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Leadership behaviour repertoires in public organizations

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Chapter 4

Who are leading? A survey of the role of organizational context in explaining leadership behaviour of managers and non-managerial employees in public organizations

Abstract

Changing bureaucratic structures and increasing collaboration within public service delivery create new questions for leadership. With formal authority becoming more dispersed and various actors increasingly involved, revised expectations as to who contributes to organizational coordination are emerging. We investigate how both managers and non-managerial employees use leadership behaviours and how characteristics of the organizational context affect their engagement in leadership. Analyses of survey data collected among public servants ($n = 1,266$) in the Netherlands show that employees both with and without formal leadership positions demonstrate more leadership behaviour in situations of higher environmental complexity, but the latter group faces more bureaucratic constraints.

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4.1 Introduction

The public management literature abounds with leadership research on the behaviour and style of individual managers in formal leadership positions (Ospina, 2017; Vogel & Masal, 2015). The emphasis on leadership by those in formal leadership positions matches the typical bureaucratic character of many public organizations. However, now that ‘boundaryless’ and post-bureaucratic forms of organizing are becoming increasingly common (Groeneveld & Van de Walle, 2011; Shamir, 1999; van der Voet & Steijn, 2021), the link between leadership and formal hierarchical position is becoming less straightforward. This is visible in the literature on leadership in collaborative governance (e.g., Crosby & Bryson, 2005, 2010; Sørensen et al., 2017), but also applies when taking an intraorganizational perspective on leadership behaviour by individual organizational members. This trend has implications for leadership within organizations: not only managers as formal leaders, but increasingly also for non-managerial organizational members who acquire a role in organizational leadership (Jakobsen et al., 2021; Kjeldsen, 2019; Tian et al., 2016; Woods et al., 2004).

In line with these trends, researchers increasingly give attention to other conceptualizations of leadership. Ospina (2017) draws attention to relational theories of leadership with a system-centred approach, such as distributed and collective leadership (e.g., Bolden, 2011; Currie et al., 2009; Fitzgerald et al., 2013; Zeier et al., 2021). While Ospina argues that such approaches offer new opportunities to analyse leadership in complex environments, she also states that person-centred research continues to be relevant, especially when framed in the light of insights gained from distributed and collective leadership research. In public management, such person-centred leadership research typically focuses on transformational leadership by formal managers (Jakobsen & Andersen, 2015; Ospina, 2017; Vandenabeele et al., 2014; Vogel & Masal, 2015). However, as formal authority and responsibilities are devolved and spread throughout organizations, a range of organizational members become involved and are together expected to participate in the process of shaping leadership within an organization. To relate to these shifts in organizing, person-centred leadership needs to relax the constraint of focusing only on formal leaders.

Since distributed forms of leadership depend on the activities of a broad range of actors, the question emerges as to under what conditions will organizational members contribute to this shared task by exercising leadership behaviour.

Considering the development of 'boundaryless' forms of organizing, linked to these changing leadership demands, both the bureaucratic organizational structure and environmental complexity are of particular interest. These context factors may affect the room for manoeuvre as well as the necessity for leadership (Van der Voet, 2014; Van der Voet et al., 2015, 2016). While several studies have analysed how contextual factors affect leadership and managerial behaviour (George, Van de Walle et al., 2019; Hansen & Villadsen, 2010; Nielsen & Cleal, 2011; Schmidt & Groeneveld, 2021; Stoker et al., 2019; van der Hoek, Beerkens et al., 2021), the majority of this research overlooks the role of non-managerial employees in leadership. To what extent holding a formal position makes a difference in the leadership behaviour exhibited, and how characteristics of the public organizational context play a role in how managers and non-managerial employees enact leadership, warrants examination. Therefore, in this study, we broaden the scope of the person-centred approach by also including organizational members without formal leadership positions.

To summarize, this study examines these issues in order to advance our understanding of leadership at the individual level in public organizations. We aim to explain differences in the leadership behaviour of organizational members with and without formal leadership positions, test contextual effects, and explore variation in types of leadership behaviour in light of these circumstances. Our research seeks to answer the question: *How can aspects of the public organization context explain leadership behaviour by individuals with and without formal leadership positions?* We test hypotheses using survey data collected among Dutch public sector managers and non-managerial employees ($n = 1,266$) in four sectors (universities, university medical centres, police, and municipalities).

This study aims to contribute to the literature on leadership in public organizations in three ways. First, by illustrating a revised approach to person-centred leadership research with a focus on the behaviours of non-managerial-employees in addition to formal managers. While distributed concepts of leadership are gaining currency (e.g., Bolden, 2011; Currie et al., 2009; Fitzgerald et al., 2013; Zeier et al., 2021), person-centred leadership research with a broader focus remains limited and needs to catch up and reflect developments in the public sector that present new challenges for leadership. Considering not only managers with formal leadership positions, and focusing on behaviour rather than formal aspects such as responsibilities and functions, will provide more insightful comparisons. The second contribution concerns the use of a repertoire conceptualization of

leadership behaviour (van der Hoek, Groeneveld et al., 2021). Adopting such a repertoire perspective is particularly helpful when assessing leadership behaviour while anticipating broader participation within organizations: focusing on one aspect runs the risk that it is typically associated with formal authority. Approaching leadership behaviour within organizations in a comprehensive way will facilitate a more nuanced explanation of differences in levels of engagement as well as an exploration of variation in types of leadership behaviour. Third, since leadership does not take shape in a vacuum, this research considers the context in which leadership behaviour is situated, an approach called for in both public and generic management literature (O'Toole & Meier, 2015; Ospina, 2017; Porter & McLaughlin, 2006). Zooming in on conditions that facilitate or inhibit various members to engage in leadership behaviour in public organizations should provide insights with both theoretical and practical relevance.

The paper proceeds by discussing the concepts and theoretical expectations that inform our hypotheses. Next, we elaborate the study's methodological and analytical choices, followed by the results of the empirical analyses. Finally, we discuss the findings, including limitations and implications for follow-up research and for practice.

4.2 Theoretical framework

Leadership behaviour and the role of formal positions

Leadership both gains importance and becomes more complex as public organizations are increasingly characterized by 'boundaryless' and post-bureaucratic forms of organizing (Groeneveld & Van de Walle, 2011; Shamir, 1999; van der Voet & Steijn, 2021). Reforms spurred by New Public Management (NPM) thinking have to an extent replaced the traditional structures of bureaucratic control with more flexible arrangements, involving the devolution of responsibilities and authority, decompartmentalization, and ad-hoc structures (Diefenbach, 2009). Furthermore, the New Public Governance (NPG) paradigm has shifted thinking and organizing towards an emphasis on the creation of public value through collaborative arrangements (between organizations as well as between various units within organizations) (Crosby & Bryson, 2005; Osborne, 2006). These developments create new interdependencies and demands for collaboration since formal authority is less strictly connected to hierarchical leadership positions and

is instead spread more widely throughout and between organizations (Denis et al., 2001; Getha-Taylor et al., 2011; Groeneveld & Van de Walle, 2011; Gronn, 2002; Shamir, 1999). As structure loses its dominance in organizational coordination, behaviour can to an extent replace it: leadership can fill the gap and thereby gain importance in successfully achieving organizational goals (Shamir, 1999).

These trends have implications for leadership behaviour within organizations both for formal leaders as well as non-managerial organizational members. In this study, we define leadership as “the process of influencing others to understand and agree about what needs to be done and how to do it, and the process of facilitating individual and collective efforts to accomplish shared objectives” (Yukl, 2008, p. 8). This definition does not limit leadership behaviour to formal leaders, but is open to the possibility that organizational members without formal leadership positions contribute to leadership. Since individual organizational members have to accept their role in this process in order for this alternative mode of coordination to succeed, it is relevant to focus on the individual-level behaviours within the organization that constitute said leadership. We move beyond the typical limitation of the leader-centred approach (Ospina, 2017) that studies formal managers as ‘leaders’, expanding it to a person-centred approach to study leadership focused on the behaviour of organizational members more generally.

In addition, we conceptualize leadership as encompassing a repertoire of different behaviours (van der Hoek, Groeneveld et al., 2021). This provides a comprehensive perspective on leadership (see calls by Kramer et al. 2019; Pedersen et al. 2019). This is particularly relevant since various behaviours are necessary to deal with the complexity and paradoxes stemming from ‘boundaryless’ forms of organizing. To study leadership amid such complexity, organization science developed the Competing Values Framework (CVF) (Denison et al., 1995; Quinn & Rohrbaugh, 1981). Underpinning the CVF is the value tension between short- and long-term interests in ensuring an organization’s viability over time. This tension also links to the classic value tension between values of democracy and bureaucracy that are key to leadership in public organizations (van der Hoek, Beerkens et al., 2021). Bureaucratic values are reflected in the need for stability and continuity to provide certainty and confidence in organizational performance. In terms of leadership, this stresses the importance of behaviours connected to daily operations. Simultaneously, democratic values of responsiveness are present in the need to adapt and innovate to remain capable of dealing with challenges.

Leadership behaviours with a more strategic and adaptive rationale are therefore essential.

A repertoire conceptualization is particularly beneficial when we want to understand how leadership is enacted by an increasing number of organizational members. For example, certain types of behaviour may be more strongly connected to hierarchical responsibilities and authority than others. This would create differences in how likely they are to be performed by organizational members with and without formal leadership positions. Since little is known about this, in our research we adopt a somewhat exploratory approach to explore possible variation in types of leadership behaviour.

Traditionally, leadership expectations were connected to formal leadership positions. Role theory helps to explain leadership behaviour by connecting it to job positions and role expectations. Among a wide variety of factors, the positional role that a person holds informs behaviour. Integrating insights from a range of social science disciplines, Biddle (1979, p. 58) defines a role as “those behaviors that are characteristic of one or more persons in a context.” In this definition, a role is seen from a behaviourist perspective. In contrast, Seeman (1953) sees a role as the expectations regarding the behaviour of a person in a specific position. Here, not the behaviour itself but the expectations connected to positional role behaviour is key. These two views show that implicit expectations (although expectations can be explicit by talking about them or writing them down) regarding a role interact with the discernible behaviour of a person in that particular positional role. As such, formal leadership positions could be thought to convey expectations regarding the enactment of leadership behaviour. Role theory posits that such expectations would lead holders of leadership positions to act in accordance with, and more frequently engage in leadership behaviours.

Given the described trends, the connection between position and behaviour is no longer straightforward, and leadership expectations are now present for a wider range of organizational members (Jakobsen et al., 2021; Kjeldsen, 2019; Kjeldsen & van der Voet, 2021; Tian et al., 2016; Woods et al., 2004). The literature on distributed leadership often assumes that, alongside the spread of expectations of leadership agency among multiple actors, power is also more widely distributed. However, as Lumby (2019) argues, one should recognize that the implementation of distributed leadership is generally still embedded within a power structure. She cites evidence that points more in the direction of ‘formal and informal delegation within a bureaucratic system’ than of distributed power (p. 11). This suggests that

leadership responsibility and authority still largely reside in formal leadership positions and that opportunities for other members, lacking such positions, to engage in leadership behaviour remain limited. It is reasonable to assume that this does not only apply to the educational sector on which Lumby focused, but is true within public organizations more generally. For instance, research shows that formal authority has implications for leadership behaviour: because their authority grants them more options, leaders with greater formal authority use more types of leadership behaviour to deal with ambiguous situations (van der Hoek, Beerkens et al., 2021). In line with Lumby's (2019) argumentation, we would expect that being in a formal leadership position empowers organizational members to perform leadership behaviour, whereas other organizational members are less likely to engage in leadership behaviours because they lack the authority connected to a formal leadership position.

Hypothesis 1: A formal leadership position has a positive effect on leadership behaviour.

To explain leadership behaviour by a broader set of organizational members, we look at conditions that could reinforce or diminish the influence of positional role expectations on leadership behaviour. First, the organizational structure could impose barriers. Public organizations typically display bureaucratic characteristics that constrain the discretion of managers and employees (Mintzberg, 1979; Rainey, 2014) and may limit the room for manoeuvre to engage in leadership behaviour. Second, environmental complexity may present a greater need for leadership. When interrelatedness and interdependencies are common, more people may have to contribute to leadership as one of their organizational tasks (Jakobsen et al., 2021; Kjeldsen & van der Voet, 2021; Shamir, 1999), stimulating broader engagement in leadership behaviour.

Organizational structure

The organizational structure could limit or enable agency. Following Johns' (2006) view of the role of context in understanding behaviour, factors within the organizational context could constitute a limitation on range by providing opportunities or constraints on undertaking a particular action. One such factor concerns the organizational structure. From organization theory and public management studies, it is known that organizational structure affects behaviour

in organizations, including leadership behaviour (Lawrence & Lorsch, 1967; Rainey, 2014; van der Voet 2014). Typically, and widely discussed, the structure of many public organizations has a bureaucratic character. Referring to Weber's ideal type of bureaucracy, a bureaucratic organizational structure often has strong characteristics of formalization, centralization, and a strict division of authority (Boyne, 2002; Mintzberg, 1979; Rainey, 2014; Stazyk & Goerdel, 2011; Van der Voet 2014). Formalization refers to the extent to which processes and behaviour are laid down in written rules, regulations, and protocols (Pugh et al., 1968; Walker & Brewer, 2008). Centralization concerns the concentration of formal in decision-making power that reflects the organizational hierarchy (Aiken & Hage, 1968). Finally, division of authority and competences through an administrative hierarchy denotes how clear it is to organizational members who is allowed and expected to do particular things (Stazyk & Goerdel, 2011).

Each of these characteristics serves the purpose of limiting the random influence of individual organizational members in order to safeguard values such as equality and lawfulness (Rainey et al., 1995). As such, bureaucratic characteristics present a level of control over what can and what cannot be done, and by whom. Overall, organizational members in organizations in which those characteristics are relatively strong are confronted with more checks on their behaviour and their leeway to act is more restricted by the organizational structure. This also pertains to the leeway for leadership behaviour. Other studies (e.g., van der Voet, 2014) have found that a bureaucratic structure, including centralization, formalization, and red tape, limits organizational members' autonomy and room for initiative and, therefore, hampers the possibility for them to participate in leadership. On this basis, we expect a limiting, negative relationship between bureaucratic structure and leadership behaviour.

Hypothesis 2: A bureaucratic structure has a negative effect on leadership behaviour.

Given the developments regarding devolving authority and increasing collaboration, we might see a decline in bureaucratic structures. In particular, a weakening of hierarchical authority may lead to a partial replacement of structural coordination by behavioural coordination in leadership (Shamir, 1999). This could lead to changes in the opportunities for performing leadership. Since a bureaucratic structure dictates who can and cannot act (Hansen & Villadsen, 2010), it reinforces the effect

of positional role expectations that role theory suggests. Hence, organizational members without a formal leadership position have traditionally had little room for manoeuvre, and would gain the most in terms of additional space to act. The restriction-of-range argument (Johns, 2006) can also be expected to be more relevant for those who are most restricted by the bureaucratic structure. In other words, a bureaucratic structure reinforces the behavioural differences between organizational members with and without formal leadership positions. This leads to the expectation summarized in our third hypothesis.

Hypothesis 3: A bureaucratic structure strengthens the positive relationship between having a formal leadership position and leadership behaviour.

Environmental complexity

Leadership behaviour may also be explained by organizational contextual factors that provide opportunities and create a need to perform leadership behaviour. Connected to increasingly decentralized and collaborative forms of working, it is relevant to examine the role of environmental complexity. Following contingency theorists such as Lawrence and Lorsch (1967), Mintzberg (1979), and Perrow (1970), who studied the structure and operation of organizations in relation to their environment, public management scholars have also taken an interest in the topic (Rainey, 2014). Environmental complexity can be defined as the number of factors in the environment affecting the organization and the degree to which these factors are interrelated (Volberda & van Bruggen, 1997). Characteristics of the public sector, such as a broad spectrum of stakeholders involved in service delivery processes and accountability requirements, typically position public organizations amid environmental complexity (Boyne, 2002; Kjeldsen & van der Voet, 2021; O'Toole & Meier, 2015; Rainey, 2014; van der Voet et al., 2015). Moreover, due to the developments spurring collaborative governance in networks and partnerships between multiple agencies, the environmental complexity is tending to become more pronounced (Getha-Taylor et al., 2011; Groeneveld & Van de Walle, 2011).

This complexity impacts on the internal organization and may require additional leadership activity to coordinate and facilitate collaboration and organizational performance. Amid environmental complexity, decisions and tasks are affected by a plethora of factors and issues, while numerous internal and external actors are also involved. Since this influences the interrelatedness of activities and people within and across boundaries, and increases their interdependence,

it creates a need for additional coordination. O'Toole and Meier (2015) also argue that environmental complexity requires greater managerial attention since complexity presents challenges for the organization's operations. As a result, the need for leadership behaviour by organizational members grows because such leadership can fulfil the integrative function required for cooperation (Kjeldsen & van der Voet, 2021; Shamir, 1999). Indeed, van der Voet, Kuipers, and Groeneveld (2016) found that environmental complexity stimulates transformational leadership behaviour by supervisory staff. Moreover, van der Voet, Kuipers, and Groeneveld (2015) found that increasing environmental complexity required public managers to use more different types of leadership behaviour to address the various demands of the stakeholders involved. Building on this prior work, we would expect that a higher level of environmental complexity highlights the need for additional leadership behaviour.

Hypothesis 4: Environmental complexity has a positive effect on leadership behaviour.

As this need for leadership becomes more frequent and arises at more places within organizations and collaborations, this coordinating task can no longer be fulfilled by formal leaders alone (Kjeldsen & van der Voet, 2021). This would indicate that organizational members in general, regardless of whether they have a formal leadership position, will become more engaged in leadership behaviour. As such, environmental complexity would reduce the importance of formal leadership positions as sources of role expectations that inform behaviour. The stimulating effect of this characteristic of the organizational context on the enactment of leadership behaviour will be stronger for organizational members without a formal leadership position. Therefore, we expect environmental complexity to have a moderating effect on the positive relationship between formal leadership position and leadership behaviour.

Hypothesis 5: Environmental complexity weakens the positive relationship between having a formal leadership position and leadership behaviour.

Figure 4.1 displays the hypotheses combined in our conceptual model.

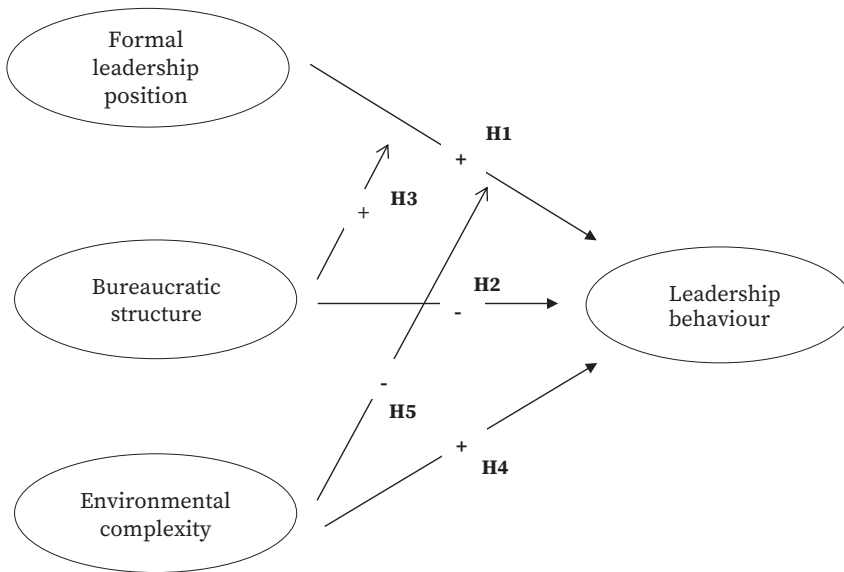


Figure 4.1. Conceptual model

4.3 Research design

Data and sample

We test our hypotheses using survey data obtained from public managers and non-managerial employees in the Netherlands. Data were collected between January and March 2020 through an online questionnaire that was sent to members of Flitspanel, a panel of public managers and employees who have signed up to regularly participate in surveys about management and work in the public sector that is coordinated by InternetSpiegel (part of the Ministry of the Interior). Our respondents worked in four selected subsectors of the Dutch public sector: municipalities, police, universities, and university medical centres (UMCs). These sectors were chosen as they are likely to generate variety in the independent variables used to measure organizational context given the different types of work (policy, implementation, service delivery, highly skilled professional work) and organizational characteristics (such as the role of hierarchy and professionalism). Further, Flitspanel contained sufficient registered respondents with a managerial position to allow comparisons.

Organizational members both with and without formal leadership positions were invited to participate in the study, resulting in complete data for 1,283 respondents (41% response rate). In total, 282 managers occupying a formal leadership position and 1,001 employees without such a formal position completed the survey. We removed respondents from the sample if they were beyond retirement age, claimed to have both a formal leadership position and no experience in formal leadership positions, and/or they had entered impossible values (e.g., 102 years of experience in their current position). This left 1,266 respondents, of whom 276 were managers with formal leadership positions and 990 employees without formal leadership positions, in the sample. Of these, 62.6% were male, the respondents' average age was $M=54.7$ ($SD=7.67$) years, and they had on average $M=10.3$ years of experience in their current position ($SD=8.01$). Across the total sample, respondents reported an average of $M=6.3$ ($SD=9.08$) years of experience in managerial positions. Excluding those without managerial experience ($n=501$), respondents had a mean 10.5 ($SD=9.6$) years of experience in managerial positions. The distribution of respondents across the four sectors was as follows: municipalities 43.8%, police 19.0%, universities 22.9%, and university medical centres (UMCs) 14.2%.

Measurement

The questionnaire consisted of previously developed scales and items. Appendix C lists all the items making up the various scales.

Leadership behaviour

To capture the variety of leadership behaviours, leadership behaviour was measured using a 16-item scale previously tested by Denison et al. (1995). All the items were scored on a 7-point scale ranging from 1–*Almost never* to 7–*Almost always*. We adapted the item wording to ask respondents about their own leadership behaviour. By using this scale, we could assess the repertoire of leadership behaviours. The responses to the items measuring the repertoire of leadership behaviours had good scale reliability (Cronbach's $\alpha = 0.92$).

In a somewhat exploratory fashion, we also ran analyses for various subtypes of leadership behaviour. Running these models allowed us to explore whether, and if so how, employees with and without formal leadership position respond differently in terms of various aspects of leadership to characteristics of the organizational context. The complete set of items was split into four subscales of four items, each with a different focus in line with the quadrants of the Competing Values

Framework (Denison et al., 1995; Quinn & Rohrbaugh, 1981). First, leadership behaviours associated with *Open Systems* roles centre on the process of adaptation to the organization's external environment. This involves developing, scanning, and maintaining a network and envisioning, encouraging, and facilitating change. Second, leadership behaviours associated with *Rational Goal* roles emphasize directing and motivating goal-directed efforts of the group. This concerns setting goals, clarifying roles, managing expectations, and stimulating task completion. Thirdly, leadership behaviours with an *Internal Process* orientation focus on internal control and stability. This comprises creating and maintaining structure, coordinating, problem solving, collecting and distributing (performance) information, and overseeing compliance with rules and standards. Finally, *Human Relations* oriented leadership behaviours prioritize human interaction and group processes. This includes encouraging deliberation and discussion, seeking and negotiating consensus or compromise, signalling and attending to individual needs and requests in a fair and active way, and facilitating individuals' development (Denison et al., 1995, pp. 527-528). Each subscale had good or at least sufficient scale reliability (Open Systems leadership behaviour: $\alpha=0.84$; Rational Goal leadership behaviour: $\alpha=0.83$; Internal Process leadership behaviour: $\alpha=0.74$; and Human Relations leadership behaviour: $\alpha=0.75$).

Formal leadership position

Based on the sampling frame, respondents were invited to participate in the survey either as formal managers or as non-managerial employees. As a check, respondents had to indicate whether it was correct that they did or did not hold a formal leadership position, which was specified as being a supervisor to employees, including conducting performance and development reviews. This measure is a binary variable with 0–*No formal leadership position* and 1–*Formal leadership position*.

Bureaucratic structure

Three items measured the extent to which respondents perceive their organizational context to be bureaucratic. Centralization was measured using the item "Before I can make a final decision, permission of a superior is required." 1–*Permission never required* to 10–*Permission always required* (adapted from Aiken & Hage, 1968; Pandey & Wright, 2006; van der Voet, 2014). Formalization was measured using the item "Written rules and guidelines are important in guiding how I act within my organization." 1–*Not important at all* to 10–*Very important* (Walker & Brewer,

2008). The level of clarity in the structure of responsibilities and authority was measured with the item “Within my organization, competences and responsibilities are clearly distributed.” 1–*Not at all clearly distributed* to 10–*Very clearly distributed*. This item was based on a measure used by Stazyk and Goerdel (2011).

A factor analysis revealed that the items did, as expected, refer to distinct concepts and should not be treated as a single scale. Since the items were assessed on an 11-point scale, and there was variation in the scores provided, the earlier decision to use single-item measures for those concepts was considered acceptable. Further, other studies have similarly used single-item measures for similar concepts before (e.g., Kaufmann & Feeney, 2012; Stazyk & Goerdel, 2011; Walker & Brewer, 2008).

Environmental complexity

A 4-item scale was used to measure perceptions of environmental complexity (van der Voet et al., 2016; Volberda & van Bruggen, 1997). The items were scored on a 5-point Likert scale, ranging from 1–*Completely disagree* to 5–*Completely agree*. A Principal Component Analysis showed that all items clearly loaded onto the same dimension (loadings well above 0.6) and that the scale reliability was good with Cronbach’s $\alpha = 0.80$.

Control variables

Various individual and organizational characteristics that may affect leadership behaviour were controlled for in the analyses. In terms of individual characteristics, gender (0=*male*, 1=*female*) and age in years were included, as well as experience in the current position, also measured in years. Regarding organizational characteristics, the size of the organizational unit and the sector were included. Size of the organizational unit was measured by asking respondents to indicate the number of employees working for the organizational unit that they themselves (if they have a formal leadership position) or their direct manager (if they do not have a formal leadership position) supervise. The answer category options were: 1=0-10; 2=11-20; 3=21-50; 4=51-100; to 5=More than 100. Finally, we controlled for sector. In the initial sampling, different sectors were included to generate greater variety in the independent variables. Therefore, in the analyses, we controlled for sector to evaluate the effect of the independent variables. Sector was dummy coded, with the university sector as the reference category.

Analysis

We analysed the data using OLS regression in SPSS (Field, 2013) in two steps: first, the hypotheses were tested, followed by an exploration of variation between subtypes of leadership behaviour. To facilitate interpretation of any moderating effects, all the independent variables were grand mean centred before creating interaction terms (Dalal & Zickar, 2012; Field, 2013).

4.4 Results

Descriptive statistics

Table 4.1 shows the descriptive statistics (means and standard deviations) and bivariate correlations of all variables. Table 4.2 presents independent samples t-tests, showing how formal leaders and non-managerial employees differ in terms of leadership behaviour. These tables show variation in the independent and dependent variables as well as correlations that are largely in line with the theoretical expectations.

Regression analyses: Testing hypotheses

The hypotheses on the relationships between organizational contextual factors and leadership behaviour were tested in a stepwise procedure, starting with a model including only control variables (model 1), then adding formal management position (model 2), bureaucratic structure (model 3), environmental complexity (model 4), and interaction terms (model 5). These models are displayed in Table 4.3.

In model 1, where only control variables were included, only 1.5% of the total variance could be explained ($R^2_{\text{adjusted}}=0.015$). Gender had a significant negative relationship with engaging in leadership behaviour, with women showing less leadership behaviour than men ($b=-.113$, $p<.05$). This association however disappeared when formal leadership position was added to the model. Having more years of experience in one's current position seems to have a significant negative relationship with leadership behaviour ($b=-.012$, $p<.01$). In contrast, the size of the organizational unit had a significant positive relationship ($b=.057$, $p<.05$). These relationships persisted when formal leadership position and perceptions of bureaucratic structure characteristics were added to the model, but lost relevance upon the introduction of perceived environmental complexity.

Table 4.1. Descriptive statistics and bivariate correlations ($n = 1,266$)

	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1 Leadership overall	4.10	.905	-													
2 Leadership OS	3.83	1.137	.83**	-												
3 Leadership RG	4.13	1.141	.90**	.63**	-											
4 Leadership IP	3.97	1.030	.82**	.55**	.75**	-										
5 Leadership HR	4.46	.931	.84**	.61**	.67**	.61**	-									
6 Formal leadership position	.22	.413	.29**	.24**	.30**	.18**	.28**	-								
7 Centralization	6.00	2.556	-.04	-.07*	-.03	-.01	-.02	-.14**	-							
8 Formalization	6.91	2.295	-.01	-.15**	.02	.10**	.02	-.08**	.34**	-						
9 Clarity division authority	6.70	2.221	-.02	-.11**	.02	.05	.00	.04	.15**	.42**	-					
10 Environmental complexity	3.40	.607	.36**	.32**	.32**	.27**	.32**	.12**	.07**	.07*	-.01	-				
11 Gender	.38	n/a	-.06*	-.10**	-.07*	-.04	.01	-.11**	.06*	.11**	.05	-.02	-			
12 Age	54.70	7.672	-.01	-.03	.02	-.02	.00	.01	-.04	.00	.07**	.02	-.15**	-		
13 Years current position	10.28	8.005	-.10**	-.12**	-.10**	-.04	-.07*	-.11**	-.03	.02	.04	-.08**	-.05	.25**	-	
14 Size organizational unit	2.52	1.178	.08**	.07*	.07*	.07*	.07*	.00	.00	.06*	.06*	.14**	-.04	.02	-.03	-
15 Universities	.23	n/a	-.03	.01	-.05	-.03	-.017	.11**	.013	-.17**	-.11**	-.06*	.07*	-.02	-.02	.00
16 UMCs	.14	n/a	-.02	-.06*	-.04	.01	.014	.004	.07*	.04	.01	-.02	.13**	-.05	-.05	.14**
17 Police	.19	n/a	.03	-.04	.05	.02	.07*	.07*	.06*	.13**	.14**	.05	-.17**	.03	.03	-.04
18 Municipalities	.44	n/a	.02	.06*	.03	.017	-.05	-.15**	-.10**	.01	-.03	.03	-.01	.02	.02	-.07*

** $p < 0.01$; * $p < 0.05$

Table 4.2. Independent samples t-test (equal variances not assumed)

Leadership behaviour	Formal leadership position	N	M	SD	t	df	p
Overall	No	990	3.96	.901	-12.175	532.309	.000
	Yes	276	4.60	.729			
Open Systems	No	990	3.68	1.147	-10.063	531.944	.000
	Yes	276	4.35	.928			
Rational Goal	No	990	3.95	1.129	-12.249	516.497	.000
	Yes	276	4.77	.942			
Internal Process	No	990	3.88	1.051	-7.002	519.722	.000
	Yes	276	4.31	.871			
Human Relations	No	990	4.33	.912	-10.788	476.973	.000
	Yes	276	4.95	.829			

The explained variance rose significantly to 9.3% when accounting for formal leadership position ($\Delta R^2=.079$, $\Delta F=110.132$, $p<.01$). Model 2 shows that having a formal leadership position ($b=.545$, $p<.05$) is significantly and positively related to engagement in leadership behaviour. This relationship holds for all the subsequent models, not only for the combined measure of leadership in Table 4.3 but also for each type of leadership behaviour. Hypothesis 1 is thus supported by the data.

Considering the organizational contextual factors, we see diverging results. Model 3 includes respondents' perceptions of centralization, formalization, and clarity of authority division. Adding these perceptions does not significantly improve the extent to which leadership behaviour could be explained ($\Delta R^2=.002$, $\Delta F=0.731$, n.s.). As such, none of the tested characteristics of bureaucratic structure influence leadership behaviour and hypothesis 2 is therefore not supported by the data. Conversely, perceived environmental complexity significantly adds to the explanation of leadership behaviour ($\Delta R^2=.098$, $\Delta F=152.942$, $p<.01$), with 19.1% of the variance explained in model 4. When respondents perceived their organizational environment as more complex, they reported more frequent use of leadership behaviours ($b=.528$, $p<.01$). This finding remains robust when the models are run for the separate types of leadership behaviour. As such, the data provide support for hypothesis 4. Finally, none of the hypothesized interactions show significant relationships with leadership behaviour. This indicates that hypotheses 3 and 5 are not supported. However, there could be differential effects for the individual types of leadership behaviour since the descriptive statistics indicate variance between the various types. We explore this in Table 4.4.

Regression analyses: Exploring subtypes

Table 4.4 displays the results of the full model including all variables and interaction terms while also treating the four subtypes of leadership behaviour as separate dependent variables. Supporting the findings reported in Table 4.3, the interaction between perceived environmental complexity and formal leadership position is not significant for any type of leadership. This means that there is no support for hypothesis 5. While perceived environmental complexity can be said to create opportunities for both formal leaders and non-formal leaders to enact leadership behaviour, this contextual factor does not alter the differences between the groups.

In contrast, Table 4.4 does show diverging findings regarding the moderating effect of perceived bureaucratic structure. The interactions between the three characteristics of bureaucratic structure and formal leadership position are not consistent across leadership behaviour types. Centralization does not affect the relationship between formal leadership position and any of the of the leadership behaviour types, and none of the interaction terms are significant in model 6b when regressed onto Rational Goal leadership behaviour (where the differences between managers and non-managerial employees are generally the most pronounced, see Table 4.2 Nevertheless, there are some indications that perceptions of structural elements do have a moderating effect although the effects are rather small (all below $b=0.1$) and often only significant at $p<0.10$. The interaction effects can be interpreted from the plots in Figures 4.2, 4.3, and 4.4.

Perceived formalization seems to condition the extent to which respondents with and without formal leadership position engage in Open Systems behaviour (model 6a). The interaction between formalization and formal leadership position is positive, albeit small and only marginally significant: $b=0.067$, $p=0.065$. Coupled with the significant main effects of position ($b=.528$, $p=.000$) and formalization ($b=-.074$, $p=.000$), the model indicates that formal leaders and respondents who perceive less formalization report more use of this type of leadership behaviour, and that the organizational context constrains non-managerial employees more. Figure 4.2 shows that respondents with a formal leadership position report a fairly constant score on Open Systems leadership behaviour, both under conditions of more and of less formalization. Respondents without formal leadership position report a similar level of engagement in that type of leadership behaviour under conditions of low formalization. For them, however, the use of Open Systems leadership behaviour decreases under conditions of greater formalization. This finding supports hypothesis 3. Moreover, in this model, the perceived clarity of

Table 4.3. Regression analyses leadership behaviour ($n = 1,266$)

DV: Total all items ($\alpha=0.92$)	Model 1	Model 2	Model 3	Model 4	Model 5
	B	B	B	B	B
Constant	4.139	3.919	3.917	3.964	3.970
Gender	-.118*	-.056	-.056	-.058	-.053
Age	.001	.000	.000	-.001	-.001
Years current position	-.012**	-.007*	-.007*	-.005	-.005
Size organizational unit	.057*	.053*	.053*	.024	.024
Dummy UMC	.004	.037	.035	.024	.019
Dummy Police	-.007	.030	.033	.001	-.015
Dummy Municipality	.009	.116 [†]	.116 [†]	.077	.068
Formal leadership position		.633**	.643**	.545**	.558**
Centralization			.001	-.008	-.009
Formalization			.011	.003	-.007
Clear division authority			-.017	-.008	-.014
Environmental complexity				.479**	.475**
INT FLP*Centralization					.008
INT FLP*Formalization					.045
INT FLP*Clear division authority					.037
INT FLP*Environmental complexity					-.005
R²_{adjusted}	0.015	0.093	0.093	0.191	0.193
F	3.685**	17.271**	12.752**	25.851**	19.950**
R²_{change}		0.079	0.002	0.098	0.005
F_{change}		110.132**	0.731 (n.s.)	152.942**	2.002 [†]

** $p < 0.01$; * $p < 0.05$; [†] $p < 0.10$

Reference category sector = universities; Variables are grand mean centred (except gender + sector dummies)

division of authority ($b = -.035$, $p = .031$), being female ($b = -.154$, $p = .013$), having more experience in one's current position ($b = -.008$, $p = .027$), and working in the police sector in comparison to working in the university sector ($b = -.173$, $p = .075$) have negative relationships with Open Systems leadership behaviour.

Table 4.4. Regression analyses by type of leadership behaviour ($n = 1,266$)

DV:	Model 6a Open Systems ($\alpha=0.84$)	Model 6b Rational Goal ($\alpha=0.83$)	Model 6c Internal Process ($\alpha=0.74$)	Model 6d Human Relations ($\alpha=0.75$)
	B	B	B	B
Constant	3.772	3.895	3.932	4.281
Gender	-.154*	-.062	-.077	.081
Age	-.004	.003	-.004	.001
Years current position	-.008*	-.007 [†]	-.001	-.003
Size organizational unit	.040	.012	.027	.016
Dummy UMC	-.084	.041	.038	.080
Dummy Police	-.173 [†]	.103	-.090	.098
Dummy Municipality	.090	.170*	.010	.004
Formal leadership position	.528**	.749**	.414**	.541**
Centralization	.007	-.012	-.024 [†]	-.007
Formalization	-.074**	.004	.033*	.009
Clear division authority	-.035*	-.002	.000	-.021
Environmental complexity	.525**	.532**	.426**	.418**
INT FLP*Centralization	-.044	.018	.045	.012
INT FLP*Formalization	.067 [†]	.042	.074*	-.001
INT FLP*Clear division authority	.041	.018	.032	.057 [†]
INT FLP*Environmental complexity	.065	-.038	-.095	.046
R²_{adjusted}	0.184	0.174	0.107	0.155
F	18.87**	17.64**	10.45**	15.50**

** $p < 0.01$; * $p < 0.05$; [†] $p < 0.10$

Reference category sector = universities; Variables are grand mean centred (except gender + sector dummies)

Similarly, the level of perceived formalization moderates the effect of having a formal leadership position on respondents' engagement in Internal Process leadership behaviour (model 6c). The interaction between formalization and formal leadership position is significantly positive ($b=0.074$, $p=0.033$), and the effects of both position ($b=.414$, $p=.000$) and formalization ($b=.033$, $p=.038$) are also positive. This not only indicates that both factors separately stimulate the use of this type of leadership

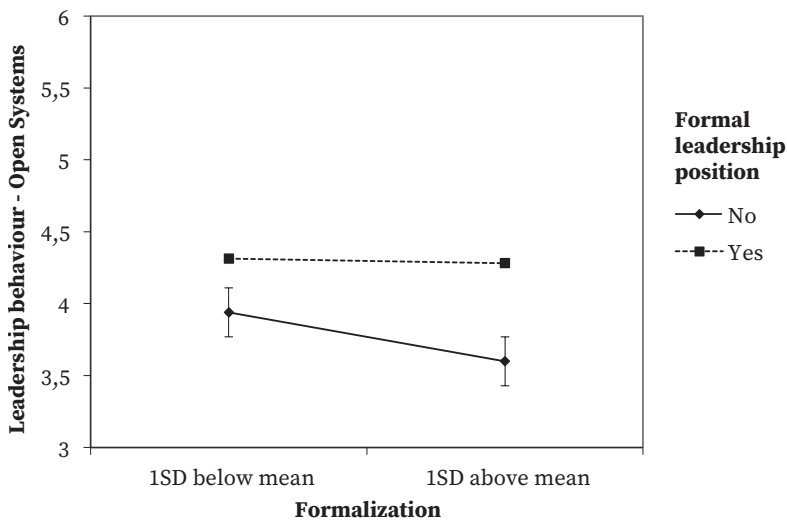


Figure 4.2. Interaction effect of formal leadership position and formalization on Open Systems leadership behaviour

behaviour, but also that it is used more often by both formal leaders and non-managerial employees when a higher level of formalization is perceived, with the increase greater for formal leaders. In line with hypothesis 3, bureaucratic structure here seems to reinforce behavioural differences linked to formal leadership position. Reflecting Figure 4.3, it can be said that respondents with a formal leadership position report greater engagement with leadership behaviour of the Internal Process type when they experience more formalization in their organization. A possible explanation could be that more control and coordination are required at higher levels of formalization, and that this stimulates the enactment of leadership behaviours focused on rules, plans, and protocols. In contrast, respondents without a formal leadership position score slightly lower for this type of behaviour when there is less formalization, and report only slightly more engagement in this type of behaviour when formalization is higher. As such, the difference between formal and non-formal leaders increases with higher levels of formalization.

Another structural aspect affects how formal leaders and organizational members without formal leadership positions act in terms of Human Relations leadership behaviour. In model 6d, a perception of clearly divided competences and responsibilities interacts significantly, but only to a limited extent, with formal leadership position ($b=0.057$ at $p=0.061$). At the same time, only the main effect of

formal leadership position ($b=.541$, $p=.000$) is significantly related to HR leadership behaviour. This can be interpreted as that formal leaders in general use this type of behaviour more often than those without a leadership position and that this difference is larger when competences and responsibilities are more clearly divided within the organization. Again, this is in line with hypothesis 3. Figure 4.4 shows that respondents with a formal leadership position report enacting more leadership behaviour of the Human Relations type as clarity of the division of responsibility and authority within the organization increases. This could be understood as a way for formal leaders to involve employees more when the latter have formally less authority and hence voice. This leadership behaviour could then be used to counterbalance the formal structure and enable employees to still participate in decision-making. Respondents without formal leadership positions report similar levels of this type of leadership behaviour when responsibility and authority are not clearly divided within the organization. With increasing clarity about this division, their score for this type of leadership behaviour slightly falls, which reinforces the difference compared to respondents with formal leadership positions.

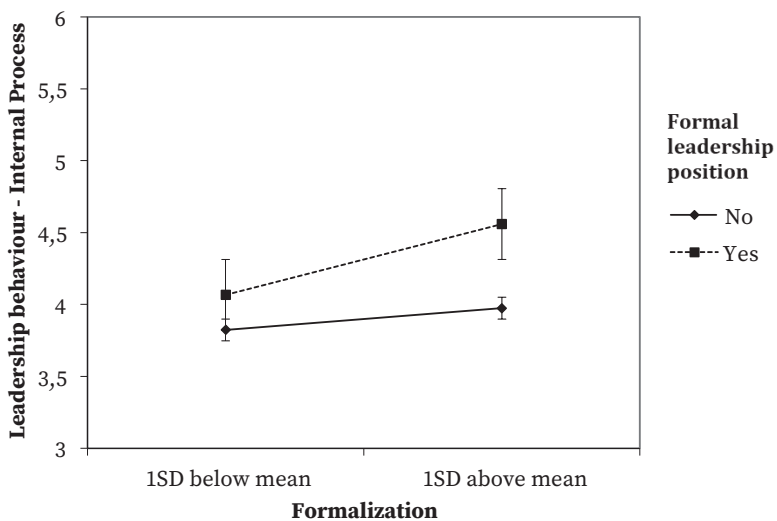


Figure 4.3. Interaction effect of formal leadership position and formalization on Internal Process leadership behaviour

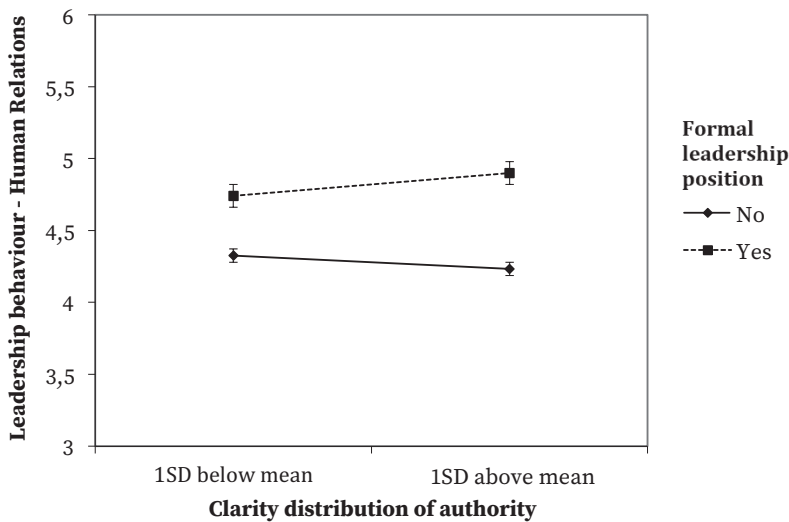


Figure 4.4. Interaction effect of formal leadership position and clarity of division of competences and responsibilities on Human Relations leadership behaviour

4.5 Discussion

New conceptualizations of leadership as a collective process are gaining ground amid ongoing developments of ‘boundaryless’ and collaborative organizing within the public sector. Not only are hierarchical managers with formal leadership positions considered to exercise leadership behaviour, increasingly also non-managerial employees are becoming involved and even expected to participate in organizational leadership. Consequently, understanding the conditions under which people are more likely to engage in leadership behaviour is gaining importance. Although public management scholars continue to generate valuable insights on person-centred leadership, their attention has largely concentrated on formal leaders. Broadening this perspective can advance our understanding of leadership behaviour on the individual level within organizations. By taking this step, our study reveals that both managers and non-managerial employees report engaging in leadership behaviours, although the extent of their leadership behaviours depends on organizational conditions. As an initial contribution, this demonstrates the relevance of a more inclusive approach to person-centred leadership research.

Our data show that formal leaders are still more active in terms of leadership behaviour than non-managerial employees. This is in line with traditional bureaucratic patterns that explicitly connect leadership to hierarchical management

positions. This finding complements earlier findings by van der Hoek, Beerkens et al. (2021) that formal authority has an enabling effect on leadership behaviour. While their study indicated that formal authority provides opportunities to draw on a wider variety of leadership behaviours, the current study adds that formal leaders are more active in performing leadership than non-managerial employees and that they more often use each type of leadership behaviour. Nevertheless, one should not ignore non-managerial employees as they also participate in each type of leadership, albeit to a lesser extent. Further, both groups exercise more leadership behaviour when the organization's environment is experienced as more complex. However, formal leaders and organizational members without formal leadership positions seem to respond differently to bureaucratic structure. The findings point to a relatively low participation by non-managerial employees in Open Systems and Internal Process leadership behaviours when written rules and regulations are more emphasized within the organization. Likewise, the different levels of engagement in Human Relations leadership behaviour are reinforced, and performed more often by formal leaders, when the administrative hierarchy, with a clear division of responsibilities and competences, is stronger. By adopting a repertoire perspective on leadership behaviour, this study provides a means to further investigate differences between managers and non-managerial employees regarding leadership.

As a second contribution, our study provides insights that help understand organizational leadership from a person-centred perspective against the backdrop of changes that require collective engagement in this task. On the one hand, the finding that both managers and non-managerial employees actively employ leadership behaviours indicates that there are opportunities for collective forms of leadership that could be further developed. On the other hand, the findings indicate that having a formal leadership position still matters and should not be thought of as irrelevant for an individual's leadership behaviour. As Lumby (2019) argued, the leadership behaviour of organizational members is still located within bureaucratic systems that push leadership by some (managers) while restraining the leadership of others (non-managerial employees). A formal leadership position may well be more salient in the expected or permitted exercise of certain types of leadership, especially in organizations that are bureaucratic. This seems to be particularly the case for behaviour types connected to setting direction, following-up on rules and procedures, and developing innovations and people. While there may be opportunities for leadership as a collective process, organizations should be realistic about what can be expected of leadership as a distributed phenomenon

given the apparent barriers to participation by organizational members without formal leadership positions. Leadership development in both theory and in practice could benefit from research that delves into mechanisms that connect opportunities, motivations, and barriers to the usage of various options from the leadership behaviour repertoire.

Moreover, one should consider how non-managerial employees can be moved to enact leadership behaviour. Drawing on role theory, actively communicating expectations regarding leadership behaviour to those who are not in formal leadership positions could be part of this. How organizations deal with such role expectations and responsibilities on the one hand, and formal authority and competences on the other, could also make a difference. That is, to what extent can balance be achieved through formal agreements, or would a relational approach requiring ongoing discussion and coordination between partners be more effective? Further research could investigate the relationships between role expectations, formal authority, and the engagement in leadership behaviour by both managers and non-managerial employees alike.

Further, how leadership as a collective process relates to hierarchical leadership merits greater attention from public management researchers. Kjeldsen and van der Voet (2021) discuss that formal and distributed forms of leadership could be better understood as complementary rather than as excluding each other. Referring to findings of van der Voet, Groeneveld, and Kuipers (2014) and of Günzel-Jensen, Jain, and Kjeldsen (2018), they argue that certain forms of formal leadership may be necessary to create the conditions for effective distributed leadership. Since non-managerial employees seem to face more constraints in engaging in leadership behaviour, a continuing role for certain forms of formal leadership should be expected. Our findings underline the importance of continued research on this combination. Moreover, gaining insight into the distribution patterns of leadership activity, which organizational members are playing which roles, and how formal competences are matched to that distribution will provide a step forward (see also Fitzgerald et al. 2013). As Gronn (2002) and, more recently, Kjeldsen and van der Voet (2021) discuss, a carefully designed distribution might contribute to organizational effectiveness. Learning more about how leadership is distributed among a broader set of organizational members in public organizations would then have theoretical as well as practical value.

As a third contribution, this study shows the importance of the organizational context in understanding broader participation in leadership. Seen in the light of

the trends towards expanding collaborative constellations in public management, that add challenges to decision-making and goal achievement, it is important to recognize that there is a positive link between environmental complexity and exercising leadership behaviour. This connection could be understood as an increased need for coordination, which leadership behaviour can fill (Shamir, 1999). The stimulating effect of environmental complexity highlights the fact that the environment imposes a need for broader participation in leadership in public organizations. Since our findings show that structures can complicate this, public organizations may need to be reshaped, or their structure at least form part of deliberate considerations about leadership expectations throughout the organization, to facilitate contributions by a broad range of its members. Although this research has focused on how perceptions of context matter for various leadership behaviours, future research should, conversely, also consider the role of leadership behaviours in shaping bureaucratic structures and the interactive dynamics in this process (e.g., Wallace & Tomlinson, 2010). Attention to the complex and dynamic role of leadership in public organizations is all the more important because not only is the environmental complexity external to the organization creating a demand for broad leadership engagement; also the complexity in terms of interdependencies within the organization, such as across the boundaries of teams, departments, and functional groups, contributes to it. The devolution of responsibilities and authority, and decompartmentalization ambitions (Diefenbach, 2009; Getha-Taylor et al., 2011; Groeneveld & Van de Walle, 2011; Shamir, 1999) create a more complex chain of authority which is likely to affect how leadership is exercised. Complementary competences require more collaborative approaches to leadership. Future research could specifically focus on how this internal complexity relates to how leadership behaviour is used.

Limitations

This study has focused on the leadership behaviour of organizational members both with and without a formal leadership position. There are some limitations that should not be ignored when drawing conclusions. First, we could not control for respondents' position in the organizational hierarchy, which could be thought of as differentiating the roles of managers and employees (Walker & Brewer, 2008) and hence as influencing leadership behaviour. Similarly, distinguishing between organizations within the same sector was not possible. Due to privacy protection regulations, we could also not collect nested data and establish clear connections

between formal managers and subordinates. As such, we could not check for self-other rating discrepancies (Vogel & Kroll, 2019). Similarly, common method bias cannot be ruled out because respondents provided the information for all the used variables except for formal leadership position. The data for both the dependent and independent variables stem from the same source, but only the dependent variables were self-evaluations. Although the measures of structure and environment do involve the respondent's perceptions, they are not self-assessments and are thus unlikely to be prone to a social desirability bias in order to look good (Jakobsen & Jensen, 2015). Self-reported accounts of leadership behaviour do carry a risk of desirability and self-serving bias, which is less likely when others evaluate leadership by the focal person (Vogel & Kroll, 2019). However, the intentions behind a leadership behaviour are not factored into third-party reporting, and this is relevant information when trying to explain why leadership behaviour is used in a certain way. Since others have to pick up on leadership behaviour in order to be influenced by it, others' ratings of leadership behaviour have clear benefits to explain outcomes (Jakobsen & Andersen, 2015). However, explaining why organizational members use leadership behaviour the way they do is well served by self-ratings. Since self-reported data enabled us to gain such insights, we accepted the drawbacks of self-reported data.

Furthermore, due to the lack of a nested data structure, patterns of participation in leadership as a collective process could not be investigated. We also did not explicitly ask respondents whether there were expectations of distributed leadership in their organization. This restricts the scope of the data to each individual's behaviour, enabling only a person-centred analysis, and therefore preventing conclusions being drawn about the realities of distributed leadership at a collective level. Although the current findings can feed into the discussion about leadership by a broader set of organizational members, follow-up research is needed that explicitly makes design choices and includes measures to better understand the collective process. Integrating insights from person-centred leadership research and system-centred leadership research would help better understand leadership in complex environments (Ospina, 2017).

In terms of operationalizing leadership behaviour, there were limitations in the scope of the leadership behaviours included. Although the measurement scale is relatively comprehensive regarding leadership behaviour within an organization, we have not considered behaviours that are more collaborative and boundary-crossing in nature. This is a limitation since the developments in terms

of organizing increasingly require interorganizational behaviour. Incorporating such behaviours would enable follow-up research to gain a fuller understanding of leadership at the individual level of analysis in complex forms of organizing. Furthermore, while some authors have argued that public leadership is distinct (Getha-Taylor et al., 2011; Hartley, 2018), others have promoted studying more generic models but explicitly placing them in a public sector context to generate relevant insights (Ospina, 2017; Vandenabeele et al., 2014). This study has sought to advance theorizing by adopting the latter approach and focusing on several characteristics of the organizational context that are typical of public organizations. However, including other leadership behaviours that are more specifically aimed at public values could enrich future studies.

Finally, the Flitspanel sample used is self-selected rather than random. This reduces the generalizability. However, members of this panel are generally interested in management and organization themes. Hence, the participants could be more in favour of leadership activities than other members of the relevant population who are not part of the sampling frame. Nevertheless, we were able to discern a clear distinction between formal leaders and non-managerial employees, with the former exercising more leadership behaviour. If the predicted bias does exist, then this finding is a clear indication that formal position does influence the behaviour of the population. Follow-up research using other types of samples (countries, sectors, sampling strategy, data structure) could add further insight into the external validity of this study's findings.

4.6 Conclusion

So, who are leading? Amid developments that change the importance of leadership throughout public organizations, this study found that managers as formal leaders are still the most active in terms of exercising leadership behaviour. Nevertheless, this study shows that organizational members without formal leadership positions also engage in leadership and that environmental complexity creates opportunities for broader participation in leadership. Attention is therefore warranted on bureaucratic structural characteristics that may constrain non-managerial employees. These findings advance our understanding of conditions that enable organizational leadership as a collective endeavour, by managers and non-managerial employees alike. Many questions remain, and further research on these themes is encouraged to advance both theory and practice.