe, R. T. (2005). Authentic leadership and the narrative self. *The Leadership Quarterly, 16*(3), 419–439. <https://psycnet.apa.org/doi/10.1016/j.leaqua.2005.03.004>
- Stafford, M. R., & Stafford, T. F. (1993). Participant observation and the pursuit of truth: Methodological and ethical considerations. *Journal of the Market Research Society, 35*(2), 63–77. <https://www.jstor.org/stable/4189212>
- Stewart, G. L., Courtright, S. H., & Manz, C. C. (2010). Self-leadership: A multilevel review. *Journal of Management, 37*(1), 1–38. <https://doi.org/10.1177/0149206310383911>
- Sundström, A., Widforss, G., Rosqvist, M., & Hallin, A. (2016). Industrial PhD students and their projects. *Procedia Computer Science, 100*, 739–746. <http://doi.org/10.1016/j.procs.2016.09.219>
- Thune, T., & Børing, P. (2015). Industry PhD schemes: Developing innovation competencies in firms? *Journal of the Knowledge Economy, 6*(2), 385–401.

- Townley, B. (1995). 'Know thyself': Self-awareness, self-formation and managing. *Organization*, 2(2), 271–289. <https://doi.org/10.1177/135050849522010>
- van de Ven, A. H. (2007). *Engaged scholarship: Creating knowledge for science and practice*. Oxford University Press.
- Walumbwa, F. O., Avolio, B. J., Gardner, W. L., Wernsing, T. S., & Peterson, S. J. (2008). Authentic leadership: Development and validation of a theory-based measure. *Journal of Management*, 34(1), 89–126. <https://doi.org/10.1177/0149206307308913>
- Wickson, F., Carew, A. L., & Russel, W. (2006). Transdisciplinary research: Characteristics, quandaries and quality. *Futures*, 38(9), 1046–1059. <https://doi.org/10.1016/j.futures.2006.02.011>

Author Query Form

Queries and/or remarks

[Q1]	Note that as per style, there should be minimum of 6 and maximum of 10 keywords allowed. Please delete remaining keywords.
------	--

Uncorrected Proof

TURCAN CH019

Non Print Items

Louise B. Kringelum
Aalborg University, Denmark

Lucia Mortensen
Center for Logistics and Cooperation, Denmark

Jens Holmgren
Aalborg University, Denmark

Uncorrected Proof