Leadership, Motivation and Span of Control

Louise Ladegaard Bro

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PhD Dissertation

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Chapter 1.
Introduction

Public organizations implement policy goals set by democratically elected politicians and provide a range of services with importance for citizen welfare. The performance of public organizations is therefore a central question for public administration scholars and practitioners alike. However, increasing demands from the public as well as demands for cost stability (or even cost reduction) can make performance improvements a challenging task. Since public employees are a major part of the service provision, researchers have long suggested employee motivation as a way to accommodate such challenges (Kjeldsen 2012a; Jensen 2016). The question is how we can support employee motivation, and public administration literature increasingly recognizes leadership as a lever in this regard (Wright, Moynihan & Pandey 2012; Vogel & Masal 2015).

The call for good public leadership is also present in the public debate and among politicians. In the recent establishment of the Danish Leadership Commission, the Danish government stated that "good leadership provides better quality in the welfare services and contributes to the best possible welfare for the money" (terms of reference, Danish Leadership Commission 2017, 2). However, it is not always clear what good leadership means. According to the commission, leadership is about "setting a direction and creating results through and together with others" (Danish Leadership Commission 2018, 9). In public organizations, the definition implies that managers set a direction for their organization and work to achieve results through and together with the employees. This definition of leadership fits quite well with the aim to increase employees' motivation to perform, and the definition is applied in this dissertation.

However, the definition leaves room for many different ways of "setting a direction" and "achieving results through others". In generic leadership literature, transformational leadership has long been recognized as a particularly successful way (Van Knippenberg & Sitkin 2013). In the words of Bernard Bass, one of its founding fathers, "transformational leadership occurs when leaders broaden and elevate the interest of their employees, when they generate awareness and acceptance of the purpose and mission of the group, and when they stir their employees to look beyond their own self-interest for the good of the group" (Bass 1990, 21). Thus, a core element of transformational leadership concerns the articulation of important missions and outcomes, and scholars have long debated whether this makes the leadership strategy more

or less relevant in public organizations. On one hand, the argument is that public organizations – more than private organizations – rely on bureaucratic control mechanisms that provide institutional substitutes for leadership (Wright & Pandey 2010, 76). One the other hand, meta-analyses consistently find that transformational leadership is at least as common and effective in public organizations (Lowe, Galen Kroeck & Sivasubramaniam 1996; Dumdum, Lowe & Avolio 2002, see also Wright & Pandey 2010, 76). Furthermore, when tested directly, human resource or procurement red tape have no effect on the prevalence of the strategy (Wright & Pandey 2010, 85). In fact, because public organizations can draw on strong service- and community-oriented visions, the argument is now that transformational leadership is *particularly* relevant in public organizations (Wright & Pandey 2010; Wright, Moynihan & Pandey 2012).

Developing the proposition, researchers link transformational leadership to a specific type of motivation – namely public service motivation (PSM). PSM is a specific type of pro-social motivation, that is defined as "an individual's orientation to delivering services to people with the purpose to do good for others and society" (Hondeghem & Perry 2009, 6). Because PSM has implications for the performance in public organizations (e.g. Andersen, Heinesen & Pedersen 2014; Bellé 2012), finding ways to increase it is an essential step towards the fulfillment of organizational goals. Studies with focus on the visionary aspect of transformational leadership suggest that the strategy is an important step in this direction, at least when there is no strong value conflict (Paarlberg & Lavigna 2010; Wright, Moynihan & Pandey 2011; Krogsgaard, Thomsen & Andersen 2014). More specifically, the argument is that leaders in public organizations can use visions to capitalize on the match between the PSM of individual employees and the social purpose of the organization (Jensen 2016, 11).

To build on existing public administration research, the understanding of transformational leadership in this dissertation revolves around a set of behaviors to articulate and share a vision; that is, an idealized portrait of what an organization aspires to achieve (Carton, Murphy & Clark 2014, 1544; Jensen 2016, 11). More specifically, the concept of transformational leadership is developed and defined as "behaviors that seek to develop, share and sustain a vision with the intent to encourage employees to transcend their own self-interest and achieve organizational goals (paper A in the dissertation).

The first aim in this dissertation is to increase our knowledge of the consequences that transformational leadership can have for employee motivation. Existing studies suggest a positive correlation between the concepts, but there are at least three reasons why the correlation needs further elaboration and examination.

First, PSM is a type of pro-social motivation which refer to the motivation to do good for groups of people and society (Jensen & Andersen 2015). In contrast, user orientation refer to the motivation to do good for *specific users* of a service (e.g. Andersen, Pallesen & Pedersen 2011, Jensen & Andersen 2015), and this might be a more relevant lever to pull when using visions to fuel employee effort. Furthermore, not all types of motivation are based on a desire to do good but could rely on an inherent interest in and enjoyment of the work itself. This type of motivation is called "intrinsic motivation" and has in general gained broad attention in public administration literature (e.g. Georgellis, Iossa & Tabvuma 2010; Andersen, Kristensen & Pedersen 2011; Jacobsen, Hvitved & Andersen 2014; Mikkelsen, Andersen & Jacobsen 2015). However, in relation to transformational leadership, the research is scarce (see Andersen, Boye & Laursen 2018 for a recent exception). Therefore, to fully grasp the motivational potential of transformational leadership, we need to account for different types of motivation besides PSM. This dissertation focuses on intrinsic motivation and user orientation as other, relevant types of motivation. The common denominator for the three types of motivation is that they are all autonomous, which means that they are not dependent on pecuniary rewards or sanctions (see chapter 2). Thus, when public organizations are asked to increase performance without increasing costs, autonomous types of motivation may be an important tool.

Second, although several empirical studies link transformational leadership and PSM, we do not know much about the mechanisms that drive the relationship between the concepts and whether the mechanisms are the same for different types of motivations. Understanding the mechanisms is important because managers can use the information in decisions on how to motivate employees to achieve organizational goals (paper D in the dissertation).

Third, based on existing studies of transformational leadership and PSM, it is hard to draw causal conclusions. Existing studies emphasize a visionary aspect of transformational leadership, but we need to develop this understanding of the concept further – along with the empirical research of it. Generic leadership literature criticizes the traditional conceptualization and operationalization of the strategy heavily (Van Knippenberg & Sitkin 2013), and we should address this critique when we advance the relevance of transformational leadership in public administration research. Furthermore, existing public administration studies mainly examine the relationship between transformational leadership and employee motivation based on quantitative, cross-sectional designs with employee ratings of the concepts (Park & Rainey 2008; Wright, Moynihan & Pandey 2012; Krogsgaard, Thomsen & Andersen 2014). These studies do not allow for empirical validation of strategy: how it plays out in a real-world setting, and whether theorized links between the strategy

and different types of motivations can be observed. In addition, the studies do not handle concerns for reversed causality (where employee motivation might in fact determine the type of leadership that managers exhibit) or discuss differences between employee-perceived and manager-perceived transformational leadership.

For these three reasons, the dissertation re-conceptualizes transformational leadership with an emphasis on visions, theorizes the mechanisms between transformational leadership and different types of employee motivation, and tests the expectations with both qualitative and quantitative methods – and with different designs.

The second aim of the dissertation is to increase our knowledge of the structural circumstances that best supports the use of transformational leadership. Leadership does not take place in a vacuum (Porter & McLaughlin 2006) but in a specific structural context that is sometimes altered by political decisions. Span of control (the number of employees that one manager oversees (Meier & Bothe 2003, 61)) is one such structure. For example, based on expectations of economy of scale and cost reductions, many Danish welfare organizations have been merged in the past ten fifteen years (e.g. Nøhr et al., 2012, Holm-Petersen & Rieper 2010). As a result the number of employees per manager has increased (e.g. Holm-Petersen & Rieper 2013). While this could have important implications for transformational leadership, there are only few studies on the subject (Gumusluoglua, Karakitapoğlu-Aygüna & Hirst 2013; Doran et al. 2004) These studies find that the effect of transformational leadership decreases as the span of control increases but do not show how span of control affects the *use* of the strategy. Especially in terms of the use of transformational leadership, span of control can have different consequences than what existing studies assume. To elaborate this argument, it is necessary to integrate the concept of leadership identity. Defined as "the extent to which a leader thinks of him- or herself as a leader" (paper I in the dissertation), leadership identities are positively associated with the likelihood of emerging as a leader (Kwow et al. 2018) and the frequency and duration of different leadership strategies (Johnson et al. 2012). Importantly, not all people in formal management positions hold strong leadership identities (DeRue & Asford 2010; Kwow et al. 2018), and span of control might play an important role in this regard. When span of control increases, the manager's power and authority increase, which means that employees become more likely to afford the managers with prestige and positive qualities (Cole, Bruch & Shamir 2009). When managers receive validation from others, their self-confidence and motivation to lead are likely to increase (Ibarra et al., 289). Conversely, when span of control decreases, managers are more likely to become involved in the

day-to-day work of the employees; more likely to experience intimate relationships with the employees, and more likely to view themselves as *primus inter pares* (the first among equals) rather than as leaders. Given this argumentation, span of control could have a positive effect on transformational leadership through leadership identity (the above arguments draw on papers F, H and I in the dissertation). However, when span of control increases, it also becomes harder for managers to communicate their vision to the employees (Gumusluoglua et al. 2013; Doran et al. 2004; papers F, H and I in the dissertation). Span of control could therefore also have a negative effect on transformational leadership. Which mechanism is strongest or whether the mechanisms cancel each other out are questions that existing research fails to address. To begin this task, the dissertation focuses on the link between span of control and transformational leadership and investigates whether leadership identity helps explain this relationship. Again, to allow for in-depth insights and generalizability of results, the consequences of span of control are investigated by both qualitative and quantitative methods.

In sum, based on the theoretical and empirical shortcomings regarding the motivational effects and structural determinants of transformational leadership, the research question is:

What are the associations between span of control, leadership identity, transformational leadership and employee motivation?

The research question is specified in the following sub-questions:
1. How does transformational leadership affect different types of employee motivation?
2. What are the associations between span of control, leadership identity and transformational leadership?

The dissertation consists of several elements; the present summary report and the articles and book chapters presented in the list below and in table 1.1 (from here on referred to as papers). The 11 papers address the conceptualization of transformational leadership (paper J), the need for experiments in public leadership research (paper K), or one or both sub-questions (paper A-I). Table 1.1 provides on overview of the papers and the sub-question(s) that each paper contributes to.

The remainder of the summary report is structured as follows: Chapter 2 conceptualizes transformational leadership, employee motivation and leadership identity. Chapter 3 presents the methodological approaches and considerations across the papers, and Chapter 4 presents the main results. Chapter

5 discusses the theoretical contributions and implications of the dissertation, its limitations and suggestions for future research.

List of papers in the dissertation:
A. Lotte Bøgh Andersen, Bente Bjørnholt, Louise Ladegaard Bro & Christina Holm-Petersen (2016). "Leadership and Motivation: A Qualitative Study of Transformational Leadership and Public Service Motivation". *International Review of Administrative Sciences*.

B. Louise Ladegaard Bro, Lotte Bøgh Andersen & Anne Bøllingtoft (2017). "Low-Hanging Fruit: Leadership, Perceived Prosocial Impact, and Employee Motivation". *International Journal of Public Administration*

C. Louise Ladegaard Bro & Ulrich Thy Jensen (2017). "Does Transformational Leadership Stimulate User Orientation? Evidence from a Field Experiment". *Invited for second R&R*.

D. Ulrich Thy Jensen & Louise Ladegaard Bro (2018). "How Transformational Leadership Supports Intrinsic Motivation and Public Service Motivation: The Mediating Role of Basic Need Satisfaction". *American Review of Public Administration*.

E. Louise Ladegaard Bro (2018). "Hvad ledere (tror de) gør, og hvad medarbejderne ser – fokus på transformationsledelse", *Chapter 3 in a Danish book manuscript and associated background report*.

F. Louise Ladegaard Bro (2017). "How Organizational Structures Matter to Transformational Leadership: Theorizing on Communication Richness and Leadership consensus". *Working paper*.

G. Lotte Bøgh Andersen, Bente Bjørnholt, Louise Ladegaard Bro & Christina Holm-Petersen (2018). "Achieving High Quality through Transformational Leadership: A Qualitative Multi-Level Analysis of Transformational Leadership and Perceived Professional Quality". *Public Personnel Management*.

H. Louise Ladegaard Bro (2016). "Store, små eller rettere mellemstore ledelsesspænd? En undersøgelse af sammenhængen mellem ledelsesspænd, ledelsesidentitet og brugen af transformationsledelse i danske daginstitutioner". *Politica*.

I. Caroline Louise Howard Grøn, Louise Ladegaard Bro & Lotte Bøgh Andersen (2018). "Leadership Identity: Concept, Causes and Consequences among Public Managers". *EGPA conference 2018*.

J. Ulrich Thy Jensen, Lotte Bøgh Andersen, Louise Ladegaard Bro, Anne Bøllingtoft, Tine Louise Mundbjerg Eriksen, Ann-Louise Holten, Christian Bøtcher Jacobsen, Jacob Ladenburg, Poul Aaes Nielsen, Heidi Houl-

berg Salomonsen, Niels Westergård-Nielsen & Allan Würtz (2016). "Conceptualizing and Measuring Transformational and Transactional Leadership". *Administration & Society*

K. Lotte Bøgh Andersen, Louise Ladegaard Bro, Anne Bøllingtoft & Jacob Ladenburg (2017). "Experimenting with Leadership in Public Organizations". Chapter in *Experiments in Public Management Research: Challenges and Contributions*. Cambridge University Press.

Table 1.1. Short titles and sub-question addressed

Paper	Short title	Sub-question*
A	Leadership and motivation	1
B	Low-hanging fruit	1
C	User orientation	1
D	Mediators	1
E	Perceived leadership	1
F	Theorizing on structures and mechanisms	2
G	Professional quality and span of control	2
H	Span, identity and TFL	2
I	Span, identity and goal-oriented strategies	2
J	Concept and measures	-
K	Experimenting with leadership	-

*Sub-question 1: How does transformational leadership affect different types of employee motivation?

*Sub-question 2: What are the association between span of control, leadership identity and transformational leadership?

Chapter 2. Conceptualizations

This chapter elaborates on the main perceptual concepts in the dissertation: transformational leadership, employee motivation and leadership identity. Conceptualizations of other variables can be found in the individual papers.

2.1. Conceptualization of transformational leadership

Transformational leadership is traditionally conceptualized by Burns (1978) and Bass (1985) and has up until 2013 enjoyed the reputation in the generic leadership literature as "the *most* effective form of leadership" (Knippenberg & Sitkin 2013, 2). Originally, the concept is comprised of four dimensions: idealized influence, inspirational motivation, individualized consideration and intellectual stimulation (Bass 1985). However, as discussed in paper J, "Concepts and measures", critical voices express concerns about the conceptualization of the construct and its associated measures (Knippenberg & Sitkin 2013). This criticism involves three main arguments. First, the four-dimensional concept confounds the definition of transformational leadership with its effects (Knippenberg & Sitkin 2013), which makes it difficult to investigate the association between the concept and its suggested outcomes. For example, if transformational leadership is defined as a strategy that instills motivation in employees (Bass, 1985; Jung & Avolio 2000; paper J), low levels of employee motivation means that the leadership strategy is, per definition, not transformational (paper J). Second, the dimensions of transformational leadership are not exhaustively theorized (Knippenberg & Sitkin 2013). For example, it is not clear how the dimensions differ or what their common unifying factor is. Finally, the traditional conceptualization does not suggest boundary conditions for the application of the concept (paper J).

To accommodate these shortcomings, paper J conceptualizes transformational leadership as a one-dimensional construct that centers on "behaviors that seek to develop, share and sustain a vision with the intention to encourage employees to transcend their own self-interest and achieve organizational goals" (paper J, 8). This definition implies the leader's attempt to 1) formulate the organizational goals as a desirable future (a vision); 2) to communicate the vision and explicate how the employees' day-to-day activities support the achievements of the vision; and 3) to sustain the vision in the short and the

long run (Paper J, 6-7; paper F, 4-5). To sustain the vision, leaders continuously attempt to emphasize how employees contribute to the organization, and they strive to reinforce the perception of task significance and the employees' energy to pursue certain actions (Wright, Moynihan & Pandey 2011; paper J, 7; paper F, 4-5).

Because the three behaviors are often intertwined and only theoretically meaningful if used together, they are regarded as a reflection of the same (latent) ambition of the leader to transform the employees to share and act on the vision (paper J, 8). While the end goal of making employees transcend their self-interest is in line with the original understanding of transformational leadership as conceptualized by Bass (1985; 1990), the definition also implies that the manager might not succeed. It thus separates the definition of transformational leadership from its suggested effects.

Another discussion regarding the conceptualization of transformational leadership concerns the difference between employees' and managers' perceptions of a strategy. Although transformational leadership is enacted by managers, public administration studies measure the concept at the individual employee level. If we are interested in actual transformational behaviors, this might not be the most accurate measure; however, managers' perception is not necessarily a better alternative. In fact, according to the self-other agreement literature and the HRM literature, both managers' self-ratings and employees' other-ratings (of the manager) should be regarded as different from actual leadership practice[1] (Jacobsen & Andersen 2015). The arguments are elaborated below.

First, the view in the self-other agreement literature is that manager-based leadership ratings are prone to social desirability bias. When people assess their own behaviors, they tend to focus on positive rather than negative aspects and therefore overrate behaviors that are seen as positive (Atwater & Yammerino 1992; Fleenor et al. 2010; Jacobsen & Andersen 2015). Furthermore, other-ratings (employees' ratings) are likely to be influences by individual employee characteristics, motivation and cognitive processes as well as manager-employee relationships (Fleenor et al. 2010).

Second, the HRM literature argues that leaders tend to rate the *intentions* to enact a given leadership behavior (Jacobsen & Andersen 2015), and that the translation of such (ambitious) intentions into actual practice is often dampened by time constraints, resistance or scare resources (Wright & Nishii 2007, 9; Jacobsen & Andersen 2015). Employee-perceived leadership behaviors are

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[1] This discussion is presented in an earlier version of the dissertation (Bro 2015).

expected to be lower because employees only see part of the leadership practice, and because they impose differential meanings on those practices (Jacobsen & Andersen 2015).

A study of the link between manager-perceived transformational leadership and employee-perceived transformational leadership in a Danish context (Jacobsen & Andersen 2015) suggests that manager-perceived and employee-perceived ratings of a strategy are different things, and that employees must perceive a strategy before they react to it. Building on these insights, Figure 2.1 below illustrates the chain from leader-intended practices to employee-perceived practices and motivation.

Figure 2.1. Process of leadership practices

Intended practices	→	Actual practices	→	Perceived practices	→	Employee motivation
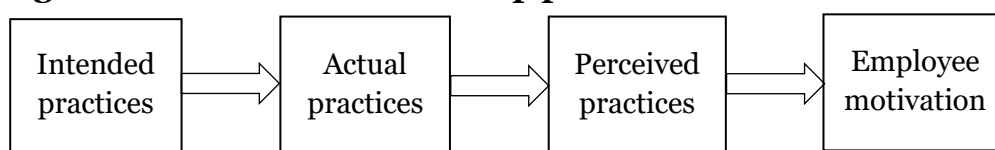
Source: Based on Jacobsen & Andersen (2015) and Wright & Nishii (2007).

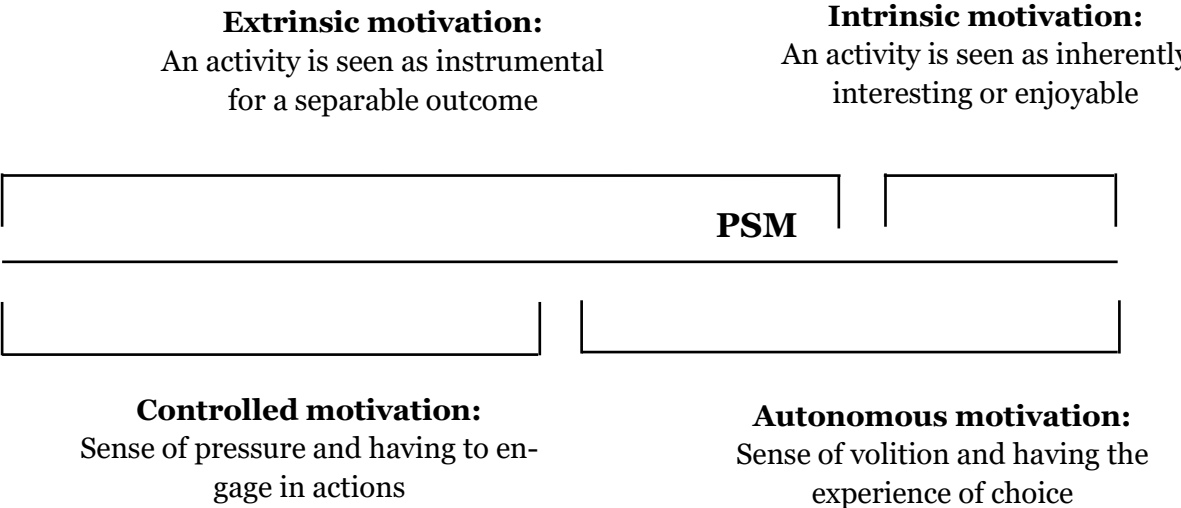In order to provide a thorough understanding of transformational leadership, the dissertation addresses transformational leadership from different angles. Thus, the dissertation not only include different papers with different perspectives of transformational leadership (managers perspectives and employees perspective), but also looks more closely at the link between what managers say they do when they act transformationally and what employees perceive (see chapters 3 and 4).

2.2. Conceptualization of employee motivation

As discussed in paper D, "Mediators", people differ not only in terms of *how much* motivation they have for performing an activity but also in terms of *the type* of motivation behind the action (Ryan & Deci 2000a; paper D, 537). In generic motivation literature, a basic distinction is between autonomous motivation (a sense of volition and having the experience of choice) and controlled motivation (a sense of pressure and having to engage in actions) (Gagne & Deci 2005, 334). The two types are placed on a motivational continuum where intrinsic motivation is the most autonomous type of motivation and where different types of extrinsic motivation represent less autonomous or controlled types of motivation (Gagné & Deci 2005, 336). While intrinsic motivation is based on an inherent interest in or enjoyment of an activity (Ryan & Deci 2000b), extrinsic motivation is based on some sort of instrumentality between the activity and a separate outcome (Gagne & Deci 2005, 25; paper D). As argued in paper D, these separate outcomes can be directed

at the person performing the activity (e.g., a monetary reward, implicit approval and enhanced self-esteem) or at others. Figure 2.2 below illustrates the distinction between the different types of motivations (as discussed in paper D) and places PSM as a type of motivation with both autonomous and extrinsic characteristics. The argument is that when employees are public service motivated, they invest great effort in activities that they know have importance for others – even if these activities are not interesting or enjoyable. This type of motivation is extrinsic in character, but because the potential outcome is not directed at the person performing the activity (and therefore is not expected to be perceived as controlling by that person), the motivation also have autonomous characteristics (paper D, 537).

Figure 2.2. Motivation continuum

Extrinsic motivation:
An activity is seen as instrumental for a separable outcome

Intrinsic motivation:
An activity is seen as inherently interesting or enjoyable

PSM

Controlled motivation:
Sense of pressure and having to engage in actions

Autonomous motivation:
Sense of volition and having the experience of choice

The dissertation focuses on autonomous types of motivation for two main reasons. First, as argued in generic motivation literature, autonomous types of motivation are more decisive for human behavior than controlled types of motivation (Ryan & Deci 2004; Jacobsen 2011). Second, as argued above, autonomous types of motivation are not dependent on monetary incentives. Thus, when asked to increase performance without increasing costs, autonomous types of motivation may be an important way for public organizations to reach their goals while keeping employees satisfied with their jobs. As mentioned in chapter 1, transformational leadership is considered an important lever in regard to employee motivation, but in the public sector, the strategy is mainly investigated in relation to PSM. Besides including intrinsic motivation, this dissertation also distinguishes between different types of pro-social motivation. Whereas PSM focuses on the contribution to larger collective entities (such as society at large), user orientation targets the *direct user* of a public

service (Andersen, Pallesen & Pedersen 2011; Andersen & Kjeldsen 2013; Andersen, Pallesen & Salomonsen 2013; Jensen & Andersen 2015). In some service areas (for example with extensive user contact), this might be a more relevant lever to pull to increase employees' pro-social motivation through visions. To fully grasp the motivational potential of transformational leadership, we therefore need to account for different types of motivation besides PSM. This dissertation focuses on intrinsic motivation and user orientation as other, relevant types of autonomous motivation.

2.3. Conceptualization of leadership identity

Identities are distinct parts of self-concepts that "include the internalized meaning of what to do, what to value and how to behave in various roles and relationships" (Kwow et al., 2)". Hence, identities are important when we want to understand behavior. In this dissertation, the focus is on leadership identity, which is defined in paper I, "Span, identity and goal-oriented strategies", as "the extent to which an individual views himself or herself as a leader" (paper I, 5).

The dissertation includes two empirical papers on leadership identity (paper H: "Span, identity and TFL and paper I: "Span, identity and goal-oriented strategies"). In both papers, the relationship between leadership identity and transformational leadership is investigated – as well as the possible consequences of span of control for leadership identity. Both papers argue that leadership identity entails recognition of the right and responsibility to direct and steer other people, and that narrow spans of control hamper this identity. Although the overall understanding of leadership identity and the argued relationships to transformational leadership and span of control are the same, the papers draw on different identity literatures. Paper H focuses on managers with a background in a profession (Freidson 2001) and on a proposed dilemma between identifying with the professional group of employees or as a leader (drawing on Stets & Burkes, 2000; Klausen 2010). In paper I, the arguments are extended to all types of public managers – not just managers with professional backgrounds. Paper I incorporates the leadership identity literature (e.g. DeRue & Asford 2010; Epitropaki et al. 2017; Miscenko, Guenter & Day 2017; Kwow et al. 2018) and offers a more thorough explanation for why we should relate leadership identities to other types of relevant identities. As argued in the paper, this is because a) even if managers view themselves as leaders, this does not imply that their leadership identity is *central* to them, and b) because formal public managers are generally expected to answer very affirmatively to questions that only measure their leadership identity as "more or less" (paper I). Whereas the latter point is mainly a question of measure

(see chapter 3), the centrality of a leadership identity is important because central identities are more likely to impact behavior compared to less central identities (Kwow et al. 2018, 2-3). Thus, when we focus on managers' behaviors to increase organizational goals (transformational leadership) and on organizational structures (span of control), we should relate leadership identity to other organizational identities. In paper H, leadership identity is related to a professional identity and in paper I, leadership identity is related to an *occupational identity*.

In paper I, we define an occupational identity as a set of cognitive-affective structures related to identification with people with education and task-experience similar to ones' own (p. 3, see also Leavitt et al., 2012: 1317). The occupation in question may be a profession, but we believe that all groups of individuals with similar tasks and education can develop (more or less strong) occupational identities. Similarity in tasks is relevant for identity formation because identities are "closely tied to what we do and our interpretations of those actions in the context of our relationships with others" (Christiansen 1999: 549). Education is relevant because it can provide norms, tools and perceptual frameworks needed to carry out the tasks (paper I). Consider, for example, the hospital nurse or the university researcher with a decade of doing leadership-research behind them. For both types of employees, taking on formal management positions means that the job is no longer (solely) centered on the performance of occupational tasks but on creating results through and together with others. Although nurses are members of a profession, and although the phenomenon of leadership might be more familiar to leadership researchers, occupational identities are likely to exist for both types of employees. Thus, for both types of employees, a prioritization of a leadership identity can mean a shift in the view of who they are. Furthermore, the prioritization of a leadership identity is important for transformational leadership for both types of employees when they move into a formal management position, just as the span of control should have consequences for this prioritization in both situations.

Finally, by incorporating the leadership identity literature in the dissertation, the focus is turned to a relational aspect of leadership identity. In this perspective, leadership identities are developed and sustained *both* by an individual projecting a particular image – and by others mirroring back and reinforcing (or not) that image as a legitimate identity (DeRue & Asford 2010). This perspective is important for our understanding of leadership identity because others' recognition of one as a leader can bolster self-confidence and motivation to lead (Ibarra et al. 2014). Furthermore, by focusing on employees' acceptance of the manager as a leader, we can theorize more thoroughly on the moderating implications span of control can have on transformational

leadership effects. Although the relational aspect is not included in either of the empirical papers on leadership identities (paper H and paper I), the perspective is taken up in paper F, "Theorizing on structures and mechanisms". This paper argues that employees who see their managers as leaders and experience their managers as confident in the leadership role are likely more responsive to transformational leadership from them (paper F, 14).

Chapter 3.
Methodological approaches and considerations

This chapter describes the methodological approaches that are applied in the dissertation in order to best address the research question. Design and method across the papers are presented, and measures of main perceptual variables are discussed. Again, the chapter addresses the measure of transformational leadership, employee motivation and leadership identity. Other variables and their measures can be found in the relevant papers.

3.1. Design and method

Existing studies with a focus on the visionary aspect of transformational leadership have applied cross-sectional survey designs to study the correlation between transformational leadership and employee pro-social motivation (Park & Rainey 2008; Wright, Moynihan & Pandey 2012; Krogsgaard, Thomsen & Andersen 2014). While studies of PSM and user orientation have come a long way in validating the empirical operationalization of the pro-social concepts (for example showing *how* PSM and user orientation are actually exercised in organizations) (e.g. Kjeldsen 2012b), we lack the same in-depth knowledge of transformational leadership and of the mechanism that links the strategy to employee motivation. This criticism is further emphasized in relation to the different consequences that span of control can have for transformational leadership. For example, what does it look like when leaders act transformational and what do employees see? Do employees really link their motivation to do good to the transformational behavior of their leader? And (in what specific ways) do leaders and employees experience that span of control restrains or enhances their interactions? To answer questions like these, a qualitative approach is useful. However, in-depth qualitative work often comes at the expense of generalization of results. In order to obtain in-depth knowledge and to be able to generalize results, this dissertation combines qualitative and quantitative methods. In addition to interviews with managers and employees in two public service sectors, the quantitative studies draw on both an experimental design and large-N cross-sectional designs. An overview of data, design and variables can be seen in table 3.1, and they are further elaborated below.

Table 3.1. Overview of data, design and variables

Article	Data	Design	Independent variable [and source of measure]	Dependent variable [and source of measure]	Sample
A	SOC[1] project interviews and observations	Cross-sectional (qualitative)	Transformational leadership [managers and employees]	PSM and user orientation [employees]	Daycare
B	LEAP pre-training survey	Cross-sectional	Transformational leadership [managers]	PSM and user orientation [employees]	All LEAP public organizations
C	LEAP pre- and post-training survey and experiment	Panel with experimental intervention	Transformational leadership [experimental variation]	User orientation [employees]	Daycare
D	LEAP pre-training survey	Cross-sectional	Transformational leadership [employees (aggregated)]	PSM and intrinsic motivation [employees (aggregated)]	Schools
E	LEAP pre- and post-training interviews	Panel with training intervention (qualitative)	Leader-perceived transformational leadership [managers]	Employee-perceived transformational leadership [employees]	Schools
F	Theoretical	-	-	-	-
G	SOC project interviews and observations	Cross-sectional (qualitative)	Transformational leadership [leaders and employees]	Professional quality [leaders and employees]	Daycare
H	LEAP pre-training survey	Cross-sectional	Span of control and leadership identity[2] [managers]	Transformational leadership [employees]	Daycare

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I	Leadership Commission survey	Cross-sectional	Span of control and leadership identity[3] [managers]	Leadership identity[3] and transformational leadership [managers]	Representative of all public managers in Denmark
J	LEAP pre- and post-training survey	Panel with experimental intervention	-	Transformational leadership [managers and employees]	All LEAP organizations
K	Theoretical	-	-	-	-

[1] SOC refers to span of control. [2] Leadership identity is a mediating variable between span of control and transformational leadership. [3] In some models, leadership identity is the independent variable; in others, it is the dependent variable.

3.1.1. In-depth examinations of transformational leadership and proposed mechanisms

There are two qualitative studies in the dissertation. One is conducted in the daycare sector as part of a project on span of control (the SOC project in table 3.1); the other is conducted in the school sector and is part of a project on leadership training and performance (the LEAP project). In both projects, interviews are conducted with a number of managers and their corresponding employees, but selection criteria for included managers vary between the studies. In the SOC project, all managers are heads of individual daycare centers and have direct responsibility for all employees at the center. These managers are chosen in order to maximize variation in span of control, allowing for a comparison between managers with similar positions and managerial tasks but with variation in the number of employees that they oversee (see papers A and G and appendixes for further details on selected interviewees). In the LEAP project, managers are selected to maximize variation in the use of one goal-oriented leadership strategy (transformational leadership) and similarity in the use of another goal-oriented strategy (transactional leadership) and vice versa. The selection is based on managers' self-ratings of the strategies in a pre-training questionnaire from the LEAP project (see paper E and appendix for further details on selected interviewees). This selection allows for a comparison between managers with self-rated high, medium and low levels of the strategies. These managers (and their employees) are compared both before and after (some of) the managers receive leadership training (including transformational leadership; see section 3.1.2 for more on the LEAP project). In both projects, managers and employees are interviewed about the managers' use of transformational leadership. In the SOC project, the two separate views are combined into an overall organizational measure of the strategy, and in the LEAP project, the link between what managers say they do when they act transformationally and what their employees see is investigated. In the SOC project, managers and employees are interviewed at one point in time, and the mechanisms between span of control, transformational leadership and employee motivation are examined. In the LEAP project, managers and employees are interviewed twice one year apart (which is the LEAP training period). The combination of studies in two different sectors with different selection criteria allows for a thorough understanding of how the strategy plays out in public organizations, and provides an in-depth examination of mechanisms between central concepts.

3.1.2. Testing results in a broader context, avoiding bias and securing causality

As mentioned, one of the pitfalls of qualitative studies is that in-depth, qualitative data often results in low-N studies that challenge the generalization of results. However, we can build on qualitative insights in quantitative studies that include a larger sample of respondents. In the dissertation, the quantitative data comes from the LEAP project and from the Danish Leadership Commission. Managers in the LEAP project come from the daycare sector, the school sector, the high-school sector, the tax sector and the bank sector. Managers in the leadership commission data are representative of all public managers in terms of level of government and hierarchical position (see paper I). Their use of transformational leadership is measured in survey questionnaires to managers at one point in time. In the LEAP project, the managers' use of transformational leadership is measured in survey questionnaires to managers and their employees before and after (some of) the managers receive leadership training. The employee questionnaire also measures employees' motivation.

Four of the quantitative papers in the dissertation rely on perceptual measures of transformational leadership (see table 3.1). To account for different perspectives of the strategy, half of the papers include managers' ratings of the strategy (papers B and I), and the other half includes employees' ratings of the strategy (papers C and H). Survey measures are common in public administration studies (Favero & Bulloch 2015), but in studies where both the dependent and the independent variable are measured from the same source (such as employees' ratings of transformational leadership and motivation), results might be prone to common source bias (Meier & O'Toole 2012). Specifically, common source bias arises when measurement errors are correlated between two variables because data is gathered from the same source. In these situations, relationships between the variables might be spurious (Meier & O'Toole 2012). In order to avoid common source bias, three of the four papers rely on different sources to measure dependent or independent variables (papers B and H) or aggregate individual responses at the organizational level (paper C). Since individuals in an organization share the same contextual characteristics, environmental bias might still be present in these papers (Favero & Bulloch). However, individual-level bias is at least limited.

Two of the pre-training papers (papers B and H) test insights from the qualitative SOC project. Paper B, "Low-hanging fruits", tests a proposed moderator between transformational leadership and employee motivation, and paper H, "Span, identity and TFL", tests the proposition that span of control can have both positive and negative implications for levels of transformational

leadership. Paper G, "Professional quality and span of control", explores consequences of span of control through qualitative interviews, and it is the patterns identified in this paper that paper H aims to validate. However, as explained in chapter 2, paper H draws on daycare leaders in the LEAP project and focuses on a dilemma between identifying with a group of professional employees or as a leader. In order to test the argument that leadership identity is important for all types of public managers, the dissertation includes data from the Leadership Commission, which is representative of all public managers in Denmark. This data is applied in paper I.

Finally, questions of causality are best addressed through experimental variation. As discussed in paper K, "Experimenting with leadership", leaders might adjust their leadership behaviors in accordance with past performance (or employee motivation), just as external factors may affect both leadership strategies and the outcome being measured (paper K, 195). Therefore, using experimental variation of leadership – which is possible through the LEAP project – to estimate the effects of transformational leadership is relevant. More specifically, the LEAP project randomly assigns leaders to one of four leadership training groups: transformational leadership training, transactional leadership training, a combined transformational- and transactional leadership training group and a control group. Compared to previous experiments, the treatment is more intense (four whole teaching days and two months plus activities between teaching days), and the number of participants is much higher (paper K). By randomly assigning managers to either a leadership training group or a control group, managers should – on a group average – be similar on all pre-treatment outcomes (observed as well as unobserved). Thus, if managers do not drop out systematically from the groups during the training period, we can be confident that post-treatment differences in employee motivation between the groups are due to the leadership intervention. In this way, the experimental design mitigates concerns about reverse causality, common method bias and confounding variables. The experimental variation is applied in paper E, "User orientation", which tests the causal link between transformational leadership and user orientation in different sectors. Details on the project and on the training intervention can be found in paper K, Jacobsen, Andersen & Bøllingtoft (2015), in background reports on www.leap-project.dk, and in Holten, Bøllingtoft & Wilms (2015).

Overall, the combination of designs and methods provides an in-depth answer to the research question that can be generalized to a broader context and that helps secure knowledge of causality.

3.2. Measures

3.2.1. Transformational leadership

As discussed in section 2.1 and in paper J, "Concepts and measures", transformational leadership is considered a one-dimensional construct in the dissertation. This construct is centered on behaviors to develop, share and sustain a vision with the employees. To operationalize the construct, the MLQ (Multifactor Leadership Questionnaire) is one option. It is traditionally used to measure transformational leadership (Knippenberg & Sitkin 2013), but in line with the conceptual critique of the traditional understanding of transformational leadership, the MLQ is also criticized for measuring transformational leadership by its effects (Knippenberg & Sitkin 2013). In order to separate effects of transformational leadership from the construct itself, paper J bases the measure of transformational leadership on a literature review that identifies items reflecting managers' *actions* to develop, share and sustain a vision. As described in the paper, this results in a selection of seven items that are revised and tested for their psychometric properties. A final four-item measure is developed and validated across all sectors in the LEAP project, across different raters (managers and employees) and across time. The four-item measure is applied in most quantitative articles in the dissertation.[2] The exceptions are paper E, which draws on the experimental variation, and paper H, which was written before the four-item measure was fully developed and draws on the seven-item measure. For this paper, results with the four-item measure will be commented on in chapter 4 (do not change the conclusions of the paper). The seven-item measure is presented in table 3.2; bold items are included in the four-item measure.

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[2] Earlier versions of appendixes for paper B were submitted with the article to IJPA. Updated tables are included in the appendix for this summary report and have been sent to the journal.

Table 3.2. Measure of transformational leadership

Concretize a clear vision for the [ORGANIZATION TYPE]
Communicate my vision for the [ORGANIZATION TYPE'S] future
Make continuous efforts to generate enthusiasm for the [ORGANIZATION'S] vision
Have a clear sense of where I believe our [ORGANIZATION] should be in five years
Seek to make employees accept common goals for the [ORGANIZATION]
Strive to make the [ORGANIZATION] work together in the direction of the vision
Strive to clarify to the employees how they can contribute to achieve the [ORGANIZATION TYPE'S] goals

Note: Questionnaires were distributed using Danish wording of all questions and are available on request. Survey questions were accompanied by the pretext: "As a leader I …" (manager version), or by "My leader … (employee version)". Questions were adjusted to the sector. For example, in the daycare sector "ORGANIZATION" was replaced with "daycare institution".

In the interviews, transformational leadership is measured by showing the interviewees a graphic illustration including a short text and highlighted words that represent the essential behaviors in the strategy (see appendix 1 for the graphic illustration from the daycare sector). The interviewees are then asked whether their managers exhibit the specific behaviors and to elaborate on *how* the behaviors are implemented more specifically. For example, how visions and goals are communicated, how the managers try to connect visions and goals to the employees' every day work, and how the managers try to sustain attention to the visions and goals in the long run. If interviewees confirm the existence of a vision and goals in the organization, they are asked to elaborate on the content. In this way, interview questions reflect behaviors intended to develop, share and sustain a vision that are also measured in the survey questions, but they also ask for detailed descriptions of how the behaviors actually unfold in the organizations. The interview questions for transformational leadership from the daycare sector is included in appendix 2 of this summery report (examples of interview questions for the school sector can be found in paper E).

3.2.2. Employee motivation

Public service motivation

In line with the PSM literature, PSM is measured as an overarching formative construct consisting of four dimensions (Coursey et al. 2008): attraction to

public policy, self-sacrifice, compassion and commitment to public interest. Survey items for each dimension come from international scales (Perry 1996; Kim et al. 2012) that are modified and previously tested in a Danish context (e.g. Jacobsen, Hvitved & Andersen 2014; Andersen, Heinesen & Pedersen 2014). Items are listed in table 3.3.

In the qualitative interviews, PSM is also measured by asking employees about the four dimensions. In these questions, a distinction is drawn between making a differences for others, and making a contribution to society. Furthermore, employees are asked to give examples of *how* they make this difference (see appendix 3 for an example from the daycare sector). Employees are also asked whether their leaders do anything to draw attention to how the work makes a difference (do they talk about it? Do they support tasks that are especially related to such activities?). Again, the interview questions are meant to reflect the essential elements of the motivation in the employees that are also measured in the surveys but *also* to obtain in-depth descriptions of how this unfolds in the organizations as well as *how* managers make a difference in this regard.

Table 3.3. Measure of public service motivation

Dimensions	Survey question
Commitment to the public interest	It is important to me to contribute to the common good.
	I consider public service my civic duty.
	Meaningful public service is very important to me.
Compassion	It is difficult for me to contain my feelings when I see people in distress.
	For me, considering the welfare of others is very important.
	I am often reminded by daily events about how dependent we are on one another.
Self-sacrifice	I believe in putting duty before self.
	I am willing to risk personal loss to help society.
	I am prepared to make sacrifices for the good of society.
Attraction to public policy making	I generally associate politics with something positive.
	I do not care much for politicians (R).

Note: Questionnaires were distributed using Danish wording of all questions and are available upon request.

User orientation

The quantitative measure of user orientation is based on a three-item scale that has also been validated in a Danish context by previous studies (Andersen & Pedersen 2012; Jensen & Andersen 2015). The items are listed in table 3.4. In the qualitative interviews, a distinction is made between doing god for others and/or society as described above for PSM.

Table 3.4. Measure of user orientation

The individual user/customer is more important than formal rules.
It gives me energy to know that I helped the user/customer.
If the user/customer is satisfied, the job is done.

Note: Questionnaires were distributed using Danish wording of all questions and are available upon request. Questions were adjusted to the specific user group in each sector. For example, "user" = "children" in the daycare sector.

Intrinsic motivation

Intrinsic motivation is only measured quantitatively using a three-item scale based on items that have been previously tested in a Danish context (Jacobsen, Hvitved & Andersen 2014). Items tap into the enjoyment and excitement of performing ones job (article C). Items are listed in table 3.5.

Table 3.5. Measure of intrinsic motivation

I very much enjoy my daily work
My work is very exciting
I like performing most of my work processes

Note: Questionnaires were distributed using Danish wording of all questions and are available upon request.

3.2.3. Leadership identity

As argued in chapter 2, leadership identity is often measured in terms of "more or less", for example, by asking individuals to rate the extent to which the statement "I am a leader" describes them (Kwok et al. 2018; Mischenko et al. 2017; Day & Sin 2011). However, when we study formal managers, we expect very positive answers to such questions (*especially* in a Danish context where many formal titles include the word "leader" (e.g. school leaders, daycare leaders)). Furthermore, previous studies do not say anything about the *centrality*

of the identity vis-a-vis other relevant organizational identities. To accommodate these criticisms, paper H, "Span, identity and TFL", and paper I, "Span, identity and goal-oriented strategies", measure leadership identity in relation to other, relevant identities. As described previously, paper H focuses on a dilemma for daycare managers between identifying with a group of professional employees or as a leader, and leadership identity is therefore related to the managers' identity as a "professional pedagogue" (in Danish: identitet som "fagprofessionel pædagog"). In paper I, the argument is more generic and cuts across managers with and without a background in a profession. In this paper, leadership identity is therefore related to a substantive occupational identity (in Danish; "faglig identitet"). In both papers, leadership identity is measured on a scale from 0 to 10 where "10" indicates that leadership identity is most important, "5" that the two identities are equally important, and "0" that the identity as a professional pedagogue/occupational identity is most important.

Chapter 4.
Main Results

This chapter discusses the main results of the dissertation, starting with sub-question 1: *How does transformational leadership affect different types of employee motivation?* To answer this question, qualitative results regarding PSM and user orientation are presented and followed by an explanation of how quantitative papers build on these insights. Next, the question of mechanisms between transformational leadership and employee motivation is addressed based on results from a paper that includes both PSM and intrinsic motivation. Finally, a qualitative paper addressing the link between what managers do and what employees see is included. The paper does not focus on motivation as such, but given that employees have to perceive their managers' transformational leadership before they react to it, this link is relevant to discuss.

Second, the focus is turned to sub-question 2: *How does span of control and leadership identity affect transformational leadership*?" Again, this part of the chapter presents the qualitative results regarding span of control and transformational leadership and explains how following papers build on these insights. This part of the chapter includes results from a theoretical paper and two empirical papers. Although sub-question 2 regards transformational leadership as the dependent variable, additional theorization on the moderating impact span of control can have on the transformational leadership effects is also presented.

4.1. Transformational leadership and employee motivation

Four papers in the dissertation address the relationship between transformational leadership and employee motivation (papers A-D). They include different types of motivation (papers A, B & D), address the mechanism between transformational leadership and (two types of) employee motivation (paper D) and rely on different data sources for transformational leadership and motivation (papers A, B and C).

Paper A, "Transformational leadership and motivation", is a qualitative paper that addresses the link between transformational leadership and the motivation to do good for others and for society. In this paper, we interview 32 daycare employees and their 16 leaders (two employees per leader). We triangulate the measure of transformational leadership by using both leaders'

own statements about their transformational behaviors, employees' statements about the leader's behavior and observational data (in eight of the organizations). The data suggests that there is indeed an association between transformational leadership and the employees' pro-social motivation. In terms of mechanisms, the qualitative statements point to "sharing the vision" as a crucial behavior. This is illustrated in the following statement by an employee: "*[When the leader was away on education], we sailed in different directions, but when she came back, we became one big ferry... The fact that she is so engaged in her work and so good at motivating us and developing us gives us enthusiasm. You don't become tired of being a pedagogue because you feel that there are new measures and new ideas... [The leader] makes you proud of working in [name of childcare center] and proud of being a pedagogue. You feel that you can contribute with something*" (paper A, 11). From this statement, it is clear that simply having a vision is not enough to motivate the employee; the manager has to be there to share the vision with the employee and to continuously emphasize how their work contributes to the vision. The paper thus gives a more in-depth description of how transformational leadership can increase employees' motivation to do good.

In the paper, we distinguish between the orientation to do good for society and the orientation to do good for specific users. In daycare centers, the work is focused on the children, and it is therefore plausible that these organizations attracts employees who are oriented towards doing good for this group of specific others (p. 5). However, society is also a potential beneficiary of childcare centers, and in the paper, we argue that transformational leadership can stimulate both society-oriented as well as child-oriented pro-social motivation. Because employees' initial level of child-orientated motivation is expected to be high, we argue that transformational leadership will have a higher potential to open the eyes of the employees to the importance of contributing to society. The expectation is therefore that transformational leadership in childcare centers result in more society-oriented motivation, and the empirical material offers some support to this expectation. However, the result is not very robust. Only few interviewed employees give priority to society, but they all work at childcare centers where the leaders behave in a transformational way (p. 12).

The orientation to do good for society and for the specific users are not necessarily opposites and seldom a question of a zero-sum game. But as argued above, employees might not be equally aware of the contribution that they can make to different recipients. This has potential importance for transformational leadership because transformational leaders motivate employees by infusing their tasks and roles with meaning and purpose (Wright et al. 2012, 208). Thus, if employees are already aware that they make a difference, this "infusing process" might not be equally relevant. Based on the results

from paper A, there are tentative indications that in the daycare sector the fruit hang lower for society-oriented motivation than for user-oriented motivation. To draw stronger conclusions, the suggestion should be tested in large-N studies.

In order to gain further knowledge about the findings from paper A, paper B, "Low-hanging fruits", includes all public employees from the LEAP project. The paper investigates whether employees in different sectors varies in regards their perceptions of being able to make a difference for others and for society. Furthermore, the paper tests whether the relationship between transformational leadership and PSM/user orientation depends on these perceptions. More specifically, the paper tests whether transformational leadership correlates stronger with PSM/user orientation if employees do not perceive that they can make a contribution to society/specific users through their jobs (whether the fruit indeed hang lower for such employees). In the paper, transformational leadership is rated by the leaders. The paper uses random-effect models and does not find a direct relationship between transformational leadership and PSM or between transformational leadership and user orientation. However, the moderating effect is indicated; suggesting that if transformational leadership relates to employees' PSM/user orientation, the associations are stronger for employees who do not perceive that they make a contribution to society/to others. Moreover, employees' perceptions of being able to make a difference for others or for society differs between sectors with different degrees of citizen contact. Thus, the paper shows that employees tend to have higher perceived impact on other people relative to their perceived impact on society when they work in organizational settings with higher levels of citizen contact. Combining the results, the paper suggests that transformational leadership will have the greatest potential to increase user orientation in organizational settings with little citizen contact, and the greatest potential to increase PSM in organizational settings with high citizen contact. However, this last interpretation is mainly theoretical.

Following paper A and B, paper C, "User orientation", applies the experimental variation in the LEAP project to test whether and how transformational leadership affects user orientation in the daycare sector and in the tax sector. The paper includes the two sectors because they represents extreme cases of high-citizen contact (high in the daycare sector and low in the tax sector). Comparisons are made between average levels of user orientation for employees with managers in the transformational training group and for employees with managers in the control group (after the training period). The paper finds that daycare employees with managers in the transformational training group have significantly higher levels of user orientation than daycare employees with managers in the control group. However, in the tax sector, there are

no substantial or significant differences. The results are curious since we would expect user orientation to be a low-hanging fruit in the tax sector. Since paper C relies on experimental treatment, it is relevant to discuss what managers focus on when they develop visions during transformational leadership training. An alternative expectation is that managers in the daycare sector focus their visions on the users to a much higher extent than managers in the tax sector. Again, the argument is that extensive contact with users makes this group of recipients a logical reference point for daycare managers. To learn more about the content of the visions, vision statements from daycare managers and tax managers in two transformational training classes are coded. While user focus is not completely absent in visions in the tax sector, managers of childcare centers are clearly much more likely to explicitly articulate a strong user focus as part of their organization's vision.

Combined, the findings from the papers give rise to the question whether managers should indeed focus their visions on other, less obvious, service recipients. In existing literature, there are suggestions that visions risk being seen as cheap talk if it is not clear to the employees how they contribute to them (Jensen 2016, 47). Thus, if the transformational leader applies a vision that is not seen as relevant by the employees, it is very plausible that transformational leadership does not increase employees' pro-social motivation (Jensen 2016, 56). However, as suggested by the same literature, there is also evidence that managers, over time, can change employees' perception of what is desirable through transformational leadership (Jensen 2016, 50). Moreover, as discussed in paper B, user orientation and PSM are not necessarily opposites or an expression of a zero-sum game. In the daycare area, contributing to new generations of well-functioning, dedicated citizens is an example of a key society-oriented objective that does not necessarily come at the expense of doing good for specific children in a daycare institution. In this case, PSM is perhaps still a low-hanging fruit that can be picked in the process of gathering other essential nutrients.

Papers A-C only address PSM and user orientation. Paper D, "Mechanisms", includes both PSM and intrinsic motivation and examines the mechanisms between transformational leadership and the two types of motivation. Since both types of motivation are autonomous, the argument is that transformational leadership can alter both by satisfying three basic needs: autonomy, competence and relatedness. The argument draws on self-determination theory, and in the paper, transformational leadership is linked both theoretically and empirically to the satisfaction of the needs. The need for autonomy concerns the experience of choice and feeling like the initiator of one's own actions (Baard, Deci & Ryan 2004). The need for competence concerns succeeding at

challenging tasks, being able to attain desired outcomes, and the feeling of being generally effective (Baard, Deci & Ryan 2004; Leary & Tangney 2003). Finally, the need for relatedness refers to the desire to feel connected to others, that is, to "establish a sense of mutual respect and reliance with others" (Baard, Deci & Ryan 2004, 2046). Paper D tests the mediation model using structural equation modeling on data from 1481 Danish schoolteachers in the LEAP project (pre-training data). All variables are measured by survey questions to the employees, but responses are aggregated at the organizational level. The results show that the relationship between transformational leadership and PSM is mediated through the satisfaction of the need for competences and relatedness, and that the relationship between transformational leadership and intrinsic motivation is mediated through the satisfaction of the need for competences and autonomy. Thus, the paper describes how transformational leadership can stimulate two types of autonomous motivation through the satisfaction of the basic needs.

The above papers offers different perspectives on transformational leadership. In paper A, "Transformational leadership and employee motivation" transformational leadership is a combination of a manager's perspective and employees' perspective. In paper B, "Low-hanging fruits", transformational leadership is seen from the perspective of the manager, and in paper D, "Mediators", it is seen from the perspective of the employees (at an aggregated organizational level). Based on the papers, transformational leadership seem to relate to employee motivation – but only when employees' perceptions of the strategy is included. An interesting question is therefore whether managers' ratings provide more accurate results (by mitigating common source bias), or whether manager-perceived transformational leadership and employee-perceived transformational leadership are in fact different things. As discussed in chapter 2, managers' ratings might reflect managers' intentions to perform transformational leadership, and such intentions do not necessarily translate into actual practices. Furthermore, employees do not necessarily perceive actual practices. Paper E, "Perceived leadership", investigates the link between what managers say they do when they act transformationally and what employees see. In the paper, 18 school principals and 18 schoolteachers (one per manager) from the LEAP-project are interviewed before and after the LEAP-training period. Results confirm the suggestion from paper A that leaders must share the visions before employees react to it. Importantly, "sharing" a vision does not only involve the communication of the vision to the employees, it also involves the clarification of how the work of the employees relate to the vision. If the vision is not shared with the employees, they tend to see the managers as someone who cannot give concrete answers to concrete problems. In these situations, transformational leadership might lead to more

frustrated employees, and this could also be an explanation for why the paper "low-hanging fruit" does not find a direct relationship between transformational leadership and employee motivation.

4.2. Span of control, leadership identity and transformational leadership

Both paper A, "Transformational leadership and motivation", and paper G, "Professional quality and span of control", are part of the qualitative SOC project discussed in chapter 3. The design in the project allows us to compare organizations with narrow (6-17 employees per leader) and wide (18-34 employees per leader) spans of control. However, when we compare these groups, we do not find systematic differences in the levels of transformational leadership. Based on interviewees' statements concerning the optimal span size (paper G), we are prompted to scrutinize the findings further by dividing the organizations into groups of narrow (less than 11), medium (between 10 and 20) and wide (more than 20) spans of control. Results suggests that managers in organizations with medium-sized spans have the best opportunities to use high levels of transformational leadership. The argument is especially validated when we look at the statements in the empirical material. For example, one manager explains that there is a balance between, on one hand, seeing the competences of the team (not having too wide spans of control) and, on the other hand, a danger that things become overly familiar (not having too narrow spans of control). In the latter case, there is a risk that managers "don't dare react if something inappropriate happens" (paper G, p. 66) (see also Andersen et al. 2017 and Holm-Petersen et al. 2015 for elaboration of this finding). Furthermore, the statements are backed by the observations in centers with narrow spans. Here, we see that managers do a lot more frontline work and act more like "one of the employees". Conversely, the managers in the childcare centers with wide spans of control find it challenging to practice transformational leadership because they are too busy or lose their sense of perspective (paper G, 67). Again, the qualitative insights help us to build a more thorough understanding of the way central phenomena are linked; in this case, how span of control can have different consequences for transformational leadership. More specifically, the paper suggests that the optimal span supports managers' views of themselves as leaders, as well as the extent to which managers can communicate the vision effectively to employees. Again, such expectations build on a small number of organizations and should be further theorized and validated in large-N studies.

Three papers in the dissertation (F, H and I) develop the proposition from the SOC project further. First, paper F, "Theorizing on structures and mechanisms", discusses how increases in span of control can have both positive and negative implications for transformational leadership through two (potentially) opposing mechanisms. The paper focuses on the moderating effect of span of control for transformational leadership effects on employee outcomes; however, the discussed mechanisms also allow for a more thorough understanding of the possible effects of span of control on the *levels* of transformational leadership. Here, the paper introduces the concepts of "leadership identity" (the extent to which an individual views himself or herself as a leader (paper F, 3)) and "communication richness" (the amount of face-to-face, personalized communication between a manager and the employees (paper F, 2)). In combination with the insights from the SOC project, the argument is that span of control increases a manager's leadership identity and decreases communication richness between the manager and the employees. Which mechanism is strongest is argued to depend on span of control itself. More specifically, when the span of control is narrow, the mechanisms of leadership identity will be strongest, and increases in span of control will have positive implications for transformational leadership. When the span of control is wide, the mechanisms of communication richness will be strongest, and increases in span of control will have negative implications for transformational leadership (paper F, 16-17). Thus, the optimal span size balances these mechanisms.

In order to empirically validate the findings from the SOC project, paper H, "Span, identity and TFL", and paper I, "Span, identity and goal-oriented strategies", look at the relationship between span of control, leadership identity and transformational leadership in larger samples. In paper H, span of control is a three-group measure closely resembling the three-group division in the qualitative study. Respondents are from the daycare sector, and managers are all participants in the LEAP training project. Transformational leadership is measured by employees at an aggregated level, whereas leadership identity is measured by the managers. Leadership identity indeed seems to be larger in the group of organizations with a medium span of control than in the group of organizations with a narrow span of control. There is no difference between the group of medium and wide span of control, which suggests that increasing span of control only increase levels of leadership identity to a certain level. One explanation for this could be that involvement in the day-to-day work and the danger of familiarization is only present in narrow spans of control. The result is interesting because leadership identity seems to mediate differences in employee-rated transformational leadership between the

groups of organizations with a medium and a narrow span of control. However, it does not mediate differences between the groups of organizations with a medium and a wide span of control. Because levels of employee-rated transformational leadership are highest in the medium span, the results support the expected balance between having a span that strengthens a view of oneself as a leader and having a span that allows for effective communication and sharing a vision with the employees.[3]

In order to test whether leadership identity is important in a broader context, the dissertation includes data from the Danish Leadership Commission. The data is representative of all public managers in Denmark in terms of level of government and hierarchical position. Results suggest that span of control is positively related to leadership identity, and that leadership identity is positively related to transformational leadership. In this paper, leadership identity and transformational leadership are both measured by the managers, and it is important to note that the relationship between these variables could be overstated due to common source bias.

Finally, and as mentioned earlier, paper F, "Theorizing on structures and mechanisms", discusses the moderating implications that span of control can have for the effects of transformational leadership on employee outcomes. In contrast to the *level* of transformational leadership (which especially requires a manager to prioritize a leadership identity), the argument is that we should also account for employees' acceptance of leadership when we look at the *effects* of transformational leadership (paper F). Specifically, when employees view their manager as a leader and when they experience their manager as confident in the leadership role, they will be more likely to react to transformational behaviors. Furthermore, the extent to which managers view themselves as leaders and the extent to which employees accept them as such is an intertwined process that can spiral up and down, and span of control affects this process through the mechanisms described above. The paper thus questions results from the existing literature that look exclusively at span of control as a factor that always decreases effects of transformational leadership (Gumusluoglua, Karakitapoğlu-Aygüna & Hirst 2013; Doran et al. 2004). Again, the argument is that the optimal span size balances the mechanisms of communication richness and leadership identity/employee acceptance of leadership.

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[3] Results in paper H are based on a seven-item scale of transformational leadership. When models are run on the four-item scale, differences between the medium and the wide span become less statistically significant ($p < 0.10$ level).

Chapter 5.
Discussion and conclusion

5.1 Answering the research question

This dissertation addresses the research question: *What is the association between transformational leadership, employee motivation, span of control and leadership identity?* Overall, it finds that transformational leadership affects employee motivation, and that span of control has both positive and negative implications for the use of the strategy. Furthermore, leadership identity seems to mediate some of the relationship between span of control and transformational leadership. In the following sections, the dissertation concludes specifically on the two sub-questions.

To answer the first sub-question: *How does transformational leadership affect different types of employee motivation?*, the dissertation includes three types of autonomous employee motivation and elaborates on the possible effects of transformational leadership on each of these. First, using qualitative methods, the dissertation gives an in-depth empirical validation of the positive link between transformational and two types of pro-social motivations (PSM and user orientation). In this way, we gain a deeper understanding of the mechanisms that drive the transformational effect; specifically, that *sharing* a vision is important. Thus, it is not enough that managers set clear visions; they must be there to share the visions with the employees and continuously emphasize how their work contributes to the vision.

Furthermore, by testing the link between transformational leadership and employee motivation in both large-N and experimental designs, we become more certain of the causal link between transformational leadership and employee motivation. Moreover, we become aware that satisfaction of the need for autonomy, competence and relatedness plays a vital role in this regard. Finally, when we use managers' ratings of transformational leadership, we find no correlation between transformational leadership and employee pro-social motivation (PSM and user orientation). Thus, combined with in-depth descriptions from managers and employees of managers' exhibition of transformational leadership, the data suggests that manager-perceived and employee-perceived transformational leadership are different things. Again, a missing link between the two is especially due to managers' lack of sharing of the vision. Importantly, not sharing the vision might even lead to frustration among the employees.

In regards to the second sub-question: *How does span of control and leadership identity affect transformational leadership?*, the dissertation shows that span of control can have both positive and negative consequences and that positive consequences most likely run through leadership identity. Based on qualitative interviews and mediation analysis, the dissertation suggests that at least in the daycare sector, medium-sized spans seem to provide the best opportunities to exhibit transformational leadership. This is because medium spans of control balance managers' prioritization of a leadership identity and their opportunities to communicate a vision to the employees. When we test the relationship between the concepts on a representative sample of all Danish public managers, we find positive correlations between span of control and leadership identity, and between leadership identity and transformational leadership. The suggested mechanisms are thoroughly elaborated in a theoretical discussion, which also includes employees' acceptance of leadership and discusses possible implications of span of control for the effects of transformational leadership on employee outcomes. Thus, the dissertation not only contributes with new theory and empirical knowledge on the possible consequences of span of control for the levels of transformational leadership, but also suggests a way ahead for future research.

5.2. Methodological limitations and generalizability of results

Although the use of different methods and different designs strengthens our trust in the results, there are some methodological caveats. In particular, reverse causality might be a concern. Although we are able to obtain in-depth descriptions of the possible effects of transformational leadership on employee motivation in the qualitative interviews, we cannot be absolutely sure that managers were not only able to perform high levels of transformational leadership to begin with *because* employees had high levels of pro-social motivation. In this regard, it is especially comforting that daycare employees with managers in the transformational training group have significantly higher levels of user orientation than daycare employees with managers in the control group after the training period. This implies that the theorized effect from transformational leadership to employee motivation is correct. However, none of the studies on span of control relies on experimental variation, and reverse causality might therefore also be a concern in these studies. In papers H and I, the argument is that span of control increases leadership identity. While a positive correlation between the concepts is confirmed, we cannot be absolutely sure that managers with high prioritizations of a leadership identity did not self-select into a specific size of span of control. Furthermore, while a

positive correlation between leadership identity and transformational leadership is confirmed, we cannot be absolutely sure that it is not the performance of transformational leadership that affects leadership identity. It is possible that managers who try out different leadership behaviors – and perhaps receive positive confirmations from employees – enhance their view of themselves as leaders. In this case, it is reassuring that some of the managers in our qualitative material have experienced changes in their span of control over time, and that they make statements that support the causal effect from span of control to leadership identity and transformational leadership. In the future, being able to systematically follow a larger number of managers over time and through changes in their span of control could be one way to enhance our confidence in the results.

Another limitation of the dissertation is generalization of results. Many of the conclusions build on studies in the daycare sector, which makes it hard to extend results to other types of public organizations; especially the conclusion concerning the optimal span of control. As argued previously, the optimal span balances the mechanisms of leadership identity and communication richness. However, what the optimal span size is in exact numbers might vary between areas, for example, in terms of the complexity and diversity of the work, and in terms of employees' competences and experience. Diverse work functions generally require a narrower span of control than routine work functions (Galbraith, Downey & Kates, 2002; Meyer & Bothe 2003). If employees perform very different tasks, it could also become more complex for the manager to provide tailored vision communication to them, just as less experienced employees might need more vision communication in order to buy in to the vision. In such situations, the mechanisms of communication richness might be enhanced. In the dissertation, the daycare manager with the widest span of control oversees 45 employees. In this sector, the argument is that a medium span is the optimal size. However, as described in the Danish Leadership Commission's report (2018), span sizes vary substantially across Danish welfare areas. Although the mechanisms are expected to be present in all areas, a medium span is not necessarily always the optimal size. The reason is simply that there are some areas where the medium span is rather high, where the mechanism of communication will be strongest, and where an increase in span of control will have negative implications for transformational leadership. That the link between span of control and leadership identity can be generalized to many different welfare areas is validated in paper I, which investigates the link on a representative sample of all public managers in Denmark. Further generalization concerns regarding samples from the LEAP project or specific welfare areas are discussed more thoroughly in the papers.

5.3. The way ahead: Suggestions for future research

Based on the insight from the dissertation, there are several venues for future research. An obvious place to start is to empirically investigate the theoretical propositions of paper F, "Theorizing on structures and mechanisms". As argued here, employees' acceptance of leadership and managers' view of themselves as leaders are an intertwined process that determines the effect transformational leadership can have on employee outcomes – and that is affected by span of control. However, whether the proposition is also empirically valid is a question that we should address. The paper also discusses whether other types of organizational structures besides span of control have implications for leadership identity and communication richness – both on their own and in collaboration with span of control. Paper I, "Span, identity and goal-oriented-strategies", includes the managers' hierarchical position and shows that it matters to managers' leadership identity. However, we do not know whether other structures – such as the number of hierarchical leadership levels between a manager and the top administrative level – have equal effects. Nor do we know how different organizational structures work in combination. Paper F offers a first theoretical take on the matter, but the proposition could be further elaborated and should, again, be empirically tested. Finally, the paper discusses whether a leadership identity can in fact become *too* strong in the sense that it has damaging consequences for the effect of transformational leadership. Looking again to the psychological leadership literature, there is an argument that leaders are more effective in their leadership strategies when they are seen as prototypical of the group they lead (Van Knippenberg and Van Knippenberg 2005; paper F, 22). A question for future research is thus whether managers might face a "paradox of prototypicality": Managers need to distance themselves from employees in order to prioritize a leadership identity but not so much that they are no longer seen as characteristic of the group members.

A separate question concerns the organization of leadership tasks *within* an organization. In general, managers can undertake many different leadership tasks, and one manager is seldom responsible for all leadership tasks for all employees. One constellation could be a formal leadership team that shares leadership tasks. This can be done in very different ways. In some organizations, one member of the leadership team might be responsible for the professional quality and professional development of all employees in the organizations, while another team member is responsible for employee wellbeing, strategic planning and development. In other organizations, one member of the

team might be responsible for all leadership tasks for specific groups of employees, while another member is responsible for leadership tasks for another specific part of the employees. In the former situation, all managers have the widest possible span of control in the organization but are very specialized in their tasks. In the latter situation, the span of control is narrower, but the managers do many different things. Whether the division of leadership responsibilities and tasks affect managers' leadership identities and opportunities to communicate with the employees is a topic for future research

Public administration literature has also begun to focus on "distributed leadership" as something that concerns sharing generic leadership tasks in order to influence resource availability, decision making and goal setting within an organizational perspective (Günzel-Jensen, Jain & Kjeldsen 2018; Jakobsen, Kjeldsen & Pallesen 2016). In this perspective, leadership tasks do not necessarily involve individuals in formal management positions but can also be handled by employees (Günzel-Jensen, Jain & Kjeldsen 2016). Studies have begun to link transformational leadership and employees' agency in distributed leadership (Günzel-Jensen, Jain & Kjeldsen 2016). Whether and how transformational and distributed leadership could function in combination to increase employee motivation is another interesting question. From a manager perspective, having employees engage in leadership tasks could create more time for the managers to develop, share and sustain a vision with the employees. From an employee perspective, having a clear vision could steer the distributed leadership activities (Jakobsen, Kjeldsen & Pallesen 2016).

Finally, future research could benefit from investigating the findings in different empirical settings than the ones explored here. Investigating the optimal span size in other sectors than in the daycare sector would be relevant. Here, it would be interesting to vary on factors such as the complexity and diversity of tasks and on the competences and experience of employees. It would also be relevant to test whether the results are contingent on the national context. A study that compares the impact of management in Denmark and in Texas suggests that managers in Denmark are given much less room to maneuver and less formal authority and that they are "first among equals" rather than specialized managers (Meier et al. 2015, 145). Thus, managers in different national contexts might have different leadership identity profiles, which could make organizational structures more or less relevant.

5.4. Practical and normative implications

The results indicate that managers can indeed affect employees' motivation by developing, sharing and sustaining a vision. This is not only the case for prosocial types of motivation but also for the inherent joy and interest in the work

itself. The transformational effect seems to run through employees' feelings of competence, autonomy and relatedness, and managers should pay close attention to the satisfaction of these needs in their performance of the strategy. Furthermore, managers should pay special attention to the *sharing* of a vision. Merely setting a vision for the organization is not enough to make employees buy into it, and managers tend to overrate their leadership behaviors on this specific account. Finally, the results suggest that decisions on span of control should consider both the managers' opportunities to prioritize a leadership identity and their opportunity to communicate a vision to the employees. The findings in papers H and I suggest a positive correlation between leadership training and leadership identities, and opportunities to develop leadership competences might thus be a way to strengthen leadership identities. Based on the findings, a normative suggestion for managers with narrow spans of control is to pay close attention to leadership responsibilities and give systematic priority to leadership tasks. For managers with wide spans of control, the suggestion is to pay close attention to the opportunities to communicate systematically with their employees. At the very least, managers should continuously consider whether leadership tasks are structured in a way that best supports the guidance of and communication with the employees.

English summary

The performance of public organizations is a central question for public administration scholars and practitioners alike. However, increasing demands from the public as well as demands for cost stability (or even cost reduction) can make performance improvements a challenging task. Since public employees are a major part of the service provision, researchers have long suggested employee motivation as a way to accommodate such challenges (Kjeldsen 2012a; Jensen 2016). The question is how we can support employee motivation, and public administration literature increasingly recognizes leadership as a lever in this regard (Wright, Moynihan & Pandey 2012; Vogel & Masal 2015).

This dissertation focuses on transformational leadership as a particular relevant type of leadership in public organizations. First, the dissertation looks at the effect that transformational leadership might have on different types of employee motivation. Second, the dissertation looks at span of control as an important determinant of transformational leadership. To increase our knowledge of the causes and consequences of transformational leadership, the dissertation draws on both qualitative and quantitative methods, and on both cross-sectional and experimental designs.

The dissertation includes three types of autonomous employee motivation and elaborates on the possible effects of transformational leadership on each of these. First, using qualitative methods, the dissertation gives an in-depth empirical validation of the positive link between transformational leadership and two types of pro-social motivations (PSM and user orientation). Then, the dissertation tests the link between transformational leadership and employee motivation in both large-N studies and in an experimental design. The dissertation finds that transformational leadership indeed seems to have a causal effect on user-orientation, and that satisfaction of the need for autonomy, competence and relatedness mediates the relationship between transformational and different types of employee motivation (competence and relatedness mediates the relationship with PSM, and autonomy and competence mediates the relationship with intrinsic motivation). Furthermore, the dissertation finds that when transformational leadership is measured through managers' ratings of the strategy, there is no correlation between the strategy and PSM and user orientation. Thus, combined with in-depth descriptions from managers and employees of managers' exhibition of transformational leadership, the data suggests that manager-perceived and employee-perceived transformational leadership are different things. The missing link between the

two is especially due to managers' lack of sharing of the vision. Importantly, not sharing the vision might even lead to frustration among the employees.

In regards to span of control, the dissertation shows that increases in the structure can have both positive and negative consequences for transformational leadership, and that positive consequences most likely run through leadership identity (the extent to which an individual thinks of him- or herself as a leader). Based on qualitative interviews and mediation analysis, the dissertation suggests that at least in the daycare sector, medium-sized spans provide the best opportunities for managers to exhibit transformational leadership. This is because medium spans of control balance managers' prioritization of a leadership identity and their opportunities to communicate a vision to the employees. When the relationship between the concepts are tested on a representative sample of all Danish public managers, the dissertation again finds positive correlations between span of control and leadership identity, and between leadership identity and transformational leadership.

Dansk resumé

Spørgsmålet om, hvordan man forbedrer performance i offentlige organisationer, er vigtig for både forvaltningsforskere og for praktikere. Med en stigende efterspørgsel efter offentlige ydelser - og med et krav om stabile omkostninger (eller endda effektiviseringskrav), kan øget performance dog være en udfordring. Fordi medarbejdere i den offentlige sektor er en essentiel del af leveringen af offentlige ydelser, er forskere begyndt at pege på medarbejdermotivation som en vigtig del af løsningen (Kjeldsen 2012a; Jensen 2016). Spørgsmålet er derfor, hvordan man kan øge medarbejderes motivation, og her kan ledelse spille en væsentlig rolle (Wright, Moynihan & Pandey 2012, Vogel & Masal 2015).

Denne afhandling fokuserer på transformationsledelse som en særlig relevant form for ledelse i offentlige organisationer. For det første kigger afhandlingen på, hvilke effekter transformationsledelse kan have for forskellige typer af medarbejdermotivation. For det andet undersøger afhandlingen, om antallet af medarbejdere, som en enkelt leder har ledelsesretten over (lederens ledelsesspænd), påvirker lederens mulighed for at udøve transformationsledelse. For at øge vores viden om disse forhold, anvender afhandlingen både kvalitative og kvantitative metoder, og undersøger sammenhængende i både tværsnitsundersøgelser og ved hjælp af et ledelseseksperiment.

Afhandlingen inkluderer tre typer af medarbejdermotivation og undersøger den effekt, som transformationsledelse kan have for hver af disse. Ved at afholde interviews med en række medarbejdere og ledere, ved hjælp af spørgeskemaundersøgelser i en bredere kontekst, og ved hjælp af ledelseseksperimentet, bekræftes forventningen om, at transformationsledelse kan have en positiv betydning for medarbejdermotivation. Resultatet gælder dog kun, når man ser på medarbejdernes opfattelse af transformationsledelse. Ser man på ledernes egen opfattelse af, hvorvidt de bruger strategien, er der ingen sammenhæng med medarbejdernes motivation. I kombination med kvalitative interviews med ledere og medarbejdere peger afhandlingens resultater på, at lederopfattet transformationsledelse og medarbejderopfattet transformationsledelse er to forskellige ting. Uoverensstemmelser mellem de to opfattelser skyldes ofte, at lederne ikke får delt deres visioner med medarbejderne. Derudover finder afhandlingen, at transformationsledelse hænger positivt sammen med medarbejdernes følelse af autonomi, kompetence og tilknytning, og at dette er en væsentlig del af forklaringen på sammenhængen mellem lederens transformationsledelsesadfærd og medarbejdernes motivation.

I forhold til antallet af medarbejdere, som en leder har ledelsesretten over, finder afhandlingen, at en stigning i ledelsesspændet kan have både positive

og negative konsekvenser for udøvelsen af transformationsledelse. Igen baseres resultaterne på både kvalitative interviews og spørgeskemaundersøgelser. Her finder afhandlingen, at et mellemstort ledelsesspænd giver de mest optimale forhold for udøvelse af transformationsledelse – i det mindste i daginstitutionssektoren. Det skyldes, at et mellemstort ledelsesspænd afvejer lederens mulighed for at fastholde en ledelsesidentitet (graden hvormed en person ser sig selv som leder), og muligheden for at kommunikere visioner og mål til medarbejderne. Når sammenhængen mellem ledelsesspænd, ledelsesidentitet og transformationsledelse testes på et repræsentativt udsnit af danske offentlige ledere, finder afhandlingen igen et positivt sammenhæng mellem ledelsesspænd og ledelsesidentitet, og imellem ledelsesidentitet og transformationsledelse.

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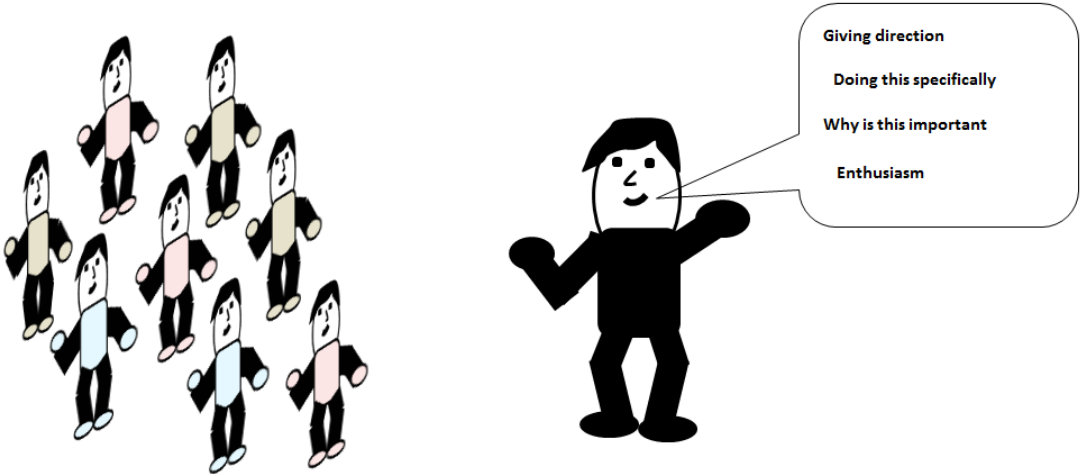
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Appendixes

Appendix 1. Graphic illustrations of transformational leadership used in interviews in the daycare sector

Note: Shown to interviewees in A4-format.

Appendix 2. Example of interview questions about transformational leadership: Managers and employees in the daycare sector

Main category and sub-categories	Interview persons asked these questions	Operational questions
Leadership styles	Leaders of leaders Leaders Employees	[Present leadership styles based on graphic illustration and ask interview persons to use them to characterize their own leader]
How is the leadership style used?	Leaders	[If yes to transformational leadership, use the following probes] - What are the goals for this childcare centre? - How do you specifically communicate the goals to the employees (written, staff meetings, informally during daily work)? - Can you exemplify how you try to connect the employees' work to specific goals? - What do you do if not all employees agree with the goals? - What do you do to keep focus on the goals? - What do you do if the goals change?
When is the leadership style used?		Is there something special about the situations where you use [mention selected leadership style]? - Is it for example when there are new initiatives? - When there are problems? - If things are just happening very fast?
Why is the leadership style used?		Why is this/are these approaches to leadership especially useful? Have you had second thoughts about using this leadership style? Why do you not use [mention unused leadership styles - use illustrations]
Choice of leadership style	Leaders of leaders Leaders Employees	[if not already mentioned] If forced to choose between these types of leadership, what type is closest to your own/your leader's leadership?

Note: Managers and employees are interviewed about three different leadership strategies (including transformational leadership). This is why interviewees are asked which leadership strategy they use the most.

Appendix 3. Example of interview questions about PSM: Employees in the daycare sector

Main category and sub-categories	Interview persons asked these questions	Operational questions
Public service motivation (PSM)		
Compassion	Employees	Do you think about whether your work as a pedagogue here at the childcare centre makes a difference for others? - For whom do you make a difference? - How do you make a difference? [probe for examples]
Commitment to the public interest		Do you (also) think about whether your work somehow contributes to society? - How does it specifically contribute? [probe for examples]
Attraction to policy making		Do you do anything to make political or leadership decisions relevant for this childcare centre?
Self-sacrifice		When you work late [beyond interview person's official working hours], do you register it? Or how does it work? - In which situations do you typically work late? - Have you ever worked late even though it was otherwise important for you to get home? - Why did you work late in that situation?
Level of PSM		How much does it mean to you to be able to make a positive difference through your work?
Leadership and PSM		Does your leader work to draw attention to how the work as a pedagogue makes a difference? - Do they talk to you about it? - Do they support tasks especially related to making a difference?

Updated appendixes for paper B (Low-hanging fruit)

Table A1. PSM items by dimensions and confirmatory factor analysis

Dimensions	Items	Survey question	Λ	z values	CI
Commitment to the public interest	Andersen, Heinsen and Pedersen (2014)	It is important to me to contribute to the common good	0.81(0.01) 0.80(0.01)b	83.36 86.76	0.79-0.82 0.79-0.82b
	PSM 39	I consider public service my civic duty	0.71(0.01) 0.72(0.01)b	64.71 67.59b	0.69-0.73 0.69-0.74b
	PSM 30	Meaningful public service is very important to me	0.60(0.01) 0.61(0.01)b	43.18 45.63b	0.58-0.63 0.58-0.63b
Compassion	PSM 4	It is difficult for me to contain my feelings when I see people in distress	0.65(0.01) 0.64(0.01)b	50.04 51.73b	0.62-0.67 0.62-0.67b
	PSM 8, Andersen, Pallesen & Pedersen (2011)	For me, considering the welfare of others is very important	0.75(0.01) 0.75(0.01)b	64.07 66.99b	0.72-0.77 0.73-0.77b
	PSM 13	I am often reminded by daily events about how dependent we are on one another	0.62(0.01) 0.62(0.01)b	49.41 50.47b	0.59-0.64 0.59-0.64b
Self-Sacrifice	PSM 5	I believe in putting duty before self	0.70(0.01) 0.70(0.01)b	65.37 67.92b	0.68-0.72 0.68-0.72b
	PSM 19	I am willing to risk personal loss to help society	0.82(0.01) 0.81(0.01)b	92.68 92.87b	0.81-0.84 0.80-0.83b
	PSM 26	I am prepared to make sacrifices for the good of society	0.77(0.01) 0.77(0.01)b	87.04 88.96b	0.76-0.79 0.76 -0.79b
Attraction to public policy making	Andersen, Pallesen & Pedersen (2011)	I generally associate politics with something positive	0.92(0.04) 0.90(0.05)b	20.50 20.05b	0.83-1.01 0.82-0.99b
	PSM 31	I do not care much for politicians (R)	0.61(0.03) 0.62(0.03)b	19.27 19.04b	0.55-0.67 0.55-0.68b

Note: Questionnaires were distributed using Danish wording of all questions and may be provided upon request to the corresponding author. Survey questions were accompanied by the pretext: 'Please state whether you agree or disagree with the following statements'. R mark reversed questions. PSM + no. refers to Perry (1996). "b" indicates analysis with bank-employees included. Confirmatory Factor Analysis (CFA) with N = 6332 for the analysis without bank-employees and N=6760 with bank-employees. All factor loadings (lambda) in table 1A are standardized with standard error in parentheses and significant (p < 0.001). Chronbachs alpha for analysis both with and without bank employees for commitment to public interest = 0,74, for self-sacrifice = 0.81 and for attraction to policy making

= 0.70. 0. For compassion without bank-employees = 0.71, for compassion with bank-employees = 0.70.

Table A2. Items for user orientation and confirmative factor analysis

Dimensions	Survey question	λ	z values	CI
User orientation	The individual user/customer is more important than formal rules	0.55(0.02) 0.52(0.02)*b*	29.07 28.68b	0.51-0.58 0.49-0.56b
	It gives me energy to know that I helped the user/customer	0.64(0.20) 0.64(0.02)*b*	31.18 31.30b	0.60-0.68 0.60-0.68b
	If the user/customer is satisfied – the job is done	0.45(0.02) 0.46(0.02)*b*	27.76 28.10b	0.42-0.49 0.42-0.49b

Note: Questionnaires were distributed using Danish wording of all questions and may be provided upon request to the corresponding author. Survey questions were accompanied by the pretext: 'Please state whether you agree or disagree with the following statements'. Questions were adjusted to the specific user group in each sector. For example, "user" in the daycare sector = "children". "b" indicates analysis with bank-employees included. Confirmatory Factor Analysis (CFA) with N = 6126 for the analysis without bank-employees and N=6567 with bank-employees. All factor loadings (lambda) in table 2A are standardized with standard error in parentheses and significant (p < 0.001). Chronbachs alpha for the analysis without bank-employees = 0.53 and 0.52 with bank-employees.

Table A3. Items for transformational leadership and confirmative factor analysis

Dimensions	Survey question	λ	z values	CI
Transformational leadership	Concretize a clear vision for the [ORGANIZATION TYPE]	0.59(0.05)	11.98	0.49-0.68
	Seek to make employees accept common goals for the [ORGANIZATION TYPE]	0.65(0.05)	13.56	0.55-0.74
	Strive to make the [ORGANIZATION TYPE] to work together in the direction of the vision	0.79(0.04)	21.26	0.72-0.87
	Strive to clarify for the employees how they can contribute to achieve the [ORGANIZATION TYPES] goals	0.63(0.6)	11.22	0.52-0.74

Note: Questionnaires were distributed using Danish wording of all questions and may be provided upon request to the corresponding author. Survey questions were accompanied by the pretext: 'As a leader I...". Questions were adjusted to the sector. In the daycare sector "ORGANIZATION TYPE" was, for example, replaced with "daycare institution". Confirmatory Factor Analysis (CFA) with N = 389. All factor loadings (lambda) in table 1A are standardized with standard error in parentheses and significant (p < 0.001). Chronbachs alpha = 0.74.