Leadership beyond hierarchies, toward public value: exploring, explaining and enhancing leadership in public sector networks

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Introduction

In May 2024, a deeply upsetting incident drew national attention. A ten-year-old girl, severely injured, was rushed to the hospital. Her foster parents were suspected of causing the harm. The girl had been under supervision and placed in foster care over two years prior. A subsequent investigation by the Health and Youth Care Inspectorate revealed a devastating truth: the support and care she had received were grossly inadequate. Public sector agencies involved in her care did not share critical information, and the inspection assessed their collaboration as 'inadequate.'

In February 2025, this concern over fragmented care resurfaced. Following a series of violent, sometimes fatal, incidents involving individuals with mental illness, three national inspectorates announced a joint investigation. One of these incidents involved the fatal stabbing of an 11-year-old girl in Nieuwegein on February 1st. The perpetrators were often receiving care or support through multiple mental health services or municipal programs. Therefore, the collaboration between these organizations has the inspections' attention in their investigation.

These incidents emphasize the importance of effective collaboration between organizations, such as healthcare providers, municipalities, and law enforcement. However, such collaboration does not happen automatically—particularly in complex, high-risk contexts involving vulnerable citizens. It requires actors who take initiative, coordinate across organizational boundaries, and sustain a shared sense of responsibility in regards to complex cases. These cases not only illustrate the consequences of inadequate collaboration but also point out a broader challenge: how can leadership be enacted and sustained when authority is diffuse, organizational goals are misaligned, and formal command structures are absent? They highlight the theoretical puzzle at the heart of this dissertation: understanding leadership beyond hierarchies in complex public sector networks who aim to create public value and address complex societal problems.

1.1 Leadership in public sector interorganizational networks: opportunities in a new organizational landscape

In the past two decades, public organizations have become increasingly engaged in collaborative networks (Provan and Kenis 2008; Crosby and Bryson 2010). Networks are defined as collaborative entities in which three or more autonomous organizations collectively pursue a joint goal (Provan, Fish and Sydow 2007). In the public sector, these networks have emerged as a response to complex societal challenges, such as climate adaptation, the prevention of organized crime, and improvements in healthcare systems. This complexity stems not only from the scale and interconnectedness of major societal issues, but also from the cross-cutting problems faced by individual citizens, as the examples above illustrate. The growing popularity of networks is unsurprising: they facilitate the

pooling of resources, such as expertise and financial capacity. As a consequence, networks are able to attain "collaborative advantage" - the generation of public value beyond what individual organizations could achieve independently (Huxham and Vangen 2013). This advantage is especially relevant in networks targeting *'wicked problems'* – complex societal challenges that require the expertise of a range of actors (Head and Alford 2015).

With the increasing prevalence of network-based governance, the role of leadership in these contexts has gained more academic attention. Leadership is demonstrably beneficial for networks and needed to further the common good (Kramer et al. 2019; Bryson, Crosby and Stone 2015). Unlike traditional hierarchical organizations, networks are horizontal partnerships which generally lack formalized leadership structures and conventional mechanisms for sanctioning and incentivization. Instead, leadership in the context of public sector networks relies on interpersonal behaviors, such as fostering motivation and engagement, securing stakeholder buy-in for shared goals, and mobilizing critical resources—including financial support and human capital—to facilitate collective action (Agranoff and McGuire 2001; Bryson, Crosby and Stone 2015; Morse 2010).

However, much of the existing literature on public sector networks conceptualizes leadership in a narrow way—focusing on individual actors such as 'network managers' (Kickert, Koppenjan and Klijn 1997), leadership as a means to advance the interests of individual organizations (Meier and O'Toole 2003), or identifying discrete leadership roles and tasks needed for effectiveness (Ansell and Gash 2012). Although these studies have contributed to a better understanding of what networks need to thrive, these perspectives tend to assume that leadership is strategically coordinated, and/or located in clearly identifiable roles. What remains underexplored is how leadership emerges and unfolds in practice, particularly under conditions of less hierarchical relations and shifting actor constellations—conditions that are characteristic of many public sector networks. In other words: we still know little about how leadership is enacted collectively, distributed across actors, or shaped by the context of the network itself.

This is problematic, for several reasons. Primarily, it limits our theoretical grasp of leadership dynamics in networks and hinders practitioners' ability to recognize and foster leadership in the absence of formal authority or designated leadership roles. Secondly, as leadership may help to prevent or mitigate "collaborative inertia" – a tendency of collaborative activities to become conflict-ridden (Huxham and Vangen 2000) – it is

important to build an empirically grounded conceptualization of leadership in public sector networks.

1.2 Theoretical background: leadership in a networked public sector landscape

Understanding leadership in networks requires a careful examination of the evolving organizational landscape of the public sector. The development of this landscape reshapes how public services are organized and raises key questions about how leadership is understood and enacted.

The public sector organizational landscape: changing paradigms and practices

The structure of public sector organizations – and its academic inquiry - has undergone substantial transformation. Different approaches to public administration have shaped the way governments are organized and managed, each with distinct core values and institutional arrangements (Hood 1991). Understanding these shifts is essential for grasping how public organizations are structured and governed, and for understanding how interorganizational networks have become a common mode of coordination that requires a different perspective on leadership.

In the early 20th century, Max Weber's bureaucratic model was the dominant model for public administration. It emphasized a lawful government based on hierarchical structures, formal rules, and impersonal decision-making. Bureaucracy was seen as a means to ensure accountability, predictability, and rational governance (Weber 2015). By the late 20th century, critiques of bureaucratic inefficiencies led to the emergence of New Public Management (NPM), which prioritized efficiency, performance measurement, and market-based mechanisms (Torfing, Bogh Andersen and Greve 2020). Under NPM, public sector organizations were restructured to resemble private enterprises, with an emphasis on managerial autonomy—captured in the principle of 'let managers manage.' Decentralization, outsourcing, and competition were introduced as strategies to enhance public service delivery (Hood 1991).

More recently, the limitations of NPM – its inadequacy in addressing complex societal issues - lead to the rise of New Public Governance (NPG) and Public Value Management (PVM) (Osborne 2006, Moore 1995). These approaches emphasize responsiveness, flexibility, robustness, and collaboration, acknowledging that many societal challenges require cross-

sector collaboration. The focus has shifted towards governance structures in which multiple actors—government agencies, private entities, and civil society organizations—work together in networks to co-produce public value (Bryson and Crosby 2015).

While these paradigms developed sequentially, all paradigms of governance coexist in practice. Civil servants operate in an environment shaped by overlapping, sometimes conflicting norms and expectations. As Torfing et al. (2020, p. 166) argue, "it is imperative (…) to decipher and understand the logic of appropriate action that defines how to govern and be governed in the situation like the one in which they are placed." In other words, civil servants now find themselves in a complex environment in which they have to balance different public values, organizational goals and network goals (Cremers et al. 2024).

Integrating leadership and the public sector landscape: key questions

The transformation of (our conceptions of) public sector organizations is interconnected with the evolution of both leadership theory and practice. As hierarchical bureaucracies give way to more flexible and networked governance structures, traditional models of leadership that emphasize formal authority and command-and-control mechanisms seem increasingly inadequate. Instead, leadership in the public sector today requires a shift to a relational, process-oriented function that operates across organizational boundaries (Murphy et al. 2017; Crosby and Bryson 2010).

Across the literature, leadership in networks is conceptualized in various ways. Network management and collaborative governance studies often emphasize the need for a central actor to coordinate and steer the network (Kickert et al., 1997; Klijn, Steijn and Edelenbos 2010). Studies on collaborative governance highlight leadership as an important function, yet tends to limit its conceptualization to roles or functions, such as stewards, catalysts or sponsors (Ansell and Gash 2012; Bryson, Crosby and Stone 2015), In contrast, leadership theory, although primarily focused on organizational settings rather than network contexts, highlights how leadership can be enacted by multiple actors, even in the absence of formal authority (Denis et al., 2012; Pearce and Conger, 2003, Parkkinen 2024; Carstensen, Kjeldsen & Nielsen). This dissertation aims to build on and bridge these perspectives by analyzing leadership as a set of behaviors that emerge within interorganizational collaborations and contribute to collective network outcomes. In doing so, it positions leadership not merely as a structural function, but as a dynamic and relational process embedded in collaborative practice. While scholarship on leadership in public sector networks is growing, it often develops in relative isolation from the extensive leadership

literature in the management sciences. This dissertation explicitly draws on and connects these literatures—building on established leadership concepts such as distributed and shared leadership and taxonomies of leadership behavior—to advance a more integrated understanding of how leadership operates across organizational boundaries in the public domain.

Hence, this dissertation defines 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 2006, p.8). In doing so, this dissertation builds on two assumptions that reflect the shift toward network collaboration. First, this dissertation treats leadership as a *process* in which multiple actors can participate. Rather than focusing solely on individual leaders, this perspective considers how leadership emerges through interaction among actors (Spillane 2006; Carson et al. 2007; Pearce and Conger 2003). This aligns with the context of networks, in which organizations operate on a theoretically equal footing (Klijn and Skelcher 2007; O'Toole Jr. 1997).

Second, this dissertation focuses on *behavior;* zooming in on what network participants do rather than their formal roles. This assumption departs from earlier approaches to leadership during the 'great men era' and the 'trait approach' that sought to identify particular traits or inherent qualities in individuals (Van Wart 2003). Later developments, including models of *leadership styles* such as transformational leadership, emphasized how leaders could inspire and motivate followers through vision, engagement, and individualized consideration (Burns, 1978; Bass & Avolio, 1993). While insightful, leadership styles typically reflect broader patterns or tendencies in how leaders interact with followers, and are often associated with formal leadership positions. By contrast, this dissertation adopts a *behavioral* perspective, which examines specific, observable actions that individuals undertake, regardless of their formal role or personality traits. This lens is particularly suitable for public sector networks, where formal authority and hierarchical control mechanisms are limited, and leadership must instead rely on engaging stakeholders, building relationships, and advancing shared goals (Klijn, 2005; Agranoff & McGuire, 2001; Bryson, Crosby & Stone, 2006). To operationalize this perspective, the dissertation draws on the behavioral taxonomy developed by Yukl (2012), which categorizes leadership behavior into task-oriented, relations-oriented, change-oriented, and externally oriented behaviors. This framework allows for comparison across cases while remaining sensitive to contextual variation in how leadership is enacted within networked governance settings.

1.3 Research questions

This dissertation aims to understand and explain leadership in the context of public sector networks, to explore its impact and to enable practitioners to develop leadership in these contexts. The central research question of this dissertation is therefore: *How does leadership enhance collaboration in public sector networks, and how can it be developed?*

In order to answer this question, this dissertation is structured into four interrelated studies.

The first study aims to develop a conceptual framework of leadership in interorganizational networks. It addresses a gap in the existing literature, which often remains fragmented across three strands: leadership theory, networking and network management, and collaborative governance. While leadership theory generally has focused on leadership within formal hierarchies, and network management has treated leadership as a function covered by network managers, they neither fully capture how leadership emerges in horizontal, interorganizational settings. Collaborative governance theory acknowledges the importance of leadership in these contexts, but lacks conceptual depth in how it is enacted across actors in a network. This dissertation addresses the gap by developing a relational, behavioral and empirical understanding of leadership as a dynamic, potentially shared process embedded in public sector networks. Chapter 1 therefore aims to bridge the gap between these three branches by developing a conceptual framework for studying leadership in networks. It expands on leadership theory by examining leadership as a process situated in networked settings, incorporates the idea of shared and distributed leadership into network management theory, and contributes to collaborative governance by identifying behaviors that advance collective goals. Thus, the aim of the first study is to answer the following research question: *How can leadership in pursuit of collective objectives in public sector interorganizational networks be conceptualized?*

Building on the conceptual groundwork of the first study, the second study investigates what enables or constrains leadership behavior in networks. Prior research suggests that organizational factors—such as structure, culture, or incentives—can significantly shape individual leadership behavior (Hammer and Turk, 1987). These factors may influence not only whether individuals are capable of enacting leadership, but also whether they are motivated to do so and whether they have the opportunity to engage in such behavior. This study explores how these dimensions affect the extent to which network participants contribute to leadership and how this, in turn, shapes the leadership process at the network

level. Therefore, the second study aims to answer the following research question: *How do organization-level factors shape network participants' ability to exhibit leadership behavior, and subsequently affect the leadership process in public sector interorganizational networks?*

Another critical question regarding leadership in networks, is how leadership behaviors contribute to the process of collaboration. Although previous studies have highlighted that leadership is, indeed, essential in networks, these studies often focus on specific functions of leadership such as mobilizing actors, facilitating dialogue, identifying common interests, reducing power imbalances between members (Ansell and Gash 2008); and securing resources (Crosby, 't Hart and Torfing, 2017). While these studies improve our understanding of what networks need to function, they tend to conceptualize leadership in functional or role-bound terms, rather than empirically examining *how particular leadership behaviors* affect collaboration. As a result, there is limited insight into the behavioral dimensions of leadership in networks—such as task-oriented, relational, change-oriented, and externally oriented behaviors (Yukl, 2012)—and how these behaviors relate to the collaborative process itself. The third study addresses this gap by conceptualizing and operationalizing collaborative processes and testing the associations between specific leadership behaviors and key dimensions of collaboration. It thus investigates the following research question: *How is leadership behavior associated with the process of collaboration in interorganizational networks?*

The final study turns to practice: how can leadership be developed in public sector networks? Most leadership development research focuses on formal leaders or high-potential individuals within single organizations (Drath et al., 2008). This study adopts a broader view, aiming to enhance leadership across all network participants. Using a Design Science approach, it develops and tests an intervention to strengthen leadership capacity in networked settings. Therefore, the research question of the fourth study is: *How can Design Science be applied to create an intervention that aims to enhance leadership development in networks?*

1.4 Methodology

Research on leadership in networks presents several methodological challenges, which must be carefully addressed in the research designs of this dissertation. These challenges are twofold: first, they relate to the study of leadership itself, and second, they concern the specific context of networks.

Regarding the study of leadership, various methodological issues have been identified. Scholars in leadership research have long advocated for greater scientific rigor in conceptualizing and measuring leadership (Conger 1998; Lowe and Gardner 200; Gardner et al. 2010; Parry et al. 2014). Across academic studies, leadership is defined, conceptualized, and measured in diverse ways. Some researchers focus on particular leadership styles, such as transformational versus transactional leadership or task-oriented versus relationship-oriented leadership (Burns 1978; Bass and Avolio 1993). This dissertation adopts a broader behavioral, rather than style-specific focused, approach to leadership. The added value of this approach lies in its focus on observable actions rather than traits or styles, which enhances the empirical observation of leadership as a phenomenon in complex, multi-actor settings such as public sector networks. However, the challenge lies in adequately capturing and interpreting leadership behaviors across diverse contexts and actor perspectives, where behaviors may be subtle and difficult to recognize for participants. Another risk involved in this process is that of self-reporting leadership behaviors which may not be experienced as such by other network members.

A second methodological challenge stems from the unique context of this study: networks. O'Toole Jr. (1997) argued that networks should be taken seriously in public administration research. A decade later, Robinson (2006) acknowledged progress in this area but called for methodological pluralism to further advance network research. This dissertation responds to that call by integrating insights from the literature on collaboration in teams. Recent research emphasizes the increasingly dynamic and ambiguous nature of teams, noting that they often experience high turnover and are required to address complex issues that demand diverse expertise under considerable time pressure. In this context, Edmondson and Harvey (2017) argue that it is more appropriate to speak of *teaming*—a fluid and adaptive process—rather than treating teams as fixed structures.

Drawing on the teams literature, this dissertation identifies parallels between teams and interorganizational networks. A central challenge common to both is the ambiguity and uncertainty surrounding membership (Huxham and Vangen, 2000; Voets, Koliba, and Keast, 2019; Kerrissey, Satterstrom, and Edmondson, 2020). These forms of ambiguity and uncertainty, that Kerrissey, Satterstrom and Endmondson (2020) refer to as 'entativity issues,' make it difficult for researchers to define team boundaries and capture interactions systematically over time. In such dynamic environments, teams may not be perceived—or even perceive themselves—as coherent entities, leading to uncertainty about who should be studied, when, and for how long. This can result in substantial missing data and

inconsistencies in data collection. This challenge is especially salient in networks, where participants operate on an informal basis, with infrequent meetings.

Another challenge related to studying networks is related to factors of difference. According to Kerrisey, Satterstrom, and Edmondson (2020), a high degree of variation among members of a team may cause variation in perspectives and interpretations among team members. These differences in perspectives among participants may complicate data analysis and aggregation. This is especially true within the context of networks, in which organizations and their representatives with a wide variety of skills, expertise and goals collaborate.

Altogether, these methodological hurdles emphasize the need for flexible, innovative research designs to capture the realities collaboration (Kerrissey, Satterstrom and Edmondson 2020). To navigate these challenges, this study employs a multi-method research design to facilitate triangulation. By combining multiple data sources and research methods, this dissertation aims to ensure a robust approach to data collection and analysis. First, to mitigate entativity issues and capture a wide range of perspectives in contexts with fluid membership, the studies rely heavily on semi-structured interviews with a broad cross-section of network participants. By interviewing as many members as possible across different organizations and roles, the research maximizes inclusiveness and helps identify patterns despite informal or unstable boundaries.

Second, to deal with the ambiguity in network boundaries over time, data collection is explicitly designed to reflect the evolving nature of participation—capturing both formal members and key informants who influence collaboration but may not attend regularly. Third, to account for the variation in perspectives and interpretations among diverse network members, the studies incorporate triangulation across data sources (e.g., interviews, surveys, focus groups). This approach supports the aggregation of differing viewpoints. Finally, the intervention-based study in Chapter 5 actively engages participants in reflecting on leadership together with their network partners, which helps validate findings across diverse perspectives.

The research design for each study is as follows. The first study, presented in Chapter 2, consists of a literature review combined with a multiple case study of three networks. Within these networks, semi-structured interviews were conducted with as many network members as possible from various organizations. The findings from the literature and

interviews informed the development of a conceptual model that captures leadership in networks. The second study, discussed in Chapter 3, involves semi-structured interviews with members of a nationally operating network, drawing on respondents from three network sub-units. The study in Chapter 4 adopts a mixed-methods approach, employing a survey distributed among members of a single network. A Structural Equation Model (SEM) was used to examine the relationships between different types of leadership and the quality of the collaborative process. These quantitative findings were further enriched through semi-structured interviews. Finally, the study in Chapter 5 follows an intervention-based Design Science framework. This study integrates a literature review, focus groups, a survey and group interviews to develop, test, and evaluate the leadership intervention developed in this study.

1.5 Relevance

This dissertation contributes to both academic scholarship and professional practice in the domain of public sector leadership in networks. It addresses a significant conceptual gap in how leadership is understood and enacted in interorganizational settings, and proposes actionable insights for strengthening collaborative capacity in practice.

1.5.1 Theoretical relevance

The overarching aim of this dissertation is to develop a broader and empirically grounded conceptualization of leadership in public sector networks, for which we build on four additional literatures; Leadership theory, network management theory, collaborative governance theory, and leadership development theory. Each provide their strengths, but also show some gaps, based on which this thesis will deliver four main contributions.

First, this dissertation advances collaborative governance theory, which has predominantly emphasized network steering from the viewpoint of meta-governance, and the roles of stewards, sponsors, or catalysts (Sorensen and Torfing 2009; Ansell and Gash, 2008; Emerson and Nabatchi, 2015). While leadership is frequently recognized as a facilitating condition, it is often conceptualized in abstract or functional terms. This dissertation addresses this limitation by adopting a behavioral lens to investigate how specific leadership behaviors—task-oriented, relational, change-oriented, and externally oriented (Yukl, 2012)—support collaborative processes such as trust-building, joint learning, and shared decision-making (Huxham and Vangen, 2005). By examining these behaviors

empirically, it provides a better understanding of how leadership contributes to the quality of interorganizational collaboration.

Second, the dissertation contributes to network management theory by broadening its conceptual scope beyond the role of the individual network manager, broker, or boundary spanner (Kickert, Klijn, and Koppenjan, 1997; Edelenbos, Van Buuren, and Klijn, 2013; Van Meerkerk and Edelenbos, 2018). It adopts a distributed perspective, viewing leadership as a process enacted by multiple network participants who jointly steer collective action (Pearce and Conger, 2003). Across the empirical chapters, the dissertation shows how such leadership in networks is shaped by intra-organizational conditions—including accountability mechanisms, the political environment, and performance feedback—that influence how members enact leadership in networks. This perspective enriches network management theory by emphasizing the embeddedness of network participants and the contextual constraints under which they operate.

Third, the dissertation contributes to leadership theory by extending its analytical reach to the underexplored context of public sector networks. Mainstream leadership studies have largely focused on formal leaders operating within single organizations, under conditions of hierarchical authority (Fiedler, 1971; Bass and Avolio, 1993). In contrast, this dissertation explores leadership in horizontally structured networks of interdependent, yet autonomous organizations pursuing a shared goal (Provan and Kenis, 2008; Klijn and Koppenjan, 2016). It applies a well-established taxonomy of leadership behaviors (Yukl, 2012) – which has been established to understand leadership in individual organizations - to the distinct context of public sector networks and examines how leadership unfolds in the absence of formal command. This application not only demonstrates the applicability of existing leadership frameworks but also contributes to their refinement by highlighting how leadership manifests in multi-actor governance settings.

Finally, the dissertation expands the scope of leadership development literature, which has traditionally focused on formal leaders within single organizations (Drath et al., 2008; Day et al., 2014). To fully develop leadership in networks, however, it is required to understand the development of leadership *in* the context in which leadership takes place: public sector networks. Whereas current leadership development practices have been established to apply within organizational contexts, this dissertation aims to offer a leadership development intervention that is developed to apply *in* public sector networks. It therefore introduces a network-wide perspective on leadership development by designing, implementing,

and evaluating an intervention aimed at strengthening leadership capacity in network collaborations. Drawing on a Design Science approach (Johannesson and Perjons, 2014; Dresch et al., 2015), the intervention was co-created with practitioners and iteratively refined, offering both a methodological and theoretical contribution. It demonstrates how leadership development can be adapted to support distributed leadership in complex, interorganizational settings, and provides actionable insights for enhancing leadership in the public sector landscape of today, in which public actors collaborate with each other.

Together, these chapters provide a comprehensive framework for understanding leadership in public sector networks as a multi-level, dynamic, and practice-embedded phenomenon. The dissertation contributes to theoretical debates on distributed leadership, collaborative governance, and public management, while also offering actionable insights for leadership development in complex interorganizational settings.

1.5.2 Practical relevance

In addition, this dissertation provides various opportunities for practitioners. As public sector challenges increasingly require collaboration across organizational boundaries, the ability to recognize, enact, and support effective leadership in networked contexts has become essential. This dissertation provides actionable insights into how leadership functions in such settings, offering practitioners conceptual clarity and practical tools to strengthen their collaborative endeavors.

A key practical contribution lies in the identification and articulation of leadership behaviors that are effective in horizontal, non-hierarchical contexts. By shifting focus from formal roles to actual behaviors—as elaborated in Chapter 2—the dissertation enables professionals to better understand how leadership manifests in practice, regardless of one's formal position. This perspective is particularly valuable for network practitioners who might not have a formal leadership position, but want to explore their potential to participate in the process of leadership.

Moreover, the research underscores the influence of organizational context on leadership in networks. Chapter 3 offers a starting point for assessing how internal organizational factors—such as the political environment, accountability requirements and managerial support—shape an actor's ability to engage in collaborative leadership in networks. This allows both individuals and organizations to reflect critically on their readiness and capacity to contribute to interorganizational goals.

Further practical value is found in the behavioral analysis of the effects of leadership on facilitating collaboration, as conducted in Chapter 4. By empirically linking specific leadership behaviors to key dimensions of collaborative processes, the dissertation provides practitioners with concrete guidance on how to improve cooperation and outcomes within their networks.

Finally, the dissertation introduces a development-oriented intervention specifically designed for network settings. Chapter 5 presents an empirically grounded, co-created tool that supports the development of leadership capacity among network participants. This intervention fosters shared reflection and learning in networks, and helps network participants cultivate leadership.

In sum, this dissertation equips practitioners with a deeper understanding of leadership as a relational and behavioral phenomenon, applied to the realities of interorganizational collaboration. It supports efforts to build more effective public networks—ultimately contributing to the delivery of meaningful public value.

1.6 Outline dissertation

The remainder of this dissertation is structured as follows. **Chapter 2** provides a conceptualization of leadership in public sector networks, integrating existing leadership and network management studies through a multiple case study of three public sector networks. **Chapter 3** explores the antecedents of leadership in public sector networks. Specifically, this chapter demonstrates through a qualitative study how organization-level factors are associated with the behaviors network members exhibit in networks, and explains how this in turn affects the leadership process in networks. **Chapter 4** presents the findings of a mixed-methods study on the effects of leadership behaviors on collaborative processes in networks. Consequently, **Chapter 5** presents the development and qualitative evaluation of an intervention aimed at developing leadership in public sector networks. Lastly, **Chapter 6** presents the overall conclusions and discussion of this dissertation. The findings of the four empirical chapters are integrated in order to answer the main research question of this dissertation.

Table 1 *Overview of studies included in this dissertation*

Ch.	Research question	Research design and methodology	Contribution
2	How can leadership in pursuit of collective objectives in public sector interorganizational networks be conceptualized?	Literature review; multiple case study	Extends leadership theory to network settings by conceptualizing leadership as a contextual, distributed process.
3	How do organization-level factors shape network participants' ability to exhibit leadership behavior, and subsequently affect the leadership process in public sector interorganizational networks?	Single case study, 39 semi-structured interviews	Expands network management theory by linking organizational context to members' ability to exhibit leadership in networks.
4	How is leadership behavior associated with the process of collaboration in interorganizational networks?	Single case study, survey and 39 semi-structured interviews	Strengthens collaborative governance theory by operationalizing leadership behaviors and their effects on collaboration.
5	How can Design Science be applied to create an intervention that aims to enhance leadership development in networks?	Artefact development, focus groups, pilot testing, qualitative survey, group interviews	Contributes to leadership development literature with a practice-based intervention for leadership in networks.

2

Leadership in public sector interorganizational networks: a synthesis of the literature and propositions based on a multiple case study[1]

1 This study has been published as: Akerboom, M., Groeneveld, S., & Kuipers, B. (2024). Leadership in Public Sector Interorganizational Networks: A Synthesis of the Literature and Propositions Based on a Multiple Case Study. *Perspectives on Public Management and Governance*, *7*(4), 113-123.

Author statement

This chapter was co-authored with my supervisors. I was responsible for all data collection, analysis, and writing. My supervisors contributed by introducing me to the broader leadership literature and encouraging me to integrate behavioral perspectives alongside network governance and management. They also asked critical questions, provided feedback, and reviewed my work at multiple stages, for instance by critically assessing the research design, case selection and interview guide. They also helped me integrate my findings into a comprehensive conceptual framework for leadership in networks and articulate the contribution of the chapter to the literature.

2.1 Introduction

Public organizations increasingly participate in networks in order to create public value (Crosby and Bryson 2010; Sullivan, Williams and Jeffares 2012). Networks are collections of autonomous organizations that collaborate in a joint effort towards a common purpose (Carboni, Saz-Carranza, Raab and Isett, 2019). Networks have become a widespread phenomenon, engaging public, private, and societal stakeholders in areas such as healthcare and crime prevention (Nowell, Hano and Yang 2019; Torfing, Krogh and Ejrnaes 2020). This is due to the ability of networks to pool critical resources across participating actors, enabling the achievement of *collaborative advantage* — creating (public) value that could not have been created by individual actors alone (Huxham 1996; Bianchi et al. 2021).

The emergence of networks in the public sector generates new opportunities and challenges for leadership. Recent leadership studies have emphasized the context-dependent nature of leadership, demonstrating the relationship between context and the manifestation of different leadership behaviors (Van der Hoek, Beerkens and Groeneveld 2021; Schmidt and Groeneveld 2021; Stoker, Garretsen and Soudis 2019). Leadership is embedded in a social setting at a specific moment in time, and its effectiveness depends in part on the context in which it takes place (Shamir and Howell 2018; Shamir 1999). Taking the specific context of public sector networks into account, research indicates that networks are characterized by horizontal coordination and interaction between organizations, meaning that organizations operate on a theoretically equal footing (O'Toole Jr. 1997; Klijn and Skelcher 2007). In this context, formal incentives and regulatory tools to ensure the commitment of individual network members to the network's objective appear to be absent (Klijn 2005). Hence, rather than leadership on a formal basis, network leadership would require other forms of enhancing commitment among network members, identifying relevant actors, ensuring the input of all stakeholders, and mobilizing support for a common network objective (Agranoff and McGuire 2001; Bryson, Crosby and Stone 2006). In the current era of boundaryless organizations, leadership thus appears to play an increasingly vital role (Shamir 1999). This applies especially to the public sector context, where organizations are characterized by hierarchical internal relations and vertical (political) accountability (Powell 1990; Thompson et al. 1991).

Despite the promising role of leadership in public sector networks, as yet no conceptualization of the functioning of leadership within this context has been developed. This lack is mainly due to the current disconnect between various branches of scholarly

literature on collaborative governance, network management, and leadership. First, collaborative governance focuses on the (macro-level) design of the collaborative process to explain why and how organizations collaborate towards collective objectives (Emerson, Nabatchi and Balogh 2011). Yet, this branch of literature does not account for the various behaviors network members use to influence each other to pursue a collective objective. Second, network management literature does describe individual behaviors that foster collaboration towards collective goals (Klijn, Steijn and Edelenbosch 2010). However, its main caveat is that this branch focuses mainly on the efforts of single network managers, and does not take into account the potential role of shared or distributed leadership by various network members. Lastly, leadership literature does offer conceptual tools to study leadership as a process in which various individuals can participate (Gronn 2002; Pearce 2004; Ulhøi and Müller 2014). Aside from a single case study conducted by Kramer et al. (2019), however, these concepts have yet to be applied to the collaborative, interorganizational context of public sector networks.

Consequently, this study aims to answer the following research question: *How can leadership in pursuit of collective objectives in public sector interorganizational networks be conceptualized?* Through a synthesis of the literature and an empirical investigation of three cases, this study develops a conceptual framework that aims to situate and compare leadership in networks. It encompasses leadership behaviors, the distribution of these behaviors across network members and the various directions in which network members exhibit these behaviors. On the basis of this conceptual model, this study concludes with four theoretical propositions of leadership in networks.

The contribution of this article is threefold. First, the article contributes to the literature on leadership by conceptualizing leadership in a particular context, i.e. networks in the public sector. Though this context has been given attention in single case studies (see, for instance, Kramer et al. 2019), the scientific contribution of this article consists in its focus on three different networked contexts, enabling the identification of leadership configurations in networks with different characteristics. Second, this article adds to network management literature by acknowledging opportunities for shared or distributed forms of leadership. Lastly, we add to the literature on collaborative governance by examining individual behaviors used to enhance collaboration towards collective goals in public sector networks.

The next section reviews the literature on the role of leadership in public sector networks. Subsequently, based on a qualitative multiple case study in three interorganizational public

sector networks in The Netherlands, we analyze the leadership behaviors of network members as well as the characteristics of the networks in which they operate. The article concludes with a synthesis of the conceptual framework, four theoretical propositions on the relationship between leadership and characteristics of network contexts and discusses possible avenues for future research.

2.2 Literature review

The conceptual framework and its theoretical propositions developed in this study draw on three branches of literature. First, collaborative governance literature is consulted to situate leadership in the context of public-sector interorganizational networks. Second, network management literature is used to highlight how networks are steered towards their goals. Lastly, leadership literature is consulted to understand how leadership could be distributed across multiple individuals, and discusses a taxonomy of leadership behaviors that is used to identify leadership behaviors by various members of the networks included in this study.

Collaborative governance literature covers a wide range of scientific contributions that explain the emergence and antecedents of public and cross-sector collaboration (Emerson, Nabatchi and Balogh 2012). Previous studies specify components of a fruitful collaborative process, such as trust (George et al. 2024; Ansell and Gash 2008), equality, face-to-face dialogue (Ansell and Gash 2008), commitment, and a shared understanding of collective goals (Silvia 2011). Several authors in this field emphasize the role of leadership as a contributing factor in these collaborative processes (see Bryson, Crosby and Stone 2006; Emerson, Nabatchi and Balogh 2012; Ansell and Gash 2008). Morse (2010), for instance, identifies the role of individual boundary spanners who mobilize relevant actors to forge integrative partnerships. Furthermore, Crosby, 't Hart, and Torfing (2017) emphasize the role of sponsors, champions, catalysts, and implementers in enhancing collaboration. A caveat of existing research is that these studies tend to reduce leadership to the presence of specific leadership roles or functions in networks. These studies, however, do not explain how these functions are executed in terms of actual leadership *behaviors* and how these behaviors could be *distributed* across various network members and *shared* to achieve a common goal.

In response, network management literature does demonstrate the importance of behaviors, activities, and strategies of network managers in enhancing network effectiveness (Klijn, Steijn and Edelenbosch 2010; McGuire and Silvia 2009). For example, Silvia and McGuire

(2010), replicated in a more recent publication by Cepiku and Mastrodascio (2021), compared task- and relations-oriented leadership behaviors in networks with leadership behaviors exhibited by the same managers in their home organizations. These studies demonstrate the distinct nature of leadership in networks, as opposed to single organizations. Particularly, relations-oriented leadership behaviors are more common in networked contexts compared to single-agency structures. Consequently, these studies form a relevant starting point for this study on leadership in networks, as they indicate the relevance of studying leadership from a behavioral point-of-view in the context of networks. One caveat of these studies is their predominant focus on single network managers as opposed to all network members. As a consequence, these studies do not account for the potential of distributed or shared forms of leadership. This study responds to this gap in the literature by studying leadership behaviors of all network members. In so doing, this study extends its scope beyond formal network managers.

A second contribution of network management literature which will be incorporated in this study, is its focus on the structural design of public sector networks and its contingencies with network effectiveness. In terms of structural design, previous studies indicate how the functioning of collaborative processes in networks depends on the congruence between network properties such as *form of governance* (Provan and Kenis 2008), *mandate* (Provan and Lemaire 2012), *membership diversity or heterogeneity* (Baraldi and Strömsten 2009), and *function* (Milward and Provan 2006). In this study, the structural design of networks will be taken into account as potential contingencies vis-à-vis leadership exhibited in the networks under study.

Leadership research offers three valuable contributions to the above-mentioned branches for building a conceptualization of leadership in networks: first, its attention to the context in which leadership is exhibited; second, its acknowledgement of shared and distributed forms of leadership; and third, its focus on leadership behaviors. Several leadership scholars have emphasized the importance of context in studying leadership. For instance, complexity leadership theory views leadership as a socially constructed, interactive dynamic with emerging outcomes in a complex adaptive system (CAS) characterized by interdependence between multiple actors (Marion and Uhl-Bien 2001; Murphy and Rhodes 2013). This approach is particularly relevant within the context of inter-organizational networks due to the inherent complexity and interdependence of networked contexts (Koliba and Koppenjan 2023). A second advantage of this approach is that it distinguishes *leaders* from *leadership*. Whereas the former focuses on the actions of individuals, the latter

examines the process in which multiple actors participate (Kuipers and Murphy 2023). In so doing, the CAS approach shifts its focuses from specific managerial positions as seen in network management literature, to a wider perspective on who participates in the process of leadership (Uhl-Bien, Marion and McKelvey 2007). Previous studies of leadership in collaborative or team contexts have identified forms of leadership that extend beyond individual leaders (Ospina and Saz-Carranza 2010; Carson, Tesluk and Marrone 2007; Bergman et al. 2012; Gronn 2002). *Shared* leadership involves continuous, mutual influence between multiple individuals, meaning that leadership can be exercised by multiple appointed or emergent leaders simultaneously (Pearce 2004; Pearce and Conger 2003). *Distributed* leadership involves the delegation of leadership tasks from one leader to other individuals (Ulhøi and Müller 2014). As network management literature has demonstrated, hierarchical relationships are less prevalent in networks. In this context, the acknowledgement of 'leadership beyond formal leaders' – as described through the concepts of shared and distributed leadership – is useful in a study of leadership in networks. Therefore, this study selects the network as its unit of analysis and investigates whether and how leadership is shown by all network members, rather than focusing on (predetermined) individual network managers. In so doing, this study responds to earlier calls for the study of leadership by focusing on systems of relationships and to differentiate the leader from leadership.

This study uses the behavioral taxonomy developed by Yukl (2012) as its starting point. Yukl (2006, p.8) defines leadership as "the process if 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." Treating leadership in a processual manner, in which (multiple) individuals demonstrate leadership behavior corresponds with other publications by Ospina and Foldy (2015) and Uhl-Bien (2006), which emphasize the need to distinguish *leaders* from *leadership*. Through this definition, Yukl identifies four distinct categories of behaviors used in the process of leadership: *task-oriented, relations-oriented, change-oriented,* and *externally oriented* behaviors aimed at facilitating goal attainment.

Task-oriented behaviors are targeted at ensuring the proper and efficient allocation of resources to accomplish specified objectives. This includes behaviors such as clarifying and planning tasks, monitoring progress, and problem-solving (Yukl 2012). ***Relations-oriented behaviors*** involve actions that contribute to interpersonal relationships, commitment to the specified mission, and the enhancement of skills. Examples include supporting by showing

positive regard, developing skills and confidence, the use of praise, and empowerment by granting autonomy (Yukl 2012). ***Change-oriented behaviors*** encompass actions taken to ensure development, increase collective learning, and enhance the resilience of the organization. This is achieved by advocating and envisioning change, encouraging innovation, and facilitating collective learning (Yukl 2012). ***External leadership behaviors*** include activities aimed at drawing knowledge, social networks, and other valuable assets from the external environment. Examples include networking, external monitoring (analyzing relevant changes in the external environment), and representing the organization to lobby for resources (Yukl 2012).

The advantage of focusing on leadership as a process in which actors participate through a repertoire of specific behaviors is that it allows the researcher to not only differentiate between types of behaviors, but also the distribution of these behaviors across various individuals in a specific context (Van der Hoek, Groeneveld and Beerkens 2021). In so doing, this approach adds more depth to previous network leadership studies which tend to focus either on leadership exercised by specific individuals in networks (see Cepiku and Mastrodascio 2021 and Silvia and McGuire 2010) or use more abstract terms to define leadership in networks as roles or functions (e.g. Crosby, 't Hart, and Torfing).

Consequently, the main aim of this study to explicate which leadership behaviors members of interorganizational networks use to motivate each other to work towards collective (network) goals, recognizing the possibility of shared or distributed leadership rather than focusing on individual network managers alone. Secondly, this study develops propositions on the basis of the empirical findings, stipulating potential relationships between leadership and particular characteristics (governance, mandate, diversity, and functions) of networks. The theoretical value of this approach is that it confirms whether a behavioral taxonomy is useful in networked contexts, and that it demonstrates whether leadership indeed extends beyond network managers.

The practical value of this approach is that recommendations can be made towards members of networks on what type(s) of leadership are prevalent in specific network contexts.

2.3 Methodology

This study employs a qualitative multiple case-study, comprised of three collaborative public sector networks located in the Netherlands.

Case Selection

The cases were purposively selected on the basis of capturing various collaborative contexts and data availability. The research project took place within a research program involving several public organizations, including the Municipality of Leiden, the Custodial Institutions Agency, and the National Police of the Netherlands. The authors first contacted these partners individually to verify whether their organization participates in networks. Based on their suggestions, the authors selected one network of each of these organizations that met the following selection criteria: first, the network should still be active; and second, network members should meet frequently (at least once per two months) over a period of more than one year. Both criteria were used to make sure that respondents can recall leadership behaviors.

As highlighted by Lemaire, Mannak, Ospina, and Groenleer (2019) providing detail about the context of networks is considered good research practice when conducting empirical research. In this study, networks were selected on the basis of variety in terms of the networks' structure, legal basis, function, and diversity. Previous research emphasizes that these features influence both the effectiveness of networks and collaborative processes that take place within them (Nowell and Kenis, 2019; Provan and Kenis 2008; Segato and Raab 2018; Milward and Provan 2006; Corsaro, Cantú and Tunisini 2012). Therefore, the cases selected differ on the basis of aforementioned characteristics. All three cases involve interorganizational collaboration between public organizations with the aim of identifying and tackling complex societal challenges, which requires the exchange of resources. The cases are presented in Table 2.1.

Table 2.1 *Description of selected cases*

	Spatial Planning Network (N=19)	Juvenile Detention Network (N=9)	Mental Health and Public Order Network (N=11)
Governance form[2]	Lead organization	NAO > lead organization	NAO > lead organization
Legal basis	Informal (no legal basis)	Mandated	Mandated
Function	Information exchange, knowledge generation	Policy coordination	Policy coordination
Diversity	Low	Moderate	High
Public value objective	Anticipating/acting on regional planning challenges	Combining small-scale juvenile detention with treatment close to home	Providing high-quality mental and preventive health care and enhancing public order

Identifying Collective Environmental Challenges: Spatial Planning Network

This is an informal collaboration between nine municipalities and the regional Water Authority operating in one province in The Netherlands. It was initiated by the largest municipality in the region. The main purpose of this network is to exchange information in order to collectively develop a regional vision on spatial planning. The network targets spatial planning challenges that span across municipal boundaries. Challenges include the municipalities' approach towards climate change, energy supply, water management, mobility and housing. The dataset for this case consists of 19 interviews, representing 9 out of 10 organizations.

Customized care for juvenile offenders: Juvenile Detention Network

This is a formally mandated collaboration established to coordinate the accommodation of juvenile prisoners with a low-risk profile. It aims to reduce recidivism rates among juvenile offenders of petty crimes by integrating penal measures (detention) with youth care and support. The collaboration is initiated and funded by the Ministry of Justice and Security and comprises the Custodial Institutions Service, youth care providers, child care and protection board, public prosecutor's office, and several municipalities in the vicinity of the juvenile facility. The network was initiated by the Ministry as a pilot in 2016, and formally established in 2020. The new low-security, small-scale prison facility was established to

2 More than one structure is given per network, due to the fact that the networks' governance forms have changed over time. For example, the Spatial Planning Network was established as a lead organization network and evolved into a Network Administrative Organization.

replace an existing, large-scale facility with high-level security. In 2021, the facility officially came into use when the first detainee arrived. The dataset for this case consists of nine interviews, representing eight organizations. In addition to these eight organizations, the whole network consists of multiple municipalities. The dataset contains one municipality.

Enhancing identification and treatment of mentally distressed citizens: Mental health and public order network

This is a formally mandated network that coordinates collaboration between organizations operating in the (mental) healthcare domain and the security domain. The societal challenge involves the provision of high-quality (mental) health care for people at risk of becoming mentally ill and causing public order disturbances. The network facilitates primary, secondary, and tertiary prevention and treatment to this group. Participants include municipalities in the area, National Police, the largest mental healthcare provider in the region, a healthcare insurance company, the public prosecutor's office, and municipal health services. The network was initially established in 2020 as a Network Administrative Organization led by an external consultancy firm. As of 2021, formal network leadership and management is in the hands of the two largest municipalities in the region. This network is part of a larger regional initiative that encourages collaboration between public organizations in the domains of security and healthcare. The dataset for this case consists of 11 interviews, representing nine out of nine organizations.

While we acknowledge that networks often consist of various layers (political, administrative, street-level/frontline), this study focuses on the administrative layer only, on networks comprising civil servants.

Data collection

For each of the three cases, interviews were conducted with network members (total N=39). Respondents were all network participants, but their formal organizational positions could vary. The data includes interviews with managers, policy advisors, senior front-line professionals, and external consultants. For each of the networks, respondents participated in the same 'tier' of the network - policy-making. The majority of interviews were conducted on a one-to-one basis. A few interviews were conducted with two network members at the same time. In those instances, the network members represented the same organization in the network. The interviews took place between November 2020 and March 2021. As the COVID-19 pandemic made it impossible to conduct these interviews face-to-face, all interviews were conducted through Microsoft Teams.

The interview protocol (see Appendix A.1) was developed on the basis of the taxonomy of leadership behaviors by Yukl (2012). The protocol started with broader questions, such as: "Who demonstrate(s) leadership in this network?" "What do(es) person X do that you identify as leadership?" Follow-up questions were meant to retrieve respondents' perceptions of task-, relations, change- and externally oriented behaviors in the context of the network. An example of a follow-up question on task-oriented leadership (task division) is: '*How* did person X divide tasks?' An example of a follow-up question on change-oriented leadership (envisioning change) is: 'What did person X do to share their vision on the societal problem and/or the role of the network in tackling it?' Open-ended questions encouraged respondents to also elaborate on types of leadership behavior beyond Yukl's taxonomy, and enabled the researchers to explore various recipients of leadership behaviors (besides just network members). Additionally, document analysis and direct observations of network meetings (if possible) were employed to complement the findings from the interviews.

Coding process

Interviews were coded using Atlas.ti. The coding process involved a combination of inductive and deductive coding techniques. In the first phase, the behaviors stipulated in Yukl's taxonomy were used as predefined sets of codes. Behaviors that could not be categorized according to Yukl's taxonomy were coded inductively as 'Leadership:Taxonomy:5:Other:[Name]'. In this initial phase, inductive coding was also applied to respondents' statements about the general nature of leadership in the network, such as: 'Who demonstrates leadership?' and: 'What does leadership in networks mean to the respondent?' In the second phase of the coding process, segments that were initially labeled as 'other' leadership behaviors were reviewed to ascertain whether they indeed formed distinct classes of behavior, or whether they could be included as 'additional' types of behavior within the existing coding categories (task-oriented, relations-oriented, change-oriented, and externally oriented leadership).

For instance, the behavior "organizing cross-boundary-experiences" was initially labeled as "Leadership:Taxonomy:5:Other", but was later interpreted as a relations-oriented behavior aimed at enhancing a common identity - and hence, enhancing relations - among network participants. Similarly, "sharing information" was initially labeled as "Leadership:Taxonomy:5:Other," but later recoded as a task-oriented behavior, as sharing information allowed network members to obtain clarity about the tasks at hand.

A within-case analysis was carried out to explore and understand the types of leadership behavior exercised in each network, after which a cross-case analysis was performed to analyze the types of leadership behavior in distinct network contexts. In this process, the authors also focused on the distribution of leadership (how many participants within the network demonstrated leadership?) and the particular direction in which the behaviors were shown (towards members' home organizations, among each other, or towards the network's external environment). This analysis resulted in a conceptual framework and four theoretical propositions regarding leadership in public sector networks, which is discussed in the next section.

2.4 A conceptual framework of leadership in public sector networks

This section substantiates our conceptual framework that builds on the four types of leadership behavior presented by Yukl (2012): task-oriented, relations-oriented, change-oriented, and external leadership. It specifies manifestations of these four types of leadership behavior in the context of public sector networks and, in addition, identifies types of leadership which were observed but do not feature in Yukl's original model. We depart from the original model in two ways, though. First, our framework has a network-centered - rather than organization-centered - orientation. Whereas Yukl's taxonomy describes 'externally oriented leadership behaviors' as behaviors directed towards the external environment of the *organization*, externally oriented behaviors should be interpreted from the viewpoint of the *network*. Second, our conceptualization focuses on behaviors aimed at influencing others towards *shared network goals,* rather than *organization-internal goals*. Therefore, behaviors geared solely towards the goals of individual organizations are not conceived of as leadership behaviors in public-sector networks.

The data reveal that, besides the types of leadership manifested in the networks, there are differences in the types of recipients to which leadership is directed, as well as the presence of concentrated or shared forms of leadership. These findings culminate in a theoretical synthesis comprising three elements: *types* of leadership behavior, *directions* of leadership behavior, and *distribution* of leadership. For each of these dimensions, quotes are included that represent a consensus across interviewees per case (network). Following the analysis, this section concludes with four theoretical propositions regarding network characteristics as potential contingencies for leadership in networks.

Leadership Behaviors in Networks

Task-oriented behaviors are used to *clarify* collective public value objectives, and to assign tasks and responsibilities to network members. These behaviors are mostly exercised by network members with a formal leadership role, such as project leaders, or members of the network's lead organization. Task-oriented leadership in networks aims to facilitate, rather than direct or dictate, the collaboration process.

> Well… Most of the time, the project leader would moderate the meetings. He would prepare an agenda and make sure we were all on track. But within that group… Relations were more horizontal. There was not one person who would tell others what to do. It was really organic.
> - *Respondent, Spatial Planning Network*

Relations-oriented behaviors are aimed at building and maintaining network relationships. To achieve this, potential new members are identified and approached to ascertain their attitudes towards collaboration. When building network relationships, potential members are asked about societal challenges they are facing in order to see if they overlap with the other parties. In this process, the common interest — the public value objective — is conceptualized.

> One of the things they [members of the lead organization] did, and that's what I call leadership, is [encourage] connection: what do you need? And how can we help you? How can we allocate the same priority to your challenges as to ours?
> - *Respondent, Spatial Planning Network*

To foster network relations, members develop a common identity or set of common values that is expressed through language and visual aids such as logos. This development of a shared identity enables the network to collectively assess the outputs of the network. For example, the Spatial Planning Network would envision the identity of the region as a 'beautiful' space. Then, when tackling environmental challenges, such as the transition towards sustainable energy sources, the Network would assess potential policy options (e.g., wind turbines, solar panels) by their impact on the value of 'beauty': for example, how do wind turbines and solar panels impact the beauty of the region?

> We started conversations about our shared values. What common values can we rely on when we get stuck during a discussion? That's how we came up with four terms: beautiful, open, strong, complete. These terms say something about our region. A pleasant collection of different landscapes. Our region is really unique, very compactly built. […] Every time we disagreed, we would look at our shared values. How are our values served by the decisions we make here?
> - *Respondent, Spatial Planning Network*

The networks also displayed other types of relations-oriented leadership behavior that were not identified in previous work on leadership in single organizations. These behaviors were mainly aimed at mitigating barriers to effective collaboration. One such impediment to collaborative public value creation concerns conflicts that emerge between members due to differences in organizational logic and language. For instance, organizations may operate based on distinct underlying principles, values, structures, and methods for organizing their activities and making decisions. As a consequence, tensions may arise between network members due to different ways of understanding and approaching their work, using different communication styles or operating on the basis of different values. This is in line with previous research indicating that organizations may employ different approaches to networking and network management, resulting in tensions between network partners (Herranz Jr. 2008).

To mitigate this, the following behaviors were used*: enabling cross-boundary experiences* and *the use of emotions*.

Cross-boundary experiences (Feldman et al. 2006) are used to build bridges between network members. Members would visit each other's offices to obtain a better understanding of each other's organizational logic, and show an interest in each other by asking questions. This became especially relevant in understanding the viewpoints of other members when a decision had to be made. Having a better grasp of each others' professional environment helped members understand why their counterparts might hold different or opposing positions in decision-making processes.

> So I called her and said, "Hey, I would be interested in getting to know you, would you like to visit the police station to get to know my perspective? I can show you my world, so we can learn from each other." And that was a positive experience. The informal interactions I created with her were very important, because through informal contact you come to understand each other better. She knows what I need and I know what she needs. She knows my capabilities and I know hers.
> - *Respondent, Mental Health and Public Order Network*

In relation to using emotions, network members would express their joy or discomfort regarding decisions made by other members. For instance, a network member would disclose their relief or disappointment with another members' decision by expressing how this decision impacted their ability to do their work.

Network members observed two effects of this type of behavior: showing emotions would encourage other members to be more open, and it would also lead to increased empathy and the desire to help one another. Both effects were regarded as positive for the collaborative process.

> Look, what I did is, I said, "Look […] this situation gives me a stomach ache. We literally feel sick to our stomachs about how things are going right now," and that it does not look like things are improving; that I cannot do this alone, that I need people to think with me and join me. […] That we can do this together.
> - *Respondent, Mental Health and Public Order Network*

Change-oriented behaviors were observed in the networks; that is, behaviors that advocate for change by raising awareness of the necessity for collaboration and the creation of opportunities for collective learning. Network members would stimulate awareness of other members about the need for collaboration through the use of statistics, pictures, and maps. In doing so, *the public value objective* was used to emphasize the importance of collaboration. Network members would often point out how a lack of collaboration could affect the network's target group. Particularly when discussions ended up in technicalities, members would use change-oriented behaviors to redirect the focus towards the targets of the network, such as vulnerable children or mental health patients. Furthermore, collective learning was stimulated through the use of peer review groups. In these groups, network members representing different organizations would be paired up to make decisions together.

> I confronted them in a sense… "What is the purpose of what we're doing?" You build a system in order to advance the purpose. We are not building a system for the sake of building a nice system.
> - *Respondent, Juvenile Detention Network*

In summary, Yukl's taxonomy of task-, relations-, and change-oriented behaviors were all found in all three networks. Whereas task-oriented behavior was used to clarify and divide tasks and responsibilities, relationship-oriented behavior was used to prevent or solve tensions between network members. Lastly, change-oriented behaviors redirected network participants' perspectives on the societal goal they aim to achieve together, and helped participants find effective ways of attaining this goal.

Directions of Leadership Behavior

The analysis revealed that network members exercise leadership behaviors in three directions: towards their home organization (and its stakeholders), towards the network (and its stakeholders), and towards the external environment.

First, network members direct leadership towards the organizations they represent. For instance, network members exercise change-oriented behaviors to make their co-workers aware of the need for interorganizational collaboration and the potential changes this will bring to existing organizational procedures and processes. They also motivate and enthuse their colleagues who operate at other levels of the network. A network participant operating at the administrative layer of the network would, for instance, support colleagues collaborating with other network members on the front line. Network members also display behaviors such as 'networking' and 'representing' to obtain funding or other resources for the benefit of the network. Previous research indicates that in turn, partners in positions of authority often play an important role as 'champions' or 'sponsors' of networks by offering political support (Crosby and Bryson 2010).

> I have a meeting with judicial partners every six weeks. I would always brief them about the latest updates. To the outside world, I am very active, but in my own organization I'm also very active, because I see the value of this facility. And it's important to also make people aware of it.
> - *Respondent, Juvenile Detention Network*

Second, leadership towards other network members is characterized by the need to balance the goals of each individual organization with the goals of the network as a whole. Respondents reported that they were given a mandate to set the agenda and to use network meetings to prioritize tasks vital to their own organization. At the same time, they were aware of the potential for conflict between the objectives of their own organization and the objectives of the network. To prevent and cope with potential conflicts, network members display relations-oriented leadership behaviors. Asking questions, expressing emotions, and discussing commonalities and differences between the organizations enabled network members to identify common values and objectives. At the same time, network members also set boundaries in order to make clear to the other members what they can and cannot expect them to contribute to the network. As well as horizontal relationships with members acting in the same 'layer' of the network, there are also vertical relationships between network members and other layers of the network. Task-oriented leadership is required to inform other network layers (such as front-line workers or political decision-makers) of decisions taken.

> On the one hand, you need courage to approach someone, but you also need courage to set boundaries. That is what I did when two other members came up to me and said, "You'll be in charge of security, right?" And I said, "Hold on, we will always be there for emergency situations, but I want to discuss covering security in regular situations with you." That's where I draw a line.
> - *Respondent, Mental Health and Public Order Network*

Third, leadership towards the external environment is mostly displayed by members with a formal leadership position. These individuals represent the network in order to acquire funding and other resources that enable the network to pursue its public value objective. Network members with a formal leadership position would use their personal networks to invite experts to network meetings. In the case of the Spatial Planning Network, these external experts were crucial in providing support for the network's endeavours.

> We involved an external expert at the start of the process, as well as three other experts, with the idea that they could kick-start the network. Where are we going? What trends and developments exist in the field of environmental planning? […] It's just convenient to have people with a name and reputation to back your story.
> - *Respondent, Spatial Planning Network*

In sum, the term "external" leadership in Yukl's framework translates differently in the context of networks, where network members constantly interact with their home organization, fellow network members or the wider external environment. Members interact with their external environment to attract additional resources, use various leadership behaviors to motivate their colleagues to align with network practices and exhibit leadership towards fellow network members to balance organizational and network interests.

Leadership Distribution in Networks

Regarding leadership distribution, the networks showed dynamic patterns in which there was alternation between concentrated and distributed forms of leadership. At one end of the continuum, leadership behaviors may be concentrated in one or a few individuals. In the networks observed in this study, leadership concentration was most often found in individuals who possess legitimizing forces of authority, such as capacity, formal responsibility, and formal position. The first of these concerns an individual's ability to exert leadership based on the capacity of the organization to support the network. This was observed in the Spatial Planning Network, in which members of the largest municipality exerted a high degree of task-oriented leadership due to the proportion of the network budget contributed by this organization. The second basis concerns the formal responsibility of the member's organization with regard to the problem at hand. In the Mental Health and Public Order Network, the two largest municipalities exerted more leadership due to the formal obligation of municipalities to take care of the target group (citizens with mental health disorders). The third basis concerns a member's formal position in a network. In the Juvenile Detention Network and the Mental Health and Public Order Network, external project leader demonstrated more leadership behaviors to steer the network towards its goals than other network members. Concluding, network members possessing (a form of) formal authority - capacity, formal responsibility, and formal position - demonstrated more leadership behaviors in cases of concentrated leadership.

At the other end of the continuum, leadership can be (fully) distributed. Distributed leadership takes place when leadership is exerted by multiple individuals within the network. Distributed leadership improves the allocation of information and expertise across members and enhances widespread support for the network. In the three cases studied, a high degree of technical expertise on a specific subject discussed in the network, and extensive experience with networks or had developed specific collaboration skills appeared to be driving forces of distributed leadership. For example, network members who

showed a high degree of technical expertise on a particular subject would be more likely to show task-, relations-, change-, and externally-oriented behaviors when this subject was discussed in network meetings. Network members who had more experience participating in collaborative networks showed more leadership behaviors than those who did not have such experience.

Consistent with earlier studies (e.g. Barry 1991), the distribution of leadership appeared to be dynamic in all three cases. Leadership would often alternate between concentrated and distributed forms. For instance, in all three cases participants reported more leadership concentration in the startup phase of the network – a phase in which it can be helpful to have a formal leader to gather and mobilize actors and resources. Contrastingly, leadership was more distributed when network participants negotiated a decision or provided input on the aims of the network. In the three cases studied, the (formal) network leader would delegate leadership tasks to other members by assigning them specific network dossiers. It was found that *distributed* leadership was sometimes used to stimulate *shared* leadership. Respondents mentioned that delegating leadership tasks to other members was done with the expectation that the particular member would also show more leadership later on in the network process.

> The project leader [said] something like… "This project is *theirs*." This project should become their project, because if we manage and steer this project too closely, this project will never become theirs. Then it would just become "our thing". He was very modest about his role to make sure everyone was involved in the process.
> - *Respondent, Spatial Planning Network*

In summary, this section demonstrates that leadership concentration and distribution can alternate. This study does indicate that – in the three cases – leadership concentration is associated with the capacity of actors, having a formal responsibility for the societal problem at hand, and/or formally appointing 'network leaders.' This finding appears contradictory to the 'horizontal nature' networks are associated with in academic literature. However, this section also demonstrates that leadership is also delegated or shared in networked contexts. However, due to the limited scope of the study, it is not possible to offer further explanation of how shared leadership emerges from distributed leadership.

2.5 Four theoretical propositions on the relationship between leadership and network context

On the basis of the cross-case analysis, the analysis yields several observations regarding leadership in networks with specific properties. These observations are formulated as propositions for future research. In particular, we identified different manifestations of leadership across the four network characteristics investigated:

First, the type of leadership observed in the networks differed along the networks' governance forms. NAOs involved formal sources of network leadership in the form of project leaders. These individuals carried out task-oriented and externally oriented leadership and did so in a *directive* manner. In the lead organization network, formal sources of leadership were also important: leadership was carried out by representatives of the largest municipality. These individuals displayed task-oriented and externally oriented leadership behavior, but did so in a more *facilitative* manner. This difference could be explained by the legitimacy of the project leader role in the NAO; that is, being formally appointed as project leader.

Proposition 1: *the governance form of an interorganizational network shapes network leadership, as a formalized governance form provides a legitimate basis for formal leadership. In NAO's, more task- and externally oriented leadership is shown by an appointed individual (project leader).*

Differences were also observed between the networks with a legal mandate and the network without a legal mandate. The network without a legal mandate demonstrated relations-oriented behaviors. These behaviors were mainly aimed at identifying and convincing potential network members, and developing relations with these actors. In legally mandated networks, these behaviors were observed to a lesser extent. Although future research should indicate whether a causation exists between legal basis and leadership, an explanation could be that non-mandated or serendipitous networks depend more heavily on the commitment of their members, as membership is voluntary.

Proposition 2: *A network's (lack of) legal status shapes network leadership, as the existence of a legal mandate reduces the need for relations-oriented leadership behaviors to maintain members' commitment. As a consequence, more relations-oriented leadership is shown in networks without a legal mandate, as these networks require more relations-oriented leadership to mobilize and activate members.*

Third, disparities in leadership were found between networks aimed at coordinating policy and the network aimed at exchanging knowledge. Externally oriented behaviors such as networking, external monitoring, and representing were found more often in the latter than the former. One explanation could be that knowledge exchange networks rely more heavily on gathering external input (knowledge) than networks with other functions. On the other hand, the networks involved in policy coordination showed more behaviors aimed at preventing conflict and mitigating the impact of conflicts. Change-oriented behaviors such as emphasizing the public value objective ('vision') and creating policy intervention groups ('collective learning') were also found more often in these networks. This may be attributed to the fact that policy coordination and implementation involves more conflicts, as members work more closely together and task-interdependence is higher.

Proposition 3: *the function of the network shapes network leadership, as certain types of leadership behavior cater towards specific network functions.*

Lastly, differences were found in terms of the diversity of the networks included. Networks with a moderate to high degree of goal heterogeneity (Baraldi and Strömsten 2009), knowledge/capability heterogeneity (Frenken 2000), and cultural heterogeneity (Chen, Tsou and Ching 2011) showed more relations-oriented and change-oriented behaviors aimed at mitigating conflict. With a high degree of diversity between members, there may be a greater need for 'boundary experiences' or activities to bridge differences (Feldman et al. 2006). Networks with a high or medium degree of diversity also showed more distributed leadership on the basis of technical expertise. The Mental Health and Public Order Network showed a high degree of diversity, comprising agencies ranging from the public health domain to the public order domain. In this network, each member would assume the leader role when a subject requiring their specific expertise was discussed. This was exhibited through prioritizing items on the agenda and taking on responsibilities regarding a policy domain (task-oriented leadership), and stepping forward as a spokesperson on a particular subject (externally oriented leadership). More experienced members would often be the first to react to policy proposals and be more vocal in drawing attention to problems, and would often explicate the collective public value objective during network meetings.

Proposition 4*: the level of diversity among members of networks shapes network leadership, as different levels of diversity require different types and distributions of leadership behaviors. Networks with higher levels of diversity demonstrate higher levels of task-, relations-, change- and externally oriented leadership.*

2.6 Discussion

Leadership as a driving force for collaborative public value is attracting increasing scholarly attention (Sørensen, Bryson and Crosby 2021; Torfing and Ansell 2017; Kuipers and Murphy 2023). Despite the popularity of the subject, the study of leadership in collaborative contexts is hampered by a lack of conceptual clarity. This study has sought to address this issue by synthesizing the literature, applying it to empirical cases and providing four theoretical propositions about the relationship between network context and leadership. The paper thereby demonstrates the conceptual value of a behavioral approach to studying leadership in networks and how this approach can be used to understand both the types of leadership behaviors, their directions and the distribution of leadership in these contexts. This study thereby aids future research seeking to empirically compare leadership behavior across collaborative contexts and assess the contribution of such behavior to the quality of the collaborative process.

In response to the research question *'How can leadership in pursuit of collective objectives in public sector interorganizational networks be conceptualized?,'* the findings of this study are synthesized into a conceptual framework and four theoretical propositions regarding leadership in distinct network contexts. The framework adds to existing literature in the following ways.

First, this theoretical synthesis contributes to leadership literature by providing a starting point for understanding leadership in the general context of interorganizational networks in the public sector. In so doing, the framework contributes to leadership theory as it demonstrates that leadership in networks has different manifestations, depending on *who* exhibits leadership (formal leaders, or both formal and informal leaders), the *directions* of leadership behavior (the member's home organization, fellow network members or the external environment) and the specific *network context* (structure, mandate, function, diversity) in which leadership takes place. Specifically, this study indicates leadership differences between networks with specific properties, prompting theoretical propositions regarding the role of these properties – network structure, legal basis, network function, and level of diversity – in shaping leadership processes in networks. As such, this study confirms earlier calls for the acknowledgement of context when studying leadership (Van der Hoek, Beerkens and Groeneveld 2021; Schmidt and Groeneveld 2021; Stoker, Garretsen and Soudis 2019). These observations provide opportunities for additional research on contingency factors influencing leadership configurations in networks.

Second, the synthesis contributes to network management theory, as this study indicates that multiple network members – as opposed to individual network managers – can exercise behaviors to bring the network towards its goals. The acknowledgement of more concentrated or more distributed forms of leadership contributes to a better understanding of leadership dynamics in the context of networks. Nevertheless, this study also demonstrates that formal sources of leadership can still be present in networks, and that these forces may shape leadership processes in networks.

Third, this theoretical synthesis contributes to collaborative governance literature by means of its behavioral lens. The framework allows researchers to understand public sector collaboration as a process in which network members exhibit leadership behaviors to advance networks towards their objectives. The study identifies task-, relations-, change- and externally oriented behaviors network members use to achieve collective goals.

This study also has a few limitations. Its scope is limited to three cases, all of which are based in the Netherlands. Further research is required to study the application of the propositions in other networked contexts. Second, while the design of this study serves the research question, in future research it may be fruitful to make use of other approaches, such as quantitative, experimental, or ethnographic research designs. This echoes recent concerns in leadership studies about the extent to which interviews and surveys of participants in the leadership process actually do measure leadership behaviors (Banks et al. 2021).

2.7 Conclusion and implications

In interorganizational public sector networks, leadership fulfills an important role as a means to coordinate task allocation and establish collaborative processes. This leadership is shaped by the contributions of multiple network members and goes beyond formal leadership positions; moreover, it manifests itself differently depending on the characteristics of the network.

The findings of this study offer the following practical implications. First, leadership behaviors enable network members to conceptualize, interpret, and pursue a common public value objective. Identifying and explicating these behaviors is the first step towards being able to develop these kinds of behaviors in professionals who participate in such networks. Second, as this study indicates, there is a continuum between concentrated and distributed

leadership in networks; therefore, strategies to concentrate or distribute leadership can be developed to fit the needs of the network at different points in time. Third, this study has found that every network member has the potential to display leadership, despite not having a formal leadership position. In practice, this finding can empower network members to show more (relations-oriented and change-oriented) behaviors to encourage other members to collaborate in pursuit of a common objective. For the academic study of leadership in networks, this finding implies that a (predetermined) empirical focus on specific 'network leaders' does not fully cover leadership at the network level. Rather, this study shows the importance of focusing on the aggregate leadership behaviors of all network members. In so doing, the study reaffirms earlier calls by Fletcher (2012), Ospina and Foldy (2015) Uhl-Bien (2006) to differentiate the leader from leadership, and to focus instead on systems of relationships through which leadership manifests itself. Lastly, this study demonstrates that the contextual properties of networks –structure, mandate, function and level of diversity between members – deserve more academic attention. Future research could examine whether these contextual properties require different forms of leadership.

Declaration of interest statement
No potential conflict of interest was reported by the author(s).

3

Organization-level mechanisms of leadership in public sector interorganizational networks: A multiple embedded case study[3]

3 *A version of this chapter is currently under review at a peer-reviewed journal*

Author statement

This chapter was co-authored with my supervisors. I was responsible for all data collection, analysis, and writing. They contributed conceptual and methodological ideas, especially related to conducting interviews. For instance, they provided ideas on how to ask respondents to reflect on specific situations in which they demonstrated or experienced leadership behaviors. They also asked reflective questions throughout the process, and provided constructive feedback on drafts and interpretations of the empirical data. They also critically reflected on structuring the findings, focusing on how organizational context interacts with participants' ability to exhibit leadership, and how this in turn manifests itself at the network level.

3.1 Introduction

Over the past two decades, the public sector has experienced a rise in public sector interorganizational networks, hereafter referred to as 'networks' (Klijn, 2020; Crosby and Bryson, 2010; Sullivan, Williams, and Jeffares, 2012). These networks encompass collaborative arrangements among three or more public sector entities, aiming to achieve shared objectives (Carboni et al., 2019). The proliferation of networks is unsurprising, given their multifarious advantages. Networks provide a platform for organizations to collectively address intricate challenges beyond individual capacities (Huxham, 1996). By pooling resources and expertise, networks enhance services for citizens and communities (Bianchi et al., 2021), ultimately advancing public value delivery through enriched collaboration and improved outcomes (Bryson et al., 2006).

Simultaneous with the network upsurge, academic literature on network dynamics and leadership has also grown. Prior studies underscore leadership's catalytic role in fostering effective collaboration. Authors highlight leadership's role in mobilizing actors, resources, and member commitment toward common objectives (Morse, 2010; Ansell and Gash, 2008; Agranoff and McGuire, 2001). Scholarly contributions emphasize the role of network leadership in creating synergy between organizational and network objectives (Huxham and Vangen, 2013; Lemaire, 2020; McGuire and Agranoff, 2011), as networks ideally yield both individual and collective benefits (Huxham and Vangen, 2013). Misalignment between network objectives and member mandates impedes member commitment (McGuire and Agranoff, 2011), necessitating effective network leadership to harmonize these goals for congruence.

While leadership's pivotal role in network effectiveness is acknowledged, much remains unknown about the contextual factors which shape individual network members' leadership in these contexts. This is unfortunate, as previous research does illustrate that whether and how an actor exhibits leadership behavior, however, is partly determined by organizational factors (Hammer and Turk 1987). Hence, it is relevant to study what shapes individual network members to exhibit or constrain from (types of) leadership behavior in networked contexts.

Studying *organization-level factors* offers a fruitful starting point. Prior research highlights organization-level factors influencing employees' boundary spanning activities (Van Meerkerk and Edelenbos, 2018). Notably, influences like positive or negative reinforcement

from superiors and peers, coupled with performance feedback, impact network participation (Stamper and Johlke, 2003; Arnett and Wittmann, 2014). Similarly, distinct characteristics of public sector entities may stimulate or discourage employee involvement in inter-organizational collaboration. For instance, the political environment in which public sector employees operate can either foster or hinder networking endeavors (Rainey, 2009).

While organization-level factors impact the opportunity of employees to engage with actors outside of their organization and participate in networking activities, the ways in which these organization-level factors interact with network leadership remains unexplored. For instance, it is unclear whether organization-level factors shape individuals' opportunity to exhibit leadership in networks. This study addresses this gap, aiming to uncover the role of organizational-level factors as enablers or constraints for leadership among representatives of participating organizations in networks. The central question is: *"How do organization-level factors shape network participants' opportunities to exhibit leadership behavior, and how do they relate to the leadership process in public sector interorganizational networks?"*

This research contributes by identifying underlying mechanisms of network leadership, specifically whether and how organizational-level factors affect leadership exhibited by individual network members.

The paper proceeds as follows. The subsequent section reviews prior studies on public sector leadership and networks, introducing seven organization-level factors potentially impacting network leadership. The case study design focuses on a Crime Intervention Network selecting interventions for crime response. The analysis dissects (1) how organization-level factors affect individual network members' leadership and (2) resulting network leadership implications.

3.2 Literature review and theoretical framework

Prior studies depict network leadership as a 'catalyst' for collaboration (Morse 2010; Keast and Mandell 2013; Emerson, Nabatchi, and Balogh 2012). This study defines leadership as a process that involves influencing and inspiring others to achieve a common goal or purpose (Yukl 2012). In terms of behavior, leadership encompasses a range of actions leaders use to motivate and engage others, build relationships, and facilitate change. Leadership thus contains an individual element – *behaviors* exercised by individuals – and a collective element: a *process* through which participants motivate each other to achieve a common goal.

In networks, leadership identifies and engages actors, garners support for shared goals, and facilitates communication (McGuire 2002). Leadership fosters trust and understanding vital for productive collaboration (Huxham and Vangen 2000). Network participants exhibit varied leadership behaviors: resource identification, information sharing, fostering enthusiasm, or establishing a shared vision (Silvia and McGuire 2010).

Scholarly discourse underscores that collaboration ideally fulfills both organizational and network objectives (e.g. Huxham and Vangen 2013). As networks enable the creation of "collaborative advantage" networks create value that could not have been created by individual actors alone (Huxham and Vangen 2010). At the same time, networks should also be geared towards helping its members reach their own organizational goals (Agranoff and McGuire 2001). Effective network management therefore involves a need for member organizations to achieve congruence between both goals (Lemaire 2020).

3.2.1 Mechanisms of leadership in networks

Previous studies have adeptly linked leadership theory to network dynamics, outlining behaviors aiding network effectiveness (Kramer et al.; 2019; Silvia and McGuire 2010; Cepiku and Mastradoscio; 2021). However, much remains unknown about the *mechanisms through which* network leadership operates. More specifically, it is unclear how organizational factors empower or constrain participants in their network leadership, and how this in turn shapes the network as a whole.

3.2.2 Organization-level mechanisms: characteristics of public sector organizations

To grasp how organizational factors are associated with network members' leadership display, we must consider public organizations' distinctive internal features. In essence, public sector entities are situated within bureaucratic and political landscapes (Rainey, 2009; Boyne, 2002), wherein employees navigate complex accountability ties (Boye et al., 2022; Parker and Gould, 1999; Romzek, 2000), balancing divergent political and societal demands (Boye et al., 2022; Pandey and Wright, 2006). These entities juggle loosely defined goals (Boye et al., 2022), aiming for transparent legality alongside efficient problem-solving (Hood, 1995), and reconciling diverse public service expectations (Hood, 1991).

These public sector characteristics may shape individual network members' display of leadership. Firstly, *bureaucratic accountability requirements* of public organizations often require network participants to have a mandate in order to make binding decisions in network

contexts. Secondly, this environment involves a tendency towards formally recording decisions. This could result in network members being more hesitant to make decisions quickly. Yet, this environment heightens the need for leadership beyond formal mandates and positions, as individuals must exhibit leadership for binding choices.

Moreover, the *political environment's* volatility may disrupt prior agreements due to shifting priorities after elections, potentially undermining trust between network members. Consequently, leadership becomes crucial to rebuild trust, though hindered by the continuous need to adhere to political superiors' priorities.

Goal ambiguity in the public sector can foster goal conflict among network members, necessitating relations-oriented leadership to reconcile organizational and collective goals. It also requires network participants to deliberate what constitutes public value and how the network best serves this purpose. A discrepancy between organizational and network goals, paired with a bureaucratic and political-hierarchical environment may hamper network members from demonstrating leadership towards the network's collective goal.

Lastly, public organizations' traits curtail managerial *autonomy*, affecting leadership expression. Grøn et al. (2022) noted public managers' autonomy impacts their leadership capacity.

3.2.3 Organization-level factors: internal management

Alongside internal organizational characteristics specific to public organizations, previous studies on *"boundary spanners"* identify internal management factors which may influence the behavior individuals show in networks (Van Meerkerk and Edelenbos 2017). Although this branch of literature focuses on the participants' advancement of organizational – rather than network – goals, it offers insights into how internal organizational management influences employees' engagement in networking activities.

As previously discussed, public sector goal ambiguity leads to conflicting objectives between networks and participant organizations. Given misaligned or conflicting organizational and network goals, internal management factors within participant organizations gain significance in this study. These factors might encourage network participants to prioritize their organizational goals over network objectives. Conversely, alignment between an organization's goals and the network's could facilitate network participants' leadership display.

Firstly, *organizational support* serves as an internal management factor motivating boundary spanning endeavors. Particularly, top-level backing alleviates uncertainties and stress tied to boundary spanning (Stamper and Johlke, 2003; Arnett and Wittmann, 2014; Van Meerkerk and Edelenbos, 2017). This bolstered support amplifies boundary spanners' confidence and psychological assurance to interact with external actors (Qiu, 2012), making them more amenable to the risks it entails. Hence, it is expected that network participants who are more encouraged by their supervisors to engage in networking activities, are more likely to exhibit leadership in networks.

Secondly, *performance feedback* is positively related to boundary spanning. According to Kahn et al. (1964), role conflict often plagues boundary spanners balancing diverse stakeholder demands with organizational goals. This conflict leads to stress, discontent, and lowered performance (Van Meerkerk and Edelenbos, 2017). Singh (1998) proposes that performance feedback from supervisors can alleviate role conflict's stress and dissatisfaction by clarifying tasks and responsibilities. Translating this into network leadership, participants navigating conflicting demands, like key performance indicators (KPIs) misaligned with network-level goals, might hesitate to exhibit leadership within networks. Conversely, individuals with more congruent internal KPIs and network-level objectives are more likely to display leadership in networks.

Lastly, *team dynamics* and relationships with co-workers enhance or reduce boundary-spanning behavior. If externally oriented activities are encouraged in an employees' team, they are more likely to engage with their environment. If a team agrees on the importance of boundary spanning, individual team members are more likely to engage in these behaviors (Van Meerkerk and Edelenbos 2017). In terms of leadership in networks, this could result in participants who are encouraged by their colleagues of their home organization to participate in the network, exercise more leadership behaviors.

Table 3.1 provides an overview of organizational-level factors of network leadership.

Table 3.1 *Overview of potential organization-level antecedents of network leadership*

Branch of literature	Organization-level antecedents	References
Internal organizational context	Bureaucratic (accountability) requirements	Boye 2022; Parker and Gould 1999; Romzek 2000
	Political environment	Rainey 2009; Boyne 2002
	Goal ambiguity	Boye et al. 2022
	Less autonomy	Grøn et al. 2022
Internal management	Organizational (top-level) support	Stamper and Johlke 2003; Arnett and Wittmann 2014; Van Meerkerk and Edelenbos 2017
	Performance feedback	Kahn 1964; Singh 1998
	Team dynamics	Van Meerkerk and Edelenbos 2017

3.3 Research design and methodology

3.3.1 An embedded case study design

This study involves an embedded case study design of an interorganizational network with 10 regional sub-units situated in The Netherlands. This design allows for the examination of multiple (regional) sub-units within the same context (the national network-structure). In so doing, one can identify patterns, similarities, and differences among the cases, which can help to build a more robust and nuanced understanding of the network being studied (Yin, 2009).

The choice of a single, nationally operating network with multiple sub-units allows for controlled variation within a shared institutional context. By comparing different organizational units operating under the same overarching network structure, the study isolates intra-organizational conditions and how they interact with leadership behavior. This design enhances internal validity by holding constant external variables such as network goals, governance structure, and sectoral environment, while enabling nuanced comparison of how organizational factors shape leadership enactment.

This study includes a network involved in policing in The Netherlands. The Dutch National Police is increasingly embedded in a network of public sector actors, where collaboration and information exchange are becoming essential to address complex challenges in the domains of security, social welfare and mental healthcare (Lakerveld et al. 2019; Mathhys and De Weger 2023). This makes a network involved in these domains particularly relevant

and suitable case for studying leadership in inter-organizational collaboration. The network, which will be referred to here as "Crime Intervention Network" contains several partners in the security domain: public prosecutor's office, national police, victim support group, juvenile offender foundation, parole office, and the domestic violence emergency line.

The aim of this network is to apply the most effective intervention in the case of various types of crimes, including so-called 'high impact crimes' (burglaries, robberies, violent crimes) and minor offences. To this end, these organizations collaborate on a case-by-case basis. When a burglar has been apprehended by the police, all actors are invited to provide additional information about the case. The domestic violence hotline, for instance, may provide additional information about extenuating circumstances of the suspect. The police could add information about the suspect's prior offences and the parole office may provide information about the suspect's rehabilitation trajectory. By combining information and expertise, the parties deliberate about the most appropriate intervention in the case at hand. This could result in a warning, a fine, community service, or prison sentence. Alternatively, the actors could agree about non-judicial measures, such as mediation between suspect and victim.

The network has a nation-wide structure, including multiple managerial levels (see Figure 1). At the national level, a strategic board of top-level managers of the involved actors convene four times a year to discuss strategic priorities of the network. In addition, the network is divided into 10 regional sub-units. Each of these regional sub-units contains one strategic layer of mid-level managers, and one tactical layer of lower-level managers or informal leaders. These tactical managers or informal leaders supervise the frontline officials who deliberate the best solution to a given case. From each regional sub-unit, one member of the tactical layer is chosen to represent the regional sub-unit in an advisory board. The advisory council convenes four times a year and provides feedback and advice to the national strategic board.

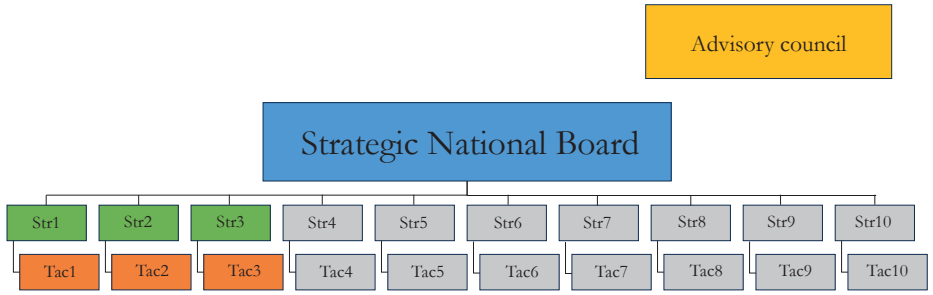

Figure 1: Structure of the Crime Intervention Network

3.3.2 Data collection: semi-structured interviews

Data was collected through 40 semi-structured interviews. The respondents in this study were all current members of the Crime Intervention Network, representing three organizational levels: the operational–tactical level, the regional strategic level, and the national strategic level. The selection aimed to capture the diversity of perspectives within the network. To ensure this, respondents were chosen to reflect a balanced representation across all participating member organizations, allowing insights from each organizational level and sector to be included. The interview protocol (see Appendix B.1) consisted of open-ended questions and probes, and was designed to explore the participants' perspectives and experiences in relation to leadership in their *organization* and in the *network*. Participants were first asked to explain the collective goal on the network. Then, participants were asked whether network members agree on this goal, or whether they show differences in attitudes towards this goal. Thereafter, participants were asked to indicate *who* demonstrates leadership in the organization and/or the network in relation to the collective goal of the network, and whether they could mention any specific *behaviors* that demonstrate leadership.

Respondents were asked to describe specific situations in which they or a fellow network member exhibited a type of leadership behavior. Respondents were also asked to explain whether they themselves exhibit(ed) leadership in the network, and were asked to explain *why* they do or do not use these behaviors. In addition, respondents were asked to describe how their organization either supports or impedes their participation in networks, and how this affects their behavior in the network.

The interviews were conducted either online or at a location of choice and were audio-recorded with the participants' consent. The recordings were then transcribed verbatim. To enhance the validity of the study, the interview guide was reviewed by experts in the

field and pilot tested with one of the network participants before the actual interviews were conducted (Bryman 2016). The transcripts were also reviewed for accuracy and completeness. To enhance the reliability of the study, the same researcher conducted all the interviews, and a second researcher reviewed the transcripts to ensure consistency in the coding process.

3.3.3 Coding protocol and analytical strategy

Interview transcripts were coded through a combination of open and axial coding. The codebook can be found in Table 3.2, p. 62. Open coding was used to break down data into separate codes, after which they were grouped into new categories (Strauss and Corbin 1990). For instance, separate codes were used to distinguish messages related to 'top-level support' or 'performance feedback' as factors influencing the network participants. Consequently, axial coding was used to place different codes into larger categories. For instance, 'top level support' and 'performance feedback' both relate to 'internal management factors.' The same pattern was used to code leadership behavioral categories and underlying behaviors.

After coding leadership behaviors using Yukl's taxonomy and organization-level factors, a second analytic step linked the behaviors to organizational enablers and constraints. Interview segments describing leadership actions were re-examined for accompanying references to organizational conditions—such as performance feedback, top-level support, or political environment. The contextual references were analyzed in relation to the type and frequency of leadership behavior observed. This process allowed for the identification of recurring patterns between organizational context and leadership enactment.

This coding process took several iterations. After these iterations, the authors retrieved five factors which did not fit the descriptions of the existing (deductive) codes, yet formed a particular pattern specifying how an actor was facilitated or held back in demonstrating leadership. In this process, the authors also coded relationships. For instance, the interaction of a particular factor with an individual network member was coded, using 'positive' if the factor encourages leadership, and 'negative' if the factor constrains leadership. Secondly, the outcomes of a particular factor on the level of the network was coded through two emerging codes – codes focusing on the distribution of leadership in the network, and codes focusing on the network's goal orientation.

Table 3.2 *Overview of deductive codes*

Concept	Operationalization	Code
Potential drivers and constraints of network leadership	*Internal management factors*	Top-level support
		Performance feedback
		Team dynamics
	Internal organizational context factors	Political environment
		Bureaucratic (accountability) requirements
		Goal ambiguity
		Autonomy
	Other factors (inductive)	Organization's involvement in network tasks
		Organizational culture
		Organizational structure
		Organizational capacity
Leadership behaviors	*Task-oriented leadership*	Planning
		Dividing tasks
		Monitoring
		Problem solving
	Relations-oriented leadership	Supporting
		Empowering
		Developing skills
		Recognizing achievements
	Change-oriented leadership	Developing a vision
		Sharing and promoting vision
		Encouraging innovation
		Facilitating collective learning
	Externally oriented leadership	Networking
		Representing
		External monitoring
Leadership interaction	Individual level	Positive (encouraging)
		Negative (constraining)
	Network level	Leadership distribution
		Goal orientation

3.4 Findings

Iterations of inductive, deductive, and axial coding resulted in eight organization-level factors which enable or constrain leadership exhibited by network members. These are categorized as *internal management factors*, *structural characteristics factors* and *other factors*. This section describes these factors and explains *how* these factors interact with leadership by individual network members. Consequently, the impact of leadership by individual network members on network leadership as a whole is discussed, specifically referring to leadership concentration and goal orientations. Findings are illustrated using examples of quotes from respondents that were translated from Dutch (original) to English.

3.4.1 Organizational-level enablers and constraints of individual leadership in networks

Internal management factors

Top-level support

The opportunity of an individual representative to exhibit leadership within a network is influenced by the degree of support offered by top-level management in the participant's home organization. In this case study, top-level management of one of the participating organizations gave their employees participating in the Crime Intervention Network strict instructions, as mentioned by respondent 9: *"You speak on behalf of an organization, and if this organization has said 'this is our scope, we won't go any further, stop,' (…) then 'hat's the line you have to follow."* Respondent 4 confirmed this: *"My supervisor always says: 'you represent the Public Prosecution Office, so you have no opinion of your own. What the PP says, you must too.'"*

Consequently, priorities established by top-level management determined the amount of slack its employees participating in the Crime Intervention Network had in either strictly representing their own organizational goals, or moving towards common network goals shared with other members. In the case study, other members of the network mentioned the Public Prosecutor's Office strictly kept to executing their own task in the network, rather than focusing on the collective goal of the network - developing meaningful crime interventions. Respondent 9 quoted the Public Prosecutors Office in the network as follows: *"well, we have to work in accordance with the law and in accordance with the procedures. And when we do that' it's meaningful in itself."*

When top-level managers are unsupportive of collaborative efforts or argue for a focus on internal tasks, the case reveals that network participants of this organization become less invested in network goals, prioritizing their own organization's objectives when interacting with partners. Their leadership behaviors inside the network focuses more on achieving organizational goals, with a reduced consideration for the goals and needs of other organizations. Instead of focusing on the common goal of the Crime Intervention Network, respondent 31 mentioned that the network is at risk of becoming *"a punishment factory."*

Performance feedback

Network participants who need to meet organizational performance indicators are limited in their opportunity to exhibit leadership in networks.

In the Crime Intervention Network, members used key performance indicators (KPIs) to assess organizational performance. These performance indicators did not measure network outcomes, but outputs by individual member organizations. As a consequence, participants of the Crime Intervention Network were influenced to prioritize their own organization's economic reality over network-level outcomes.

This is visible in the following respondent's quote, who argues that KPI's established by the Public Prosecutor's Office to monitor the amount and rapidness of convictions negatively impacts this organizations' commitment to the rights of victims: *"The Public Prosecutor's Office wants to prosecute as soon as possible. The victim is not really in the picture at all. It's about making a deal with the perpetrator quickly. And in cases that have more to do and where the Public Prosecution Service wants fast-track or super-fast-track justice to keep the processing time low (…) the victim has very little time to visualize the damage suffered"* (Respondent 2)

Organizational KPI's also influenced other network members to prioritize their own organizational goals – swift prosecution – over the network's goal of developing a meaningful intervention*: "the police are like that too, they want their plate empty. The clock starts ticking, and then… yes, then: 'oh dear! The interrogation time is almost over!' And that time pressure…. We've got that electronic monitor... It's all on there. If you're overdue, you're 'in the red.' That is due to the time pressure that the DA puts on it, like:"yes, otherwise I have to take him into custody.' Or: 'yes, we have to decide today'"* (Respondent 16).

Concludingly, members would direct their leadership behaviors towards achieving their own organizational goals – prioritizing efficiency – above the common objective of the network as a whole – achieving an effective legal intervention.

Structural characteristics

Political environment

The influence of political priorities on network collaboration appears an important factor to consider as an organization-level enabler or constraint of individual leadership. In the case of the Crime Intervention Network, political pressure resulting from a recent scandal led to a policy shift in which collaboration with other parties was viewed as "additional" or "extra" and not prioritized. Instead, the focus was on improving internal organizational processes and core tasks.

Respondent 9 describes: *"There may have been a pivotal moment…. About six years ago. (…) A case seriously derailed (….) someone who eventually committed a murder which might not have been committed if DNA identification processes were in better order, because then he would have been identified sooner and then we could have arrested him for another -less serious – crime. That has set something in motion within the Public Prosecution Service when it comes to: 'yes, all fun and games - being meaningful and socially involved – but if we are not even able to properly carry out our core processes and execute our criminal justice task, then maybe we shouldn't put on such big pants."*

This shift in priorities poses challenges for network participants representing organizations that prioritize their own core tasks over collaboration with other network partners. In the case of the Crime Intervention Network, this approach led to a decrease of willingness to engage in the collaborative process and a failure to view network activities as a shared responsibility. Concluding, leadership exercised by members who experienced political pressure to focus on organizational priorities, became targeted at reaching these goals rather than the over-arching collective goal of the network.

Bureaucratic accountability requirements

As elements of bureaucratic accountability, funding levels of participating organizations of the Crime Intervention Network were tied to organizational performance. As funding levels for participating organizations were linked to their quantitative outputs, representatives of participating organizations were more inclined to prioritize output maximization in their processes.

In the Crime Intervention Network, this approach negatively impacted the representative's leadership behavior in the network, as they prioritized meeting output requirements over making decisions that benefit network outcomes. Respondent 16 explains how accountability requirements in his own organization influence his work in the network: *"I always say: you get what you aim for. We are a funded organization (…) that receives a subsidy from the Ministry of Justice and Security. If I am asked to account mainly for the things that I have to do myself, in my own column, I will of course manage those."* Respondent 2 explains: *"it was always about the numbers. The influx. And if the influx fell, the Public Prosecution Service became less happy about it."*

Concludingly, similar to the factor of 'performance feedback,' members who experience accountability mechanisms that prioritize particular organizational outputs tend to express leadership in the network that focuses on reaching organizational outputs, rather than focusing on collective objectives.

Other factors

Organization's involvement in network tasks

Respondents indicated that the organization's involvement in network core tasks had an impact on how they viewed their own leadership role in the network. The level of involvement an organization has in network operations can be measured by the time its network participants spend compared to other members and the responsibility they have for network outputs.

Respondent 4 from the Public Prosecutor's Office explains: *"The final decision in each case is always signed on the public prosecutor's behalf, so I think it is quite logical that the PP is the main point of contact (…). The PP is of course ultimately responsible. (…) We are in charge, because we make the decisions as PP."*

In the Crime Intervention Network, network participants whose organization had a larger stake in network operations tended to display more initiative in the network process, while those whose organization was only partially involved were hesitant to provide input and show initiative in network meetings, feeling that their organization is not a crucial partner. As respondent 9 puts it: *"Only the police and the Public Prosecution Service are involved in all cases, so all other organizations always have only a partial interest. Not all cases involve victims, not all cases involve minors, not all cases involve adults. So, the police and the Public Prosecution Service are the ones responsible for investigation and prosecution."*

Respondents described that these participants only take the initiative when the network discusses their specific part of network operations. Moreover, network participants who bear legal responsibility for network-level outputs were more likely to take the initiative in network processes than those who do not. In this case, the public prosecutor's office was legally responsible for all final decisions regarding the penalty of the offender. Due to this responsibility, public prosecutors would be more assertive when discussing cases with partners.

Consequently, members whose organization has a larger (legal) involvement or larger stake in the network process were more likely to display leadership in the network.

Organizational culture and pre-existing expectations regarding leadership

Another factor which emerged from the interviews with network participants entailed pre-existing expectations regarding leadership. In this case, pre-existing expectations regarding leadership were multifaceted. Firstly, some organizations were considered historically "leading" in their domain, such as the public prosecutor's office in the case of the Crime Intervention Network. Secondly, non-profit network partners, like the victim's relief fund in this case, were regarded as less of a leader in their domain, as they were not perceived as professionals: *"But I think it's also a bit due to the image of Victim Support Netherlands. That is sometimes seen as volunteers who provide emotional support"* (Respondent 5).

Expectations regarding different organizational cultures enhanced and reduced leadership expectations of individual network members in the Crime Intervention Network. In this case, the public prosecutor's office and national police were considered leaders due to stereotypical views of employees as more dominant, assertive, and hierarchical. As respondent 5 argues: *"in general I think those who show more leadership are the police and the Public Prosecution Service. They are of course also quickly in that position hierarchically. I do think they are also the ones who are a bit more aware of everything and have a more active role and show a bit more initiative, so to speak, to get things started. If you look at the police, they are… in terms of culture, also more typical people who can speak a bit more dominantly, so to speak, so you notice they can simply express themselves strongly. And showing the leadership in the sense of, well, knowing what they stand for and giving a clear opinion on that."* Respondent 17 confirms: *"giving space to others is not immediately given to a number of officers. It's not in their pores."*

In the case study, pre-existing expectations regarding leadership had two distinct effects. Firstly, participants from organizations that are considered leaders in network arrangements

tended to exhibit more leadership behaviors in the network they operated in. Conversely, network members representing organizations without such a reputation displayed more modest behaviors and did not view themselves as network leaders.

Organizational structure

Organizations with a structure similar to that of the network – in this case, characterized by multiple hierarchical layers, each represented by a manager – were perceived to be more influential in exhibiting leadership than organizations with flat or horizontal structures and self-managing teams. This is because organizations that resemble the network's structure can strategically position similar-level managers within the network. On the other hand, organizations that do not resemble the network structure are unable to delegate a representative with a comparable mandate to the network, with participants representing such organizations often being experienced employees without a formal mandate.

Participants of organizations with a structure resembling that of the network exhibit more leadership behavior, as they are able to make decisions on the basis of a mandate. Conversely, participants of organizations with a different structure exhibit less leadership and may be hesitant to make decisions, as they require consultation with their peers. Thus, organizational structure is an important factor that can impact an individual's opportunity to effectively demonstrate leadership within a network.

As respondent 3 explains: *"The Council for Child Protection don't have real team leaders in their organization, so the MT member of ours at the Crime Intervention Network, is also someone from the shop floor who has very little mandate (…) The Juvenile Offender Foundation employee actually has the same situation, participates in the Management Team, but also works in implementation, with hardly time to do alternative things. The police are a bit more relaxed with a team chief, the Public Prosecution Service is very busy, but does have a lot of hierarchy and therefore room to take responsibility."*

Concludingly, the organizational structure of one's home organization impacts members' opportunity to exhibit leadership, as it determines whether the network member has the mandate required to operate effectively in a network.

Organizational capacity

In the Crime Intervention Network, participants stressed that many member organizations were facing personnel and budgetary constraints. In this case study, this led to member organizations prioritizing their own goals over network goals. As Respondent 25, a member

of the public prosecutor's office explains: *"The economic reality of scarce resources within your own organization…. You cannot let that be overruled by joint views from a partnership (…) Our department is broader than just this network."* As a result, representatives of such organizations were more likely to make decisions that prioritized organizational priorities and negatively impacted the network. They limited their participation in network activities, attend only online meetings, or prioritized addressing operational shortages over network decision-making.

Concludingly, organizational capacity influences a network member's opportunity to showcase leadership, as a surplus of organizational capacity provides network members more space to commit themselves to activities and goals beyond the scope of organizational goals.

3.4.2 The role of organization-level enablers and constraints on leadership in networks

Organization-level enablers and constraints appeared to shape the process of leadership in networks indirectly, as each organization-level factor played a role in shaping the behaviors of individual network members. Since leadership is understood as a process of influencing and inspiring others toward a shared goal or purpose, this section explores how network leadership unfolds in relation to these organizational dynamics. Specifically, it examines how organization-level enablers and constraints shape the focus of network leadership on a shared goal or purpose and how they inform who engages in the leadership process.

Goals: organization-focused and network-focused

This study suggests that organization-level factors may shape the priorities that network participants emphasize in their leadership efforts. This becomes evident in the following quotes, where Respondents 2 and 9 describe how the performance management systems of participating organizations have influenced the ways in which the network approaches and prioritizes certain goals.

> Respondent 2*: "I was talking (…) with a member of police leadership, who was at the Public Prosecution Service at the time, and I asked her: 'do you know what the mission of this network was when it was founded? And she said: 'it was absolutely clear that it was to apply meaningful interventions.' So I responded: 'yes, and we are now only dealing with criminal cases.' Then she said: 'yes, that is how it turned out, but that was absolutely not the intention.'"*

> *Respondent 9: "Already after (…) two years, the passionate substantive society-driven mission changed. (…) After a few years the mission changed towards a business management perspective: 'it must above all be efficient, we need to meet KPI' such as 'fewer summons', because summons take longer and therefore …..' (…) But: are summons an indicator of how meaningful the intervention is or not?"*

In this study, respondents described how, in the process of prioritizing certain organizational goals over network goals, different types of leadership—task-, relations-, change-, or externally oriented behaviors—were used in varying ways to pursue either organizational or network goals. These behaviors are summarized in Table 3.3. p. 72.

The empirical data revealed two distinct forms of task-oriented leadership during decision-making processes: organization-driven and network-driven. In an organization-driven form of decision-making, respondents indicated that the network member initiating the decision did not consult others but made decisions unilaterally. This typically involved informing network members only after the decision had been made and prioritizing one's own organizational processes and regulations as the main motive in the decision. Hence, the actor shows task-oriented behavior in initiating decisions, but its desired goals relate to the goals of their own organization.

In contrast, a network-driven form of decision-making was characterized by collective decision-making, where network members were actively invited to participate in the process of decision-making. Respondents described how this involved drawing up an agenda together, initiating meetings to discuss proposals, and informally contacting other members before making decisions that could impact the network. Additionally, efforts were made by network members to align their own organizational processes with network decisions, rather than the other way around. Hence, in both forms of decision-making task-oriented leadership behaviors were used, yet each reflecting different underlying priorities and goals.

The distinction between leadership behaviors aimed at organizational goals versus network goals also emerged in respondents' descriptions of relations-oriented leadership. A form of relations-oriented leadership aimed at one's own organizational goals was observed when network members made unilateral decisions and informed and apologized afterward if the decision negatively impacted other network partners. In contrast, a form of relations-oriented leadership aimed at network goals involved actively inviting other members to

provide input on a proposal, empowering network members to voice their opinions before expressing one's own stance on the matter.

Similarly, respondents described how change-oriented behaviors were used to prioritize either organizational or network goals. For instance, a network member might emphasize a particular organizational core value to justify a decision. In the case of the Crime Intervention Network, one actor highlighted "efficiency" as a key driver in decision-making. Alternatively, a change-oriented leadership behavior aimed at network goals involved encouraging all network members to collectively weigh the core values of the network and determine which values should be prioritized in a specific decision. Within the Crime Intervention Network, for example, network members described how they framed the core value of the network as "collectively finding meaningful interventions in crime cases."

Lastly, respondents described how externally-oriented behaviors were used to achieve either organizational or network-level goals. For example, some network members unilaterally invited new members or independently organized a lobby to access additional resources, prioritizing their own organizational interests. In contrast, a network-driven approach to externally-oriented behavior involved forming coalitions, collectively lobbying for resources, and jointly deciding on the accession of new network members.

Table 3.3 *Overview of leadership behaviors with an organization-focus versus leadership behaviors with a network-focus*

Type of leadership	Focus: organizational goals	Focus: network goals
Task-oriented	Unilateral decision-making;	Connecting with other members to make decisions together: drawing agenda, scheduling and hosting meetings
	Informing network members, but *after* unilateral decisions have already been made;	Informally contacting other members before making decisions that impact the network
	Prioritizing organizational processes and regulations in decision-making processes	Exploring how organizational processes can be adjusted to align with network decisions
Relations-oriented	Explaining and apologizing for unilateral decisions that affect the network negatively.	Actively encouraging other members to provide input on proposals;
		Empowering other members to voice their concerns
		Asking other members for input before providing own input
Change-oriented	Emphasizing one's own organizational value(s) and prioritizing these in each (collective) decision.	Encouraging other members to reflect on how they perceive the collective goal and values, and collectively decide which values are most important.
Externally oriented	Unilaterally inviting and engaging new network members for the organization's benefit	Creating coalitions to collectively lobby for resources or legislative changes.

Process of leadership: the concentration and distribution of network leadership

In addition to organization-level factors impacting the focus of leadership on either organizational or network goals, this study found that organization-level factors may also be associated with higher or lower levels of leadership concentration.

In the case of the Crime Intervention Network, the organization-level factors impacting individual network members had a *concentrating* effect on network leadership as a whole. This became apparent in the following ways.

Firstly, participants of one organization – the Public Prosecutor–s Office - take the lead; other organizations passively accepted the PP's leadership. This became visible in the

distribution of key positions across the network, with the leader organization holding more significant positions in network meetings. As respondent 2 mentions: *"The Public Prosecution Service has taken up key positions everywhere in 12 years. They chair many consultations, both the Strategic National Board and the Advisory Board. The Advisory Board is chaired by a deputy chief officer. The tactical steering groups in the regional units are often chaired by someone from the Public Prosecution Service…. So, they really left quite a mark on the network as it is now. And I think the other partners let that happen a little bit as well. And there is now a turning point: do we still feel comfortable in this collaboration?"*

Secondly, decisions were made in a more unilateral sense, rather than in collaboration. In this case, the Public Prosecutor's Office did not always consult other partners for input on criminal cases. Certain operational decisions, such as a decision to work from home during the COVID-19 pandemic, were made without consultation. Lastly, the leader organization in this case also blocked decisions that could benefit other organizations. Respondent 1 mentions*: "the Public Prosecution Service can sometimes say:'if we don't like 't, it won't happen. To be kind of dominant in that. It's kind of a trade-off, I think. So that can certainly be a little less sometimes, and at the same time other organizations can be a little more assertive, so to speak."*

The concentration and distribution of network leadership had several effects on the collaborative process. Firstly, distrust and conflict would sometimes arise. When one organization made decisions unilaterally, other organizations became distrustful of the organization as a network partner. This can lead to conflict and tension within the network. Respondent 31 mentions: *"When COVID-19 just arrived, for example, the deputy chairman of the Public Prosecutor's Office simply pulls the plug in the evening after watching the news: "From tomorrow onwards we will work digitally." There are a few that make noise, I am part of that group. But it is as they say."*

3.5 Discussion and conclusion

This study aimed to explore how organization-level mechanisms relate to the leadership behaviors of individual network members, addressing a gap in the academic literature on this topic. Specifically, it examined how organization-level factors shape network participants' opportunities to exhibit leadership behaviors and influence the leadership process in public sector interorganizational networks. The research question guiding this study was: *"How do organization-level factors shape network participants' opportunities to exhibit*

leadership behavior, and how do they relate to the leadership process in public sector interorganizational networks?"

Through a multiple embedded case study within a Dutch Crime Intervention Network, eight organization-level factors were identified as shaping individual leadership behaviors. These included internal management (top-level support, performance feedback), public organization traits (political environment, bureaucratic accountability), and other contextual elements (involvement in network tasks, organizational culture, organizational structure, and operational shortages).

The analysis suggests that the way individuals demonstrate leadership in networks depends on the opportunities their home organization provides for them to exercise such leadership at the network level. This finding aligns with previous academic contributions on the context-dependency of leadership (Van der Hoek and Kuipers, 2022; Yammarino, 2013; Bryman et al., 1996) and highlights that leadership is shaped and constrained by various factors. This reinforces the call for research that considers leadership as an outcome shaped by contextual influences (Bundgaard, Jacobsen, and Jensen, 2021; Chapman et al., 2016; Frederick et al., 2016).

In essence, this study indicates that organizations influence employees' opportunity to demonstrate leadership within the network they participate in. This finding aligns with previous research highlighting the role of organization-level leadership in encouraging employees' boundary-spanning behaviors (Van Meerkerk and Edelenbos, 2018) and the importance of managerial support in facilitating successful collaboration (Klindt, Baadsgaard, and Jørgensen, 2023). Additionally, this study reinforces earlier work on the interconnections between formal and informal leadership (Holm and Fairhurst, 2018), illustrating how formal leadership within organizations can enhance informal leadership within networks.

When organization-level factors prioritize organizational objectives over network objectives, network participants may be more inclined to exhibit leadership behaviors aligned with their own organization's goals. This study illustrates this dynamic by identifying task-, relations-, change-, and externally-oriented leadership behaviors that can serve either organizational or network-level goals. Leadership behaviors with an organizational focus often involve making unilateral decisions, informing network members only after decisions have been made, prioritizing core organizational values in decision-making, and

independently securing resources. In contrast, leadership behaviors with a network focus emphasize collective decision-making, actively seeking input from others before taking a position, jointly weighing key values, and organizing coalitions to collectively attract external resources.

In other words, leadership in networks is shaped by organization-level factors, which may influence individual network participants to exhibit leadership in favor of either organizational or network goals. However, this does not imply a strict 'either-or' scenario where network members must choose between pursuing their own goals or network goals. Ideally, these goals are strategically aligned to prevent such a trade-off. As the central case of this study illustrates, organizations more strategically aligned with network goals may be more likely to exhibit leadership in favor of those goals.

As organizational factors either constrain or enable network leadership by individual members, the overall nature of network leadership is shaped accordingly. At an aggregated level, "network leadership" emerges from the leadership displayed by each individual network participant. Depending on the context, network leadership may become more concentrated or more distributed. This study thus reveals leadership's composite nature from all network member behaviors, by indicating that organization-level factors may lead to various degrees of leadership concentration in the network. In so doing, this finding confirms that, in order to fully understand network leadership, it is crucial to understand the underlying dynamics that enable network members to demonstrate leadership. This is in line with a recent study by Cremers et al. (2023) which also emphasizes the importance of network orchestration by individual organizations.

This study contributes to the boundary spanning literature by revealing how intra-organizational conditions—such as internal accountability regimes, performance pressures, and political salience—act as either enablers or constraints for boundary spanners to exhibit leadership in the context of networks. While boundary spanning has often been studied using the organization as the unit of analysis (Van Meerkerk and Edelenbos 2018; Van Meerkerk and Edelenos 2020), this study uses the network as its starting point, and demonstrates how network members interact with each other as a result of organizational constraints or stimulants. It also advances leadership theory by highlighting how the capacity to enact leadership in networks is contingent on organizational context. These insights confirm the call for greater attention to the context in which leadership takes shape (Van der Hoek and Kuipers, 2022; Yammarino, 2013).

Additionally, this section concludes with the following observation. The literature identifies three factors—team dynamics in the home organization, goal ambiguity, and (reduced) autonomy—that did not surface in this case study. Based on the theoretical framework, team dynamics were expected to shape boundary spanners' ability to demonstrate leadership. However, this expectation was not supported by the findings. One possible explanation is that the network examined in this study was an established and mandated network, meaning that participation was required rather than voluntary. As a result, team dynamics within the home organization may have played a less significant role.

Goal ambiguity and reduced autonomy did emerge in participants' experiences of leadership opportunities. However, rather than functioning as standalone organizational factors, these aspects were shaped by other elements, such as top-level support, performance feedback, political context, and accountability requirements. These factors contributed to goal ambiguity and constrained autonomy among network participants. Given the specific nature of this network, it remains uncertain whether team dynamics generally shape leadership opportunities in interorganizational settings. Future research could explore whether team dynamics play a more significant role in other types of networks.

One limitation of this study is that it is confined to The Netherlands and one network (Crime Intervention Network), although its identified mechanisms are broadly applicable. Future research could explore organizational mechanisms in other national contexts and other sectors.

Secondly, this study was based on interviews with network members. This could lead to potential (self-reporting) bias. This limitation, however, was countered through a verification of observations through additional interviews with other network members. Lastly, longitudinal observations were limited due to the study's nature, ignoring network life cycle stages' impact on organization-level enablers and constraints. An opportunity for future research could be to follow a network through its entire lifecycle to verify whether organization-level enablers and constraints have different effects at different stages of a network's existence.

Besides these recommendations to counter the limitations of this study, we also identify additional avenues for future research. Firstly, future research could study the *effects*, rather than determinants, of leadership within network contexts. Studying the use and outcomes of leadership behaviors can provide useful insights into the effectiveness of

networks in achieving network goals. Secondly, intervention studies could explore how network members can become more aware of the organization-level factors influencing their behavior in networks. As this study demonstrated that organization-level factors may encourage or hinder network leadership, intervention studies that help participants become more aware of these factors is a first step in helping organizations to increase their alignment with network goals.

Concludingly, this study demonstrates the interplay between organization-level factors and leadership behaviors individual members exhibit in networks to attain organizational and network goals. In so doing, it connects with earlier calls to study the potential interconnections between leadership and contextual factors (Akerboom, Groeneveld and Kuipers 2024). More specifically, this study demonstrates that organization-level factors can *hinder* network members in exhibiting leadership for the benefit of the network, and prioritize organizational goals. This is striking, as this study indicates that, in order for networks to meet the goals they were established to pursue, organizations should strategically align themselves to the networks in which they participate.

Hence, this study also provides relevant insights for the practice of network collaboration in the public sector. As leadership in networks and member organizations is interlinked, public organizations should pay attention to how the organizational environment may enable or hinder collaborative efforts. Given the rise in inter-organizational collaboration over the past decades, it is vital that public sector organizations structure themselves in such a way that their employees are facilitated in creating public value that stretches beyond organizational goals. Public organizations should take networks seriously and invest in aligning their organization with the goals of the networks in which they participate in order to achieve both their own goals and collective goals. This means taking seriously top-level leadership, feedback through performance management systems – which are factors public organizations do have control over – and see how these could affect network participation. By taking these aspects more seriously, organizations can tackle organizational barriers that hinder their employees from exhibiting leadership in networks or even turn them into enablers of leadership in networks.

The findings also carry implications for network managers or coordinators. Leadership in networks cannot be assumed to emerge organically; it requires awareness of the organizational conditions in which participants are embedded. Network managers should consider how internal factors—such as managerial support, accountability expectations,

and organizational capacity—either enable or inhibit leadership contributions by all members. When starting a network or adding new network members, it is important to engage not only the individuals representing each organization but also their internal leadership, to align incentives and ensure that network engagement is supported rather than obstructed at the organizational level.

For practitioners operating in networks, this study demonstrates how leadership towards organizational goals and leadership towards network goals manifests itself in specific behaviors. Practitioners may use these behaviors themselves, or observe these behaviors in other network members and assess the consequences these behaviors may have for the achievement of organizational and collective goals.

4

The role of leadership behaviors in facilitating collaboration in interorganizational networks: A mixed-method study among members of interorganizational networks in the Dutch public sector

Author statement

This chapter was co-authored with one of my supervisors, Prof. Dr. Ben Kuipers. I developed the theoretical framework on which the measurement of leadership and the collaborative process was built. I designed and implemented the survey, conducted all analyses, and wrote the manuscript. My supervisors contributed by critically assessing the survey design, suggesting methodological improvements (including the use of Structural Equation Modeling), and providing feedback that strengthened the methodological rigor and conceptual clarity of the chapter.

4.1 Introduction

In recent decades, public organizations have increasingly engaged in interorganizational networks to create public value (Crosby and Bryson, 2010; Morse, 2010; Sullivan, Williams, and Jeffares, 2012). These networks involve three or more autonomous organizations working toward a collective goal while pursuing their own interests (Provan and Kenis, 2008). Compared to individual organizations, networks are less hierarchical and rely more on interaction on an equal basis (Klijn, 2005; O'Toole Jr., 1997; Powell, 1990), leading to distinct collaboration dynamics.

As interorganizational collaboration has become more common, research has increasingly focused on the role of leadership within these efforts. Leadership is viewed as a social process in which individuals use (repertoires of) behaviors to influence others to achieve shared objectives (Yukl, 2012; Van der Hoek, Groeneveld, and Beerkens, 2021). However, limited knowledge exists about how specific leadership behaviors contribute to collaborative processes.

Previous studies emphasize leadership's role in mobilizing actors (Morse, 2011), facilitating dialogue and reducing power imbalances (Ansell and Gash, 2008), and securing resources (Crosby, 't Hart, and Torfing, 2017). Other research highlights necessary activities to initiate collaboration (Agranoff and McGuire, 2001) and competencies required for network management (Getha-Taylor, 2008). Yet, empirical evidence about how leadership behaviors associate with collaboration remains scarce. This study aims to fill this gap by examining how task-oriented, relations-oriented, change-oriented, and externally oriented leadership behaviors relate to three core aspects of collaboration: operational capacity, member relations, and goal orientation in interorganizational networks. Therefore, the main research question is as follows: *How is leadership behavior associated with the process of collaboration in interorganizational networks?*

Applying a mixed-methods approach, combining survey data and semi-structured interviews, the study investigates these relationships within a national Crime Intervention Network in the Netherlands. This design enables both hypothesis-testing and a deeper understanding of leadership dynamics in practice.

4.2 Theoretical framework

In order to examine the relationship between leadership behaviors and collaborative processes in interorganizational networks, this section defines leadership and outlines a taxonomy of leadership behaviors. It subsequently introduces three core elements of the collaborative process and their relevance for network effectiveness. Finally, it presents six hypotheses linking specific leadership behaviors and distinct aspects of the collaborative process.

4.2.1 Leadership and leadership behavior

Leadership is commonly defined 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, 2012). Previous research on leadership in public sector networks highlights that leadership is not confined to specific individuals with a formal leadership position; rather, leadership can be exhibited by various network members (Akerboom, Groeneveld & Kuipers 2024). Within the concept of leadership, Yukl (2012) distinguishes four categories of leadership behaviors that each facilitate the pursuit of individual and shared goals: task-oriented, relations-oriented, change-oriented, and externally oriented behaviors. Akerboom, Groeneveld, and Kuipers (2024) applied this taxonomy to public sector networks, confirming and specifying its applicability to network contexts.

Task-oriented behaviors support members in clarifying objectives and coordinating activities. Relations-oriented behaviors aim to foster trust and strengthen interpersonal relations, often by encouraging open communication and building a shared identity. Change-oriented behaviors promote innovation and adaptability, helping network actors maintain focus on shared public values and collective learning. Externally oriented behaviors focus on monitoring the environment, building external relationships, and securing resources (Yukl 2012).

Previous studies suggest that both leadership and management influence collaborative processes (see, for instance Cristofoli, Markovic and Meneguzzo 2012; Fadda and Rotondo 2022; Klijn, Steijn and Edelenbos 2011), but few have systematically explored these dynamics within interorganizational networks. This is problematic, as the unique horizontal character of public sector networks, in which multiple network members collaborate on an

equal footing, is distinct from the more hierarchical context of individual organizations (O'Toole Jr. 1997).

Teamwork studies offer a valuable starting point in understanding the role of leadership in collaborative processes. For instance, studies on leadership in teams indicate that task-oriented leadership has a positive influence on employee engagement (Xu and Thomas 2011; Li, Castelli and Cole 2021) and on group efficacy – the belief of a team in its capabilities to organize efforts to attain its goals (Tabernero et al. 2009). Relations-oriented leadership enhances job satisfaction, commitment and leader-member exchange quality (Fernandez 2008; Mikkelson, York and Arritola 2015; Mahsud, Yukl and Prussia 2010). Furthermore, change-oriented leadership has a positive impact on team learning and psychological safety, employees' commitment, and employees' commitment to organizational change (Ortega et al. 2014; Lee, Wang and Yu 2023). Lastly, research indicates that externally oriented behaviors contribute to organizational change in teams (Van der Voet, Kuipers and Groeneveld 2015).

These findings, while situated in intra-organizational teams, offer important insights for leadership in interorganizational networks. Like teams, networks rely on commitment and shared purpose—yet they add layers of complexity due to organizational autonomy and different organizational goals (Kerrissey and Novikov 2024; Turrini et al. 2010; Lemaire 2020; Kerrissey et al. 2021).. Drawing on team research, we can expect that similar leadership behaviors—when enacted across organizational boundaries—may foster the collaborative process.

Therefore, the following (general) hypothesis was formulated:

Hypothesis (H1) = Leadership is positively associated with the quality of the collaborative process in interorganizational networks.

4.2.2 Quality of collaborative processes in interorganizational networks

In order to understand how these four behavioral categories of leadership behavior affect the collaborative process in networks, it is essential to specify what the quality of a collaborative process in networks entails. Previous research has identified a range of elements that contribute to the quality of collaboration in interorganizational networks (e.g. Provan and Milward, 2001; Huxham and Vangen, 2005; Klijn et al., 2010). Based on a review of the literature, this study distinguishes three core components that frequently

recur as critical conditions for effective collaboration: (1) operational capacity, referring to the availability of resources and clarity of roles; (2) member relations, reflecting the quality of interpersonal and interorganizational connections; and (3) (common) goal orientation, indicating the extent to which actors are aligned in their objectives and interdependent in their tasks to accomplish the shared objective. These three components emerged as central themes across multiple studies and serve as an analytical framework in this study. In selecting these three components — operational capacity, member relations, and (common) goal orientation — the aim was to develop an analytically useful framework that captures both structural and relational elements of interorganizational collaboration.

Operational capacity

Firstly, *operational capacity* is defined in this study as the presence of sufficient resources to execute tasks, and clarity on the distribution of tasks and responsibilities of each actor. Two elements are central in this regard: resource munificence and task clarity. In their integrative framework for collaborative governance, Emerson, Nabatchi and Balogh (2012) emphasize the necessity of capacity for joint action. Research indicates that networks with resource munificence and in which formalized coordination mechanisms to enhance clarity are in place predict positive network outcomes (Cristofoli and Markovic 2015; Turrini et al. 2010; Fawcett et al. 2000). Provan and Milward (1995) emphasized the importance of resource munificence as paramount for network maintenance. Furthermore, research indicates that resource munificence enhances networks' ability to achieve their goals (Agranoff and McGuire 2001), enhance client-level effectiveness (Provan and Milward 1995) and community-level outcomes (Fawcett et al. 2000). Prior research also suggests that task-oriented leadership behaviors can strengthen team members' confidence in their collective ability to achieve goals (Tebernero et al., 2009). In line with this, the study hypothesizes that task-oriented behaviors—such as planning, clarifying, monitoring, and problem-solving—support operational capacity in interorganizational networks. Furthermore, externally oriented leadership behaviors, which involve securing resources and fostering connections beyond the network, are expected to contribute positively to the network's resource base. Accordingly, the following hypotheses are formulated to examine the relationship between leadership behavior and operational capacity in interorganizational networks.

Hypothesis (H2): Task-oriented leadership is positively associated with operational capacity in interorganizational networks.

Hypothesis (H3): Externally-oriented leadership is positively associated with operational capacity in interorganizational networks.

Member relations

A second critical element of the collaborative process in networks is the quality of relations between participating members. Effective collaboration depends on the presence of strong interpersonal connections and a supportive relational climate (Klaster et al. 2017; Provan and Kenis 2008). This study conceptualizes member relations through three relational mechanisms which are consistently linked to collaborative success in interorganizational settings: trust, psychological safety, and shared identity. These concepts represent essential conditions for cooperation and mutual engagement, as they shape the way actors interact, share information, and cooperate with each other.

Firstly, *trust* is defined in this study as a psychological state in which an actor is willing to be vulnerable towards another actor. This vulnerability is based on the expectation that the intentions or behavior of the other party will be positive (Morgan and Hunt, 1994, Rousseau et al., 1998). Previous studies indicate that trust spurs collaboration among actors (Bond-Barnard, Fletcher and Steyn 2018), and that managerial involvement may enhance trust within the specific context of networks (George et al. 2024; Klijn et al. 2015). According to Vangen and Huxham (2003), network participants need to continuously engage in a process of nurturing trust, and that trust in networks requires managerial efforts. In addition, Klijn et al. (2016) found that trust is a predictor of network performance.

Secondly, *psychological safety* refers to the shared belief that the team or collaboration is safe for interpersonal risk-taking (Edmondson 1999). It includes key dimensions such as voice, learning behavior, support, and familiarity (O'Donovan and McAuliffe 2020), and has been linked to higher organizational learning, innovation, and employee engagement (Liu et al. 2014; Ortega et al. 2014). In network settings, psychological safety is essential to ensure open communication and mutual support between actors from different organizations (Edmondson 1999; Liu et al. 2014).

Shared identity refers to a situation in which individuals feel a sense of belonging or recognition towards those around them versus individuals external to the "in-group" (Van Dick, Ciampa and Liang 2018). The notion of shared identity contains an affective, a behavioral and a cognitive component (Henry, Arrow and Carini 1999). Research indicates that actors who identify themselves with other actors are more likely to interact

and collaborate with them (Conner 2015). Within organizations or teams, the presence of a shared identity is related to various positive outcomes, such as employee satisfaction and motivation. While these insights originate from intra-organizational settings, the concept of shared identity is arguably even more crucial—and more complex—in interorganizational networks. Collaborative networks bring together actors from different organizations, each with distinct mandates, interests, and institutional logics. This diversity can hinder the emergence of a shared identity, yet such a sense of collective "we" is critical to effective collaboration (Hardy, Lawrence & Grant 2005). As Shannon and Rhodes (2023) argue, the presence of shared identity among network actors significantly enhances the functioning of collaborative networks. Developing such identity across organizational boundaries is therefore both a key enabler and a challenge for leadership in networked settings.

Trust, psychological safety, and shared identity are not static features of a network; they require continuous nurturing and reinforcement. According to Huxham (2003), organizations who aim to collaborate effectively, should be willing and able to nurture them. This requires continuous and permanent effort (*ibid.*). Research indicates that leadership behaviors play a role in shaping these relational dynamics. Relations-oriented leadership behaviors, such as supporting and empowering others, are directly aligned with fostering trust and psychological safety (Yukl 2012). Similarly, change-oriented leadership has been shown to promote open communication and adaptability, conditions that facilitate both psychological safety and shared identity (Edmondson and Lei 2014).

As research suggests that building trust, creating a shared identity among actors and creating a safe environment for network partners requires careful orchestration, this study departs from the expectation that that relations-oriented behaviors such as supporting, empowering and helping other members to develop skills positively encourage member relations in inter-organizational networks. Similarly, as research suggests that change-oriented behaviors enhance psychological safety in teams, this study departs from the expectation that change-oriented behaviors are positively associated with member relations in networked contexts.

Hence, this study includes the following hypotheses regarding the relationships between leadership and member relations in interorganizational networks:

Hypothesis (H4): Relations-oriented leadership is positively associated with member relations in interorganizational networks.

Hypothesis (H5): Change-oriented leadership is positively associated with member relations in interorganizational networks.

Goal orientation

A third, and last, key dimension of effective collaboration in interorganizational networks is the presence of a common goal orientation. Networks are more likely to succeed when actors recognize their mutual interdependence, approach challenges collaboratively, and commit to shared goals (Turrini et al. 2010; Lemaire 2020; Kerrissey et al. 2021). In this study, common goal orientation is conceptualized as consisting of three interconnected dimensions: mutual interdependence, joint problem-solving orientation, and goal commitment. Together, these components capture the degree to which network members align their efforts and motivations toward collective outcomes.

Mutual interdependence consists of goal interdependence, task interdependence and perceived reward interdependence (Wageman, Hackman and Lehman, 2005). Goal interdependence entails the notion that actors depend on each other to attain their goals. Task interdependence refers to the mutual dependence actors experience in achieving their tasks. Lastly, reward interdependence refers to the perception that actors depend on one another to obtain rewards (Pee, Kankanhalli and Kim 2010). Research on interorganizational collaboration indicates that perceived mutual interdependence is a predictor of network effectiveness (Turrini et al. 2010).

Joint problem-solving orientation (JPS) is described as placing emphasis on problems as collective – rather than individual - challenges and seeing solutions as requiring collaborative effort (Kerrissey and Novikov 2024). Research on dynamic teams indicates that the presence of a JPS orientation among team members promotes team effectiveness (Kerrissey et al. 2021). Although JPS has not yet been extensively studied in interorganizational contexts, its emphasis on shared ownership of challenges aligns with the collaborative nature of networks, where solutions often require input across organizational boundaries.

Goal commitment

Commitment represents a deliberate psychological connection that demonstrates dedication to and accountability for a specific goal or objective (Klijn et al., 2012). Research indicates that common goals are essential for the initiation and implementation of interorganizational networks (Feys and Devos 2015; Koranyi and Kolleck 2017). Goal commitment is also associated with positive network outcomes (Clarke 2006), as the orientation toward network

goals among engaged network partners enables the coordination of actions and behaviors among network partners (Cremers et al. 2023). Yet, identifying and building commitment towards a shared goal among different organizations can be challenging (Huxham 2003). Within networks, organizations may pursue different – even conflicting – individual goals. According to Lemaire (2020), network governance and management need to encourage goal congruence in order to attain positive network outcomes.

Leadership behaviors play a pivotal role in fostering common goal orientation in networks. Change-oriented leadership—through its emphasis on articulating vision, promoting innovation, and encouraging forward momentum—can strengthen commitment to shared objectives and foster a mindset of joint responsibility (Ortega et al. 2014; Lee et al. 2023). Likewise, relations-oriented leadership behaviors help to build interpersonal connections and trust, which are crucial preconditions for aligning individual and collective goals (Fernandez 2008).

Concludingly, this study departs from the following hypotheses regarding the relationships between leadership and the presence of a common goal orientation in interorganizational networks:

Hypothesis (H6): Change-oriented leadership is positively associated with (common) goal orientation in interorganizational networks.

Hypothesis (H7): Relations-oriented leadership is positively associated with (common) goal orientation in interorganizational networks.

4.2.3 Conceptual model

On the basis of the literature review, the conceptual model (See Figure 4.1) includes six sets of relationships between (types of) leadership behavior and (components of) the quality of the collaborative process. Taken together, the three dimensions of the collaborative process —operational capacity, member relations, and goal orientation— form a comprehensive framework for understanding collaborative quality in interorganizational networks. Each is expected to be shaped by leadership behavior in distinct, yet interrelated ways. The conceptual model summarizes the expected relationships between task-, relations-, change- and externally-oriented leadership on each aspect of the collaborative process.

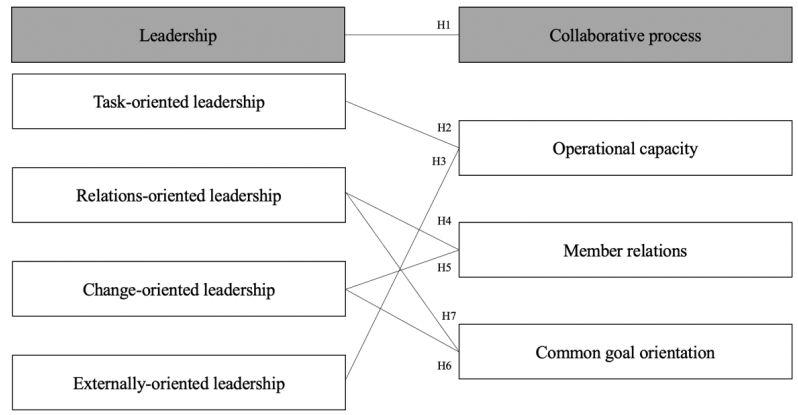

Figure 4.1: Conceptual model of leadership behaviors and (aspects of) collaborative processes in networks

4.3 Research design

A case study approach was employed, utilizing a concurrent mixed-methods design combining a quantitative survey and semi-structured interviews. The survey aimed to test seven hypotheses concerning the relationships between leadership behaviors and elements of the collaborative process. Semi-structured interviews provided deeper, context-rich insights to illustrate and explain the survey findings, thereby offering a more comprehensive understanding of leadership behaviors within interorganizational networks.

This mixed-methods design was chosen to capture both the breadth and depth required to study leadership dynamics effectively. This approach aligns with recent methodological insights emphasizing the added value of qualitative strands in mixed-methods research. As Hendren et al. (2023) argue, qualitative methods can strengthen mixed-methods studies by enhancing contextual richness, uncovering the mechanisms behind quantitative patterns, and deepening the credibility of findings. A quantitative method provides a means to assess the association between leadership behaviors and collaboration outcomes across the network. At the same time, qualitative methods allow for deeper insight into how these behaviors are perceived, enacted, and shaped by network context. By combining these methods, the study enhances validity through triangulation and mitigates the inherent limitations of relying solely on either quantitative or qualitative data (Mele and Belardinelli 2019).

4.3.1 Case selection

The research setting was selected based on several criteria to ensure relevance and richness. First, the collaboration had to meet the definition of an interorganizational network, involving at least three autonomous organizational partners working toward a collective goal (Provan and Kenis, 2008). Second, the network had to include public sector actors, as the focus of the study is on public sector collaboration. Third, the network needed to be well-established, ensuring participants could reflect on leadership behaviors over an extended period. Furthermore, regular face-to-face interaction among participants was necessary to observe leadership as a social process. Finally, the network required a relatively stable core of participants to ensure informed reflections on collaborative dynamics.

Based on these criteria, the study focused on the national Crime Intervention Network in the Netherlands, comprising ten regional sub-units and a national coordination unit. This embedded case design (Yin, 2009) allows for meaningful comparison across regions while maintaining a shared structural and institutional context.

The Dutch National Police functions within an increasingly interconnected system of public sector organizations, where joint efforts and the exchange of information are critical for addressing complex issues at the intersection of public safety, social services, and mental health care (Lakerveld et al., 2019; Matthys & De Weger, 2023). As such, a network active in these areas provides a particularly pertinent and insightful context for examining leadership within inter-organizational collaboration. The Crime Intervention Network includes key public organizations from the security and justice sector: the public prosecutor's office, national police, child protection services, victim support services, the juvenile offender foundation, the parole office, and the domestic violence emergency line. Additional stakeholders, such as municipalities and the national detention agency, may differ per regional sub-unit. The network has operated for over a decade, focusing on determining and implementing appropriate interventions for criminal cases. Collaboration is case-based, requiring partners to pool information and collectively decide on interventions, ranging from prosecution to mediation or restorative justice options.

The network operates on multiple levels. At the national level, top executives meet quarterly to set strategic priorities. At the regional level, each unit includes a strategic layer composed of mid-level managers and a tactical layer consisting of lower-level managers or informal leaders. Finally, at the operational level, frontline professionals collaborate on daily case decisions.

The network's structured interaction patterns and long-standing cooperation provided a suitable environment for studying leadership behaviors across organizational boundaries. It is important to note, however, that the formalized nature of the network and the pre-existing relationships among actors may have encouraged the visibility and interpretation of certain leadership behaviors. Access to the network was facilitated through the researcher's prior professional contacts, which enabled smoother entry but may have introduced bias that was mitigated through rigorous methodological triangulation.

The research design selected for this study offered several advantages. First, combining quantitative and qualitative data enhanced construct validity through triangulation. Second, the use of interviews allowed for the exploration of leadership behaviors not easily observable through surveys, thereby enriching the contextual understanding. Third, the embedded case design facilitated comparisons across different regional contexts, thereby increasing the robustness and generalizability of the findings. Overall, this research design provides a robust foundation for examining the complex interplay between leadership behaviors and collaborative processes within interorganizational networks.

4.3.2 Survey

Sample

The sample comprised participants from all ten regional units and the national unit of the Crime Intervention Network. An invitation to participate in the survey was extended to all 238 members, encompassing individuals from the national police, the public prosecutor's office, victim support services, the juvenile offender foundation, the parole office, the child protection services, and the domestic violence emergency line. In addition, stakeholders such as lawyers, municipalities, and representatives from the national detention agency were invited where applicable.

A total of 144 valid responses were obtained, though not all respondents answered all survey questions. To assess sample representativeness, Chi-square goodness-of-fit tests were conducted. The results indicated that the distribution of gender ($\chi 3.178 = ^2$; df = 2; p = 0.204), regional sub-units ($\chi 2.986 = ^2$; df = 10; p = 0.982), organizational affiliation ($\chi 3.652 = ^2$; df = 8; p = 0.887), and network layer participation ($\chi 1.589 = ^2$; df = 3; p = 0.662) did not significantly differ from the distribution in the population. The sample consisted of approximately %35 male and %65 female respondents, closely reflecting the

population composition of the network. Such alignment strengthens the validity of the survey findings.

Measurement

Validated survey items were employed for each key variable where available, supplemented by newly developed items when necessary. The survey items and their theoretical basis can be found in Appendix C.1. To handle missing data in the survey dataset, the value "99" was used as a placeholder to indicate missing responses. These values were excluded from the statistical analyses to ensure they did not distort parameter estimates. The dataset was examined for outliers using descriptive statistics. No extreme or implausible values were identified, and thus no data points were removed or transformed on the basis of outlier detection.

Leadership behaviors

Leadership behaviors were measured following Yukl's (2012) taxonomy, distinguishing between task-oriented, relations-oriented, change-oriented, and externally oriented leadership. Task-oriented leadership was assessed through nine items measuring behaviors such as clarifying, planning, monitoring operations, and technical problem-solving (Cronbach's $\alpha = 0.863$). Relations-oriented leadership was measured through eleven items capturing supporting behaviors, empowerment, recognition of efforts, and assistance in skill development ($\alpha = 0.910$). Change-oriented leadership was assessed using six items measuring advocacy for change, envisioning, promoting collective learning, and encouraging innovation ($\alpha = 0.855$). Externally oriented leadership was measured with four items addressing networking, external monitoring, and representation activities ($\alpha = 0.908$). To assess the internal consistency of the leadership scale, a reliability analysis was conducted for the four dimensions of leadership behavior: task-oriented, relations-oriented, change-oriented, and externally oriented leadership. The analysis yielded a Cronbach's alpha of 0.812, indicating good internal consistency (George & Mallery, 2003). This suggests that the four dimensions, while conceptually distinct, collectively form a coherent and reliable measure of leadership behavior in the context of interorganizational collaboration. Given this level of reliability, it is appropriate to use these dimensions both individually and as indicators of a broader leadership construct in subsequent analyses.

An exploratory factor analysis (Principal Axis Factoring with Oblimin rotation) on the four types of leadership behavior resulted in a seven-factor solution. Externally oriented leadership emerged as a distinct and coherent dimension, while change-oriented behaviors

showed partial clustering across multiple factors. Relations-oriented and task-oriented behaviors were more dispersed, with weaker and less consistent loadings, indicating conceptual overlap. These findings support analyzing the leadership dimensions separately, though they also suggest caution in interpreting them as fully distinct constructs.

Quality of the collaborative process

The collaborative process variables included operational capacity, member relations, and goal orientation. Operational capacity was measured through five items related to both resource munificence and clarity of tasks (Cronbach's $\alpha = 0.701$). Member relations were operationalized through psychological safety (four items, $\alpha = 0.753$), trust (five items, $\alpha = 0.797$), and shared identity (four items, $\alpha = 0.837$). Goal orientation was captured through mutual interdependence (four items, $\alpha = 0.674$), joint problem-solving orientation (four items, $\alpha = 0.810$), and goal commitment (four items, $\alpha = 0.865$). A reliability analysis was also conducted to assess the internal consistency of the three dimensions conceptualized as components of a higher-order construct of the quality of the collaborative process. The analysis yielded a Cronbach's alpha of 0.674, indicating moderate internal consistency among the three dimensions. Although this value is slightly below the conventional threshold of 0.70, it is considered acceptable in the context of exploratory research or when constructs are conceptually distinct but related (Kline 2015). The relatively modest alpha is not problematic for the purposes of the present study. The three dimensions, though theoretically linked, represent analytically distinct facets of collaboration. Accordingly, the effects of different leadership styles are examined separately for each dimension. This approach allows for a more precise understanding of the differentiated relationships between leadership and each aspect of collaborative functioning.

An exploratory factor analysis (Principal Axis Factoring with Oblimin rotation) was conducted on the items measuring operational capacity, member relations and goal orientation. The analysis resulted in a seven-factor solution and converged in 13 iterations. The results indicate that several subdimensions within the broader constructs emerged clearly. Within goal orientation, items related to joint problem solving, commitment, and dependence on partners each formed distinct clusters, supporting the conceptual differentiation of these subcomponents. Similarly, trust within the member relations dimension appeared as a coherent factor. In contrast, items intended to measure identity and operational capacity were more dispersed across multiple factors, suggesting conceptual overlap or multidimensionality within those constructs. For operational capacity, the items

related to resource munificence loaded on a different factor than those focusing on task clarity.

Table 4.1 *Overview of mean, std. deviation Chronbach's alpha and minimum and maximum values for independent and dependent variables*

Variable	Mean	Std. dev.	Cronbach's α	Min.	Max.
Operational capacity	3,49	0,64	0,701	1	5
Member relations					
Psychological safety	3,88	0,67	0,753	1	5
Trust	3,86	0,59	0,797	1	5
Shared identity	3,88	0,67	0,837	1	5
Goal orientation					
Mutual interdependence	4,12	0,52	0,674	1	5
Joint Problem-Solving Orientation (JPS)	3,78	0,60	0,810	1	5
Goal commitment	4,46	0,55	0,865	1	5
Leadership					
Task-oriented leadership	3,10	0,73	0,863	1	6
Relations-oriented leadership	2,94	0,73	0,910	1	6
Change-oriented leadership	3,05	0,79	0,855	1	6
Externally-oriented leadership	2,31	0,85	0,908	1	6

Control variables

Control variables included gender, age, managerial position, network layer (strategic, tactical, operational), and the amount of time respondents spent working within the network. These variables were included to account for individual characteristics that might independently shape perceptions of leadership behavior or collaborative processes. For example, managerial role may affect how respondents recognize certain types of leadership, while network layer may shape one's exposure to different leadership dynamics. The amount of time spent in the network relative to other tasks may alter one's exposure to leadership behaviors. Controlling for these variables helps isolate the specific associations between leadership behavior and collaboration outcomes.

Testing for common method bias

Because all data in this study were collected through self-report surveys completed by a single respondent per collaboration, the risk of Common Method Bias (CMB) must be considered. CMB refers to the systematic variance shared among variables measured with

the same method, which can inflate correlations and threaten the validity of conclusions about the relationships between constructs (Podsakoff et al., 2003).

To explore the potential impact of CMB, a bivariate correlation analysis was conducted between all four types of leadership behavior and the three dimensions of the collaborative process (operational capacity, member relations, and goal orientation). The results revealed several significant correlations, particularly between task-oriented and relations-oriented leadership and the various collaboration outcomes. While these associations may reflect true conceptual relationships, the strength and consistency of the correlations—especially among leadership dimensions (r = .747 between task- and relations-oriented leadership)—raise the possibility of inflation due to shared method variance. However, the findings also suggest that CMB is unlikely to fully explain the observed relationships. Most notably, externally oriented leadership—despite being measured using the same method—did not show significant bivariate correlations with any of the collaboration dimensions. If CMB were driving the relationships across all variables, similar levels of correlation would be expected for all leadership types. The selective nature of the associations, along with variation in correlation strength across dimensions, indicates that the observed patterns are likely not solely attributable to methodological artifacts, but instead reflect meaningful distinctions in how leadership styles relate to collaborative processes.

Statistical testing: Structural Equation Modeling

Two Structural Equation Models (SEM) were used to explore the relationships between leadership and components of the collaborative process in interorganizational networks.

This approach was chosen for several methodological reasons. First, the model includes four independent variables—task-oriented, relations-oriented, change-oriented, and externally-oriented leadership behaviors—which may be empirically interrelated. SEM is particularly suitable for modeling such interdependencies, as it allows for the simultaneous estimation of multiple paths while accounting for correlations among predictors. Second, SEM enables the analysis of complex relationships within a single, integrated model, thereby increasing efficiency and reducing the likelihood of Type I errors associated with conducting multiple separate analyses. Third, SEM supports the use of latent variables, which is advantageous when working with constructs such as leadership behavior and collaboration that are measured through multiple observed indicators. Finally, SEM provides a robust set of model fit indices, offering a rigorous means of evaluating how well the hypothesized model corresponds to the observed data.

In the SEM, leadership was treated as the independent variable and the components of the collaborative process as the dependent variables. The assumption that leadership behaviors encourage collaborative processes—rather than being merely shaped by them—is grounded in the view that leadership consists of deliberate actions intended to steer organizational dynamics. Leaders engage in such behaviors to enhance coordination, cultivate trust, stimulate innovation, or attract external support. As these behaviors are goal-oriented and proactive, it is reasonable to expect that they act as drivers of collaborative quality, rather than being solely reactive responses to it.

After testing the relationships between leadership in general – combining all four types of leadership – on the outcome variable, a second SEM was used to retrieve potential relationships between *specific* types (task-, relations, change- and externally oriented behaviors) of leadership and components of the collaborative process. To analyze the relationships between leadership behaviors and the process of collaboration within the network, Structural Equation Modeling (SEM) was employed.

Directionality

The conceptual model shown in Figure 4.1 illustrates the expected directionality of the relationship between leadership and the collaborative process. The theoretical rationale for assuming that leadership behaviors enhance collaborative processes, rather than the reverse, rests on the premise that leadership actions are purposive interventions aimed at shaping organizational dynamics. Leadership behaviors are typically enacted with the intention to foster coordination, build trust, promote innovation, or mobilize external resources. Thus, it is expected that leadership behaviors precede and condition the collaborative process, rather than emerging solely as a response to existing collaborative quality. However, as the directionality of the relationship cannot be demonstrated through the statistical tests used in this study, semi-structured interviews were used to provide a better understanding of the (potential) directionality of this relationship. By using both quantitative and qualitative methods, this study aims to uncover the mechanisms between leadership and the collaborative process and provide more contextual richness to the survey data (Hendren et al. 2023; Mele and Belardinelli 2019).

4.3.3 Semi-structured interviews

In addition to survey data, 39 semi-structured interviews were conducted using purposive sampling to deepen understanding of leadership behaviors within the network. Three regional sub-units were selected to reflect the network's diversity, each representing an

urban, suburban, or rural setting. This selection criterion was based on the assumption that crime dynamics might vary across geographical contexts, potentially influencing collaborative processes. Furthermore, members of the national sub-unit were also invited to participate in interviews. Within each selected regional unit, all network participants were approached, ensuring that every organization involved had the opportunity to share its perspective.

The interview protocol, comprising open-ended questions and probes, was designed to elicit participants' viewpoints and experiences regarding leadership in the network. The interview protocol can be found in Appendix B.1. Initially, participants were asked to articulate the collective goal of the network and to comment on the degree of consensus or divergence surrounding this goal among network members. Subsequently, participants were invited to reflect on individuals who had demonstrated leadership behaviors, offering concrete examples where possible. Participants were also encouraged to recount instances where they themselves, or others, displayed or refrained from leadership behaviors, and to discuss the organizational factors that supported or hindered their involvement in the network.

Interviews were conducted either online or at a location of the participant's choosing, recorded with consent, and transcribed verbatim. Each interview had a duration of between 50 to 90 minutes. To enhance the study's validity, the interview guide was reviewed by field experts and pilot-tested with a network participant prior to data collection (Bryman, 2016). All transcripts were subsequently reviewed for accuracy and completeness.

Qualitative coding process

The qualitative data obtained from the interviews were analyzed through an iterative coding process that combined both inductive and deductive strategies. Analysis was guided by the grounded theory methodology articulated by Strauss and Corbin (1990), with the software package Atlas.ti facilitating the systematic coding, categorization, and retrieval of data segments.

In the initial phase, open coding was applied by reading the transcripts line by line to identify meaningful fragments concerning leadership behaviors and their perceived effects on collaboration. Codes were assigned to fragments closely reflecting participants' language and perspectives. For instance, statements such as "keeping people on track" were coded as 'monitoring,' while "we decided who does what" was labeled as 'dividing tasks.' This

step was both data-driven, allowing themes to emerge organically, and theory-driven, using sensitizing concepts from the leadership and collaboration literature.

In the second phase, axial coding was employed to group open codes into broader conceptual categories. Patterns and relationships between codes were identified, facilitating the clustering of concepts such as 'monitoring,' 'dividing tasks,' and 'problem-solving' under the overarching category of task-oriented leadership. This coding process was informed by the theoretical framework established for the study (see Table 4.2), which predefined leadership behaviors and collaborative process elements. Nevertheless, the analysis remained flexible to incorporate emergent themes that extended beyond the initial framework.

In addition to categorizing types of leadership behavior, the analysis also focused on participants' perceptions of the effects of these behaviors on collaboration. Segments expressing a positive view (e.g., "this really helped us move forward") were coded as 'positive sentiment,' while those indicating negative experiences were labeled as 'negative sentiment.' This dual coding approach enabled the study to examine not only the occurrence of leadership behaviors but also participants' evaluations of their impact.

To ensure reliability, a subset of transcripts was independently double-coded by a second researcher, with discrepancies resolved through discussion until consensus was reached. Throughout the analytical process, memos were maintained to document interpretations, thereby enhancing transparency in the analysis.

Table 4.2 *Overview of deductive codes*

Concept	Operationalization	Code
Components of the collaborative process	*Operational capacity*	Resource munificence
		Clarity (formalization)
	Member relations	Trust
		Psychological safety
		Shared identity
	(Common) goal orientation	Mutual interdependence
		Commitment
		Joint Problem-Solving Orientation
Leadership behaviors	*Task-oriented leadership*	Planning
		Dividing tasks
		Monitoring
		Problem solving
	Relations-oriented leadership	Supporting
		Empowering
		Developing skills
		Recognizing achievements
	Change-oriented leadership	Developing a vision
		Sharing and promoting vision
		Encouraging innovation
		Facilitating collective learning
	Externally oriented leadership	Networking
		Representing
		External monitoring
Outcome	*Collaborative process*	Positive sentiment
		Negative sentiment

4.4 Findings

In the following sections, the hypotheses regarding the impact of leadership behaviors on each component of the collaboration process (operational capacity, member relations, common goal orientation) are tested. This section first presents leadership in general as a latent variable on all elements of the collaborative process to test hypothesis 1. Consequently, the results related to the other hypotheses will be provided. Thereafter, findings from the qualitative interviews are provided for the interpretation of the statistical analysis.

4.4.1 Survey results and hypotheses testing

The results of the first model, assessing general correlations between leadership and components of the collaborative process, are summarized in Table 4.3. Model fit was evaluated using multiple indices. The chi-square test was statistically significant, $\chi 57.22 = (28)^2$, p = .001, indicating that the model differed from the saturated model. The RMSEA was %90) 0.105 CI: 0.144–0.065), and the pclose value of 0.015 suggests the model does not meet the criteria for close fit. The Comparative Fit Index (CFI) was 0.884 and the Tucker–Lewis Index (TLI) was 0.768, reflecting a modest fit relative to the baseline model. However, the Standardized Root Mean Square Residual (SRMR) was 0.073, indicating an acceptable level of residuals. The Coefficient of Determination (CD) was 0.855, showing that the model explains a substantial proportion of variance in the data. While the overall model fit falls slightly below conventional thresholds, the indices suggest a moderately acceptable model for the purposes of exploratory analysis.

Table 4.3 presents the results of the first model, which indicates that leadership is significantly associated with all three aspects of the collaborative process: Operational Capacity (β = 1.295, p = 0.012), Member Relations (β = 1.61, p = 0.021) and Goal Orientation: β = 0.89, p = 0.006. According to the Structural Equation Model, leadership was significantly associated with all three elements of the collaborative process: Operational Capacity (β = 1.30, p = 0.012), Member Relations (β = 1.61, p = 0.021) and Goal Orientation: β = 0.885, p = 0.006. Hence, the data support Hypothesis 1, stating that leadership is positively associated with the quality of the collaborative process in interorganizational networks.

Furthermore, the control variable Time was significantly associated with goal orientation (β = 0.003, p = 0.003), suggesting that respondents who spend a larger percentage of their work on the network report a better score on goal orientation in the network. Other control variables, such as respondent age (β = -0.01, p = 0.108), gender (β = -0.04, p = 0.738), and management position (β = 0.16, p = 0.201), were not significantly associated with the outcomes.

Table 4.3 *Associations between leadership (general) and aspects of the collaborative process in interorganizational networks*

Predictor of: operational capacity	Coefficient	SE	t	p	95% CI (Lower)	95% CI (Upper)
Leadership	1.295	0.560	2.15	0.012	0.285	2.308
Network layer	-0.012	0.0568	-0.19	0.852	-0.243	0.119
Gender	-0.040	0.119	-0.33	0.738	-0.273	0.193
Age	-0.012	0.037	-1.61	0.108	-0.135	0.013
Management position	0.159	0.124	1.28	0.201	-0.085	0.403
Time spent on network	-0.002	0.002	-1.05	0.296	-0.005	0.002

Predictor of: member relations	Coefficient	SE	t	p	95% CI (Lower)	95% CI (Upper)
Leadership	1.611	0.699	2.30	0.021	0.240	2.983
Network layer	0.039	0.054	0.72	0.472	-0.067	0.145
Gender	0.169	0.098	1.73	0.083	-0.022	0.360
Age	-0.001	0.006	-0.23	0.818	-0.013	0.010
Management position	0.064	0.102	0.63	0.528	-0.135	0.264
Time spent on network	0.002	0.001	1.51	0.130	-0.006	-0.004

Predictor of: goal orientation	Coefficient	SE	t	p	95% CI (Lower)	95% CI (Upper)
Leadership	0.885	0.322	2.75	0.006	0.253	1.517
Network layer	0.033	0.044	0.76	0.446	-0.05	0.119
Gender	0.079	0.078	1.02	0.306	-0.073	0.233
Age	-0.002	0.005	-0.34	0.731	-0.011	0.008
Management position	-0.018	0.081	-0.22	0.827	-0.178	0.142
Time spent on network	0.003	0.001	2.97	0.003	0.001	0.005
LR test of model vs. saturated: chi2(28) = 57.22		Prob > chi2 = 0.0009				

Note: SE = standard error; CI = confidence interval; *p*-values < 0.05 are considered significant. Model fit: $\chi 57.22 = (28)^2$, RMSEA %90) 0.105 CI: 0.144–0.065), CFI = 0.884, TLI=0.768, SRMR 0.073, CD=0.855. N=96.

The second model tested the associations between specific leadership behaviors and collaborative processes. This model also demonstrated deviation from the saturated model, $\chi 2(3) = 49.23$, p = 0.0000. Model fit was further assessed using multiple indices. The RMSEA was 0.403 (90% CI [0.308, 0.505]), with a pclose of 0.000, indicating poor model fit. Both the CFI (0.460) and TLI (−4.404) fell below acceptable thresholds, suggesting the model does not adequately improve on the baseline model. The SRMR was 0.064,

which falls within the acceptable range (< 0.08), and the coefficient of determination (CD) indicated that the model explained approximately 47% of the variance in the dependent variables. Taken together, these results suggest that the model's overall fit to the data is poor and may require re-specification. This is most likely due to the low N (144 total respondents, of which 96 answered all questions). While the fit indices suggest that the model does not meet conventional thresholds of statistical adequacy, the model was retained because it reflects a theoretically informed framework grounded in prior research. The goal of this study was to explore hypothesized associations rather than to establish a final model of best fit. This model should therefore be interpreted as exploratory, offering a starting point for future confirmatory studies with larger samples and refined model structures.

Table 4.4 presents all findings of Model 2. Here, it shows there is no statistically significant association between Task-oriented leadership and the different aspects of collaboration: Operational Capacity ($\beta = 0.18$, $p = 0.161$), Member Relations: ($\beta = -0.01$, $p = 0.896$) and Goal Orientation: $\beta = 0.11$, $p = 0.157$. Based on this, the hypothesis of a positive association between task-oriented leadership and operational capacity (H2) is rejected.

The table also demonstrates that there is a significant, positive association between relations-oriented leadership and member relations. ($\beta = 0.27$, $p = 0.014$). Hence, the hypothesis that relations-oriented leadership is associated with member relations (H4) is accepted. Relations-oriented leadership did not show a significant effect on goal orientation ($\beta = 0.09$, $p = 0.277$). Therefore, the hypothesis that relations-oriented leadership associates with common goal orientation (H7) is rejected.

Change-oriented leadership showed no significant association with member relations ($\beta = 0.01$, $p = 0.872$). This suggests that its impact on interpersonal dynamics may be limited in this sample. Hence, the hypothesis that change-oriented leadership is positively associatied with member relations (H5) is rejected. The results also demonstrate that change-oriented leadership is not significantly associated with goal orientation ($\beta = 0.08$, $p = 0.177$). Therefore, the hypothesis that change-oriented leadership is positively associated with common goal orientation (H6) is rejected

Lastly, externally-oriented leadership was not significantly associated with operational capacity ($\beta = -0.08$, $p = 0.320$). Therefore, the hypothesis that externally-oriented behaviors are positively associated with operational capacity (H3) is rejected.

Table 4.4 *Associations between specific types of leadership and collaborative processes in networks*

Predictor of: operational capacity	**Coefficient**	**SE**	**t**	**p**	**95% CI (Lower)**	**95% CI (Upper)**
Task-oriented leadership	0.179	0.128	1.40	0.161	-0.071	0.432
Relations-oriented leadership	0.074	0.138	0.54	0.591	-0.196	0.344
Change-oriented leadership	-0.013	0.093	-0.14	0.889	-0.195	0.169
Externally-oriented leadership	-0.076	0.077	-0.99	0.320	-0.023	0.074
Network layer	-0.021	0.0679	-0.31	0.759	-0.154	0.112
Gender	-0.014	0.123	-0.11	0.909	-0.254	0.226
Age	-0.010	0.008	-1.34	0.181	-0.025	0.005
Management position	-0.131	0.128	1.02	0.306	-0.119	0.380
Time spent on network	-0.002	0.002	-1.08	0.279	-0.005	0.002

Predictor of: member relations	**Coefficient**	**SE**	**t**	**p**	**95% CI (Lower)**	**95% CI (Upper)**
Task-oriented leadership	-0.014	0.104	-0.13	0.896	-0.217	0.189
Relations-oriented leadership	0.272	0.111	2.45	0.014	0.054	0.489
Change-oriented leadership	0.012	0.075	0.16	0.872	-0.135	0.159
Externally-oriented leadership	-0.06	0.062	-0.91	0.364	-0.177	0.065
Network layer	0.039	0.055	0.71	0.476	-0.068	0.147
Gender	0.156	0.099	1.58	0.114	-0.037	0.350
Age	-0.002	0.006	-0.31	0.757	-0.014	0.010
Management position	0.076	0.103	0.74	0.460	-0.126	0.278
Time spent on network	0.002	0.001	1.55	0.120	-0.001	0.005

Predictor of: goal orientation	**Coefficient**	**SE**	**t**	**p**	**95% CI (Lower)**	**95% CI (Upper)**
Task-oriented leadership	0.110	0.078	1.42	0.157	-0.042	0.263
Relations-oriented leadership	0.091	0.084	1.09	0.277	-0.073	0.255
Change-oriented leadership	0.076	0.056	1.35	0.177	-0.034	0.186
Externally-oriented leadership	-0.026	0.047	-0.57	0.572	-0.118	0.065
Network layer	0.038	0.041	0.93	0.354	-0.042	0.119
Gender	0.099	0.074	1.33	0.183	-0.047	0.245
Age	-0.001	0.005	-0.24	0.810	-0.010	0.008
Management position	-0.033	0.077	-0.42	0.673	-0.185	0.119
Time spent on network	0.003	0.001	2.93	0.003	0.001	0.005
LR test of model vs. saturated: chi2(3) = 49.23		Prob > chi2 = 0.0000				

Note: SE = standard error; CI = confidence interval; *p*-values < 0.05 are considered significant. Model fit: $\chi 49.23 = (28)^2$, RMSEA %90) 0.403 CI: 0.505–0.308), CFI = 0.460, TLI=4.404-, SRMR 0.064, CD=0.473. N=96

The findings as illustrated in Figure 4.2 indicate that overall, leadership is significantly associated with the process of collaboration in interorganizational networks. However, the specific dimensions of leadership demonstrated varying levels of association. Relations-oriented leadership demonstrated a significant positive association with member relations, highlighting its potential role in fostering interpersonal connections between members within networks. Other leadership behaviors, such as task-oriented and change-oriented leadership, showed no significant relationships with the specified outcomes.

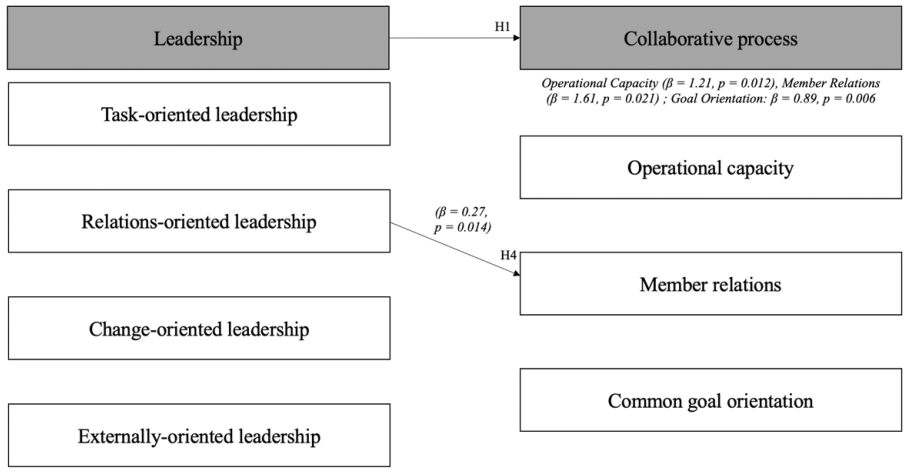

Figure 4.2: Overview of relationships between leadership and (aspects of) collaborative processes in networks.

Other statistical findings

Significant covariances were observed among the leadership dimensions, indicating interrelationships between different styles of leadership, for instance, between Task-oriented and Relations-oriented leadership (covariance = 0.288, $p < 0.001$). Task-oriented and Change-oriented leadership also show interrelatedness (covariance = 0.230, $p < 0.001$). Thirdly, Task-oriented and Externally-oriented leadership demonstrate a Covariance of 0.251, $p < 0.000$. In addition, Relations-oriented and Change-oriented leadership show a Covariance of 0.251, $p < 0.000$. Lastly, covariances were found between Externally-Oriented Leadership and Relations-oriented Leadership (0.267, $p = 0.000$) and Change-oriented Leadership (0.217, $p = 0.003$). These results suggest that the leadership dimensions often coexist or encourage each other. Therefore, it is more difficult to distinguish between the effects of specific leadership types. Both models did not provide estimates for covariance among the dependent variables.

4.4.2 Interview findings

Whereas the explorative quantitative findings indicate a significant positive relationship between leadership in general and the perceived quality of the collaborative process, the statistical analysis provided limited insight into how or why specific types of leadership behaviors relate to elements of the collaborative process — with the exception of a positive association between relations-oriented leadership and member relations. To deepen our understanding of how leadership behaviors operate within the Crime Intervention Network, this section draws on interview data to contextualize, illustrate, and explain the mechanisms through which leadership may encourage collaboration. The interviews were analyzed to assess whether participants recognized forms of leadership and how these were perceived to affect different elements of the collaborative process. In doing so, the qualitative material helps to interpret the statistical results while providing deeper insights into causal directionality.

Task-oriented leadership and operational capacity

Although the statistical analysis did not identify a significant relationship between task-oriented leadership and operational capacity, interview data suggest that task-oriented leadership behaviors were present within the Crime Intervention Network. Members from one of the partner organizations were described as key players in organizing and structuring meetings, leading discussions, determining agendas, and appointing speakers. These behaviors align with task-oriented leadership, which seeks to coordinate activities and ensure procedural clarity to improve collaboration. For instance, Respondent 30 explains: "They hold the role of chair and are definitely the driving force in setting the agenda and initiating speakers. Others do this as well, but they are the ones who shape the agenda." However, respondents typically associated these actions with the organization's formal responsibilities rather than as collective leadership behavior. The fact that task-oriented behaviors were strongly associated with a single organization and perceived as part of their formal role may have affected how they were interpreted by other network members. Such leadership might have been seen as routine or administrative, rather than as a shared or influential force shaping collaboration, potentially explaining its limited visibility in the statistical analysis.

Relations-oriented leadership and member relations

The interviews reinforce the statistical finding that relations-oriented leadership enhances member relations. Several respondents emphasized the importance of involving quieter members or smaller organizations in decision-making processes. For instance, Respondent

31 remarked, *"I have told them: if you don't find yourselves important, then how will we make sure you do?"* Similarly, Respondent 33 stated, *"I always try to involve the people I never hear from."* Such actions foster inclusivity and provide all network members a voice in decision-making. Respondents also highlighted deliberate efforts to build a shared identity, such as through a joint 'news bulletin' (Respondent 18). In contrast, in network units where relational behaviors were less evident, respondents reported lower relationship quality and a lack of mutual understanding. Respondent 23, for instance, wished for more focus on questions like "how do we help each other out?" and "how do we strengthen each other?" These accounts illustrate how relations-oriented leadership contributes to member relations by cultivating trust and a sense of shared identity, influencing the collaborative process in ways aligned with the leadership behaviors intentionally enacted.

Relations-oriented leadership and goal orientation

Although the statistical analysis did not detect a significant link between relations-oriented leadership and goal orientation, qualitative findings suggest that relations-oriented leadership may subtly strengthen shared goals. Several respondents described how reflective dialogue took place in the network, particularly when facing difficult dilemmas. Respondent 34 explained, *"We discuss the difficult issues and collectively decide on a course of action. And hence, achieve commitment with each other."* Respondent 32 added, *"Do we do the right things? That's something you can do by listening and asking questions."* These reflections indicate that relations-oriented leadership fosters spaces for joint reflection and dialogue about shared goals. However, the absence of specific attribution to individual leaders, often using terms like "we" and "you," suggests that these behaviors were perceived as collective rather than individually driven, which may account for the lack of statistical significance in the quantitative analysis.

Change-oriented leadership and goal orientation

Change-oriented leadership behaviors were most visible at the strategic level, particularly in discussions about the future direction of the network and its role in society. Respondents described how values and long-term priorities were articulated during steering group meetings. For example, Respondent 17 emphasized, *"We have a duty towards society—suspects, victims, and our member organizations—to commit ourselves to ensuring quality. Uphold those values! That is what I aim to do in our steering board."* This statement illustrates a mechanism where change-oriented leadership operates as a moral compass, articulating and sustaining the network's long-term purpose.

However, several respondents noted a gap between strategic intentions and operational realities. Although steering group discussions emphasized quality and values, day-to-day decision-making often leaned toward efficiency and meeting key performance indicators (KPIs). Respondents mentioned that the network had sometimes implicitly prioritized "efficiency" and "KPI-drivenness" over qualitative interventions without open discussion. These findings suggest that while change-oriented leadership shaped strategic narratives, its translation into operational behavior was inconsistent, potentially explaining the absence of significant statistical associations.

Externally-oriented leadership and operational capacity

Although no statistical relationship was found between externally-oriented leadership and operational capacity, interviews revealed several instances where externally-oriented leadership behaviors enhanced collaboration. One network partner, for example, expanded the network by inviting a new organization with expertise in domestic abuse, thereby broadening the network's knowledge base and intervention options. This illustrates how externally-oriented leadership behaviors can indirectly strengthen operational capacity. However, these behaviors, often occurring outside regular network meetings, may not have been salient to survey respondents focused on internal dynamics, thus eluding cross-sectional survey measurement.

Together, the interview findings provide important insights into how leadership behaviors function within the Crime Intervention Network and why certain associations were or were not found in the statistical analysis. In particular, the qualitative data help to identify mechanisms—such as including all actors, articulating shared values, and expanding resources—through which leadership behaviors enhance different aspects of the collaborative process. The findings also underscore why leadership is conceptualized as preceding and shaping the collaborative process, rather than the reverse, given the purposive and intentional nature of leadership actions aimed at enhancing collaboration.

4.5 Discussion

This study explored the relationship between leadership behaviors and collaborative processes in interorganizational networks, using a mixed-methods approach within a well-established Crime Intervention Network in the Netherlands. Drawing on both a structural equation model and qualitative interviews, four key insights emerged.

First, our findings indicate that leadership behavior in general positively encourages the collaborative process. This supports existing research that highlights the importance of coordination and administrative leadership in networks (Landsperger, Spieth and Heidenreich, 2012). However, we did not find evidence that task-oriented leadership specifically contributes to operational capacity, as suggested by Cepiku and Mastrodascio (2020). While task-oriented roles—such as setting agendas and leading meetings—were acknowledged in interviews, these behaviors did not statistically stand out as predictors of network functioning.

Second, our study discovered an association between relations-oriented leadership and the quality of member relations. This finding aligns with studies from organizational team settings (Williams, 2023), but adds nuance by showing how relational leadership manifests in networks—through inclusive behavior, attention to marginalized voices, and fostering a shared identity. Interview data reinforced the idea that relational leadership fosters trust, psychological safety, and a sense of shared commitment among network members. This finding, however, should be approached carefully. It is important to critically consider potential sources of bias in this association. Specifically, there may be conceptual and methodological overlap between the two constructs. Both relations-oriented leadership and member relations emphasize interpersonal dynamics such as trust, building rapport, and communication. As a result, respondents may perceive and report on these elements in a similar way, inflating the observed relationship. Although the study employed distinct survey items for each construct and exploratory factor analysis suggested discriminant validity, caution in interpreting this finding as purely causal is warranted. Future research could address this issue through longitudinal designs or multi-source data to better disentangle the direction and nature of this relationship.

Third, leadership behavior as a whole was found to be positively related to goal orientation. However, contrary to expectations, the analysis did not confirm a specific effect of change-oriented leadership on shared goal orientation. This finding is noteworthy because theoretical models—particularly those on transformational or visionary leadership—often suggest that inspiring a shared vision and mobilizing actors around collective goals is a key leadership function (e.g., Bass & Avolio, 1993). Although this study did not examine these leadership styles directly, it drew on related behavioral indicators such as articulating a vision, seeking innovative approaches, and signaling the need for change. The absence of a clear effect may indicate that such behaviors, when enacted in network contexts, are

less directly linked to shared goal orientation than these theories suggest—or that other contextual or relational factors moderate this link.

Similarly, externally-oriented leadership did not show a significant relationship with any element of the collaborative process. Still, qualitative data suggest that externally-oriented behaviors may contribute indirectly. For instance, network members described how certain actors initiated contact with new organizations, expanding the network's expertise and capacity. These types of external engagement may enhance the collaborative process over a longer term or through more diffuse pathways not directly captured in the model.

When interpreting these findings, it is important to consider that it is difficult to draw conclusions about the causality of the relationship between leadership and the collaborative process. Referring back to Yukl's (2012) definition of leadership as a *process*, one could argue that leadership in public sector networks is not a fixed input but rather dynamic and interactive. Conceptualizing leadership as a process implies that it is both shaped by and shapes its context. Accordingly, collaborative dynamics—such as trust among members or a common goal—may not only be shaped by leadership behaviors but may also generate or enable them. This recursiveness complicates efforts to draw clear causal inferences and raises broader methodological questions about how to study processual phenomena like leadership. To better unpack these dynamics, future research could benefit from longitudinal or real-time data that captures how leadership and collaboration evolve in tandem over time.

Similarly, it is important to consider the co-occurrence of various types of leadership behaviors. The bivariate analyses revealed significant correlations between conceptually distinct leadership styles—namely task-oriented, relations-oriented, and change-oriented leadership. Although these correlations could be due to Common Method Bias (CMB), these associations may also reflect the real-world co-occurrence of leadership behaviors. In practice, individuals often draw on multiple leadership behaviors – or repertoires of leadership behaviors - simultaneously, adapting their approach to the specific context (Van der Hoek, Beerkens and Groeneveld 2021). This behavioral overlap likely contributes to the empirical associations observed between leadership dimensions. As such, the correlations may be the result of an interplay between methodological, conceptual, and behavioral factors, which should be taken into account when interpreting the results of this study.

Taken together, these findings contribute to earlier calls (Cristofoli, Markovic and Meneguzzo, 2012; Fadda and Rotondo, 2022; Klijn, Steijn and Edelenbos, 2011) to take leadership seriously as a factor in collaborative governance and network performance. This study adds specificity by showing which leadership behaviors are associated with particular aspects of the collaborative process, and by demonstrating that especially relations-oriented leadership appears to foster high-quality collaboration. Additionally, the finding that respondents who had been part of the network longer reported higher goal alignment suggests that the perceived quality of collaboration may also develop over time, independent of leadership style. This points to the importance of continuity, trust-building, and familiarity in collaborative settings—elements that leadership can support but may not fully determine.

4.6 Limitations and directions for future research

This study faces several limitations that should be considered when interpreting the findings. One key limitation relates to construct validity. Although composite reliability scores provided support for the internal consistency of the constructs, the factor loadings of some items were lower than ideal. This aligns with previous concerns in leadership studies where the multifaceted and context-specific nature of leadership complicates clean categorization. It is important to consider the possibility that the collaborative process is enhanced not by isolated leadership styles but by a dynamic interplay between them. The findings suggest conceptual and empirical overlap between task- and relations-oriented leadership behaviors, and the relatively small sample size limited our ability to examine potential interaction effects or explore leadership configurations. Recent scholarship has argued for the importance of leadership repertoires—combinations of behaviors that adapt to evolving network demands (Van der Hoek, Groeneveld and Beerkens, 2021). Future studies, ideally with larger datasets, could explore how these combinations or shifts in style affect collaboration quality and network outcomes.

A second limitation of this study concerns the model fit of the structural equation models. While both models were grounded in theory and demonstrated meaningful associations between leadership behaviors and collaborative processes, their overall fit to the data fell below conventional thresholds. In the first model, fit indices such as RMSEA = 0.105 and CFI = 0.884 indicated modest but insufficient model fit. The second, more complex model, includes a model fit of RMSEA > 0.40 and CFI < 0.50, suggesting a considerable mismatch between the model and the observed data. These outcomes suggest caution

in interpreting the results as confirmatory. The models should therefore be viewed as exploratory, offering insight into potentially important relationships that require further testing in larger or longitudinal datasets. The small sample size in particular limits the stability of parameter estimates and the reliability of global fit statistics, a known challenge in applied SEM research.

A third limitation concerns causal inference. Although the theoretical model is based on well-established assumptions in the literature, the cross-sectional nature of the data prevents us from drawing definitive conclusions about the directionality of the observed relationships. While we assume that leadership behavior shapes collaborative processes, it is also conceivable that high-quality collaboration fosters the emergence or recognition of leadership behaviors. Longitudinal designs would offer a more robust basis for causal inference, allowing researchers to track the evolution of leadership and collaboration dynamics over time.

In addition, the study's external validity is limited. The research was conducted within a single, nationally operating interorganizational network in the Netherlands, with a relatively modest sample size. As such, findings may not be generalizable to other networks, particularly those operating in different policy domains, cultural contexts, or governance structures. Network-specific characteristics such as history, scale, and institutional setting may significantly affect how leadership is enacted and perceived. Future research would do well to replicate and extend this study across diverse network types and national settings, to identify which patterns hold across contexts and which are context-dependent.

Lastly, a brief note on potential Common Method Bias (CMB) is appropriate. The use of self-reported survey data, in which respondents assessed the frequency of observed leadership behaviors using Likert scales, may have influenced the strength of the statistical associations.

4.7 Conclusion

This study set out to explore how different forms of leadership behavior relate to the quality of collaborative processes in interorganizational networks. Drawing on a mixed-methods design that combined structural equation modeling with qualitative interview analysis, the research makes several contributions to the literature on network governance and public leadership.

First, the study reinforces the idea that leadership plays a role in shaping how collaboration unfolds across organizational boundaries. Most notably, the second model suggests relations-oriented leadership behavior is positively associated with the quality of member relations within networks. This underscores the importance of inclusive, attentive, and trust-building practices in environments where authority is diffuse and participation is voluntary. While earlier work has highlighted such behaviors within teams or hierarchical organizations, this study extends those insights to horizontal, networked governance structures. These insights align with a growing body of literature emphasizing the need for leadership in complex network settings in which actors create public value collectively (Crosby and Bryson 2010; Crosby, 't Hart and Torfing 2017; Kuipers and Murphy 2023).

Second, although leadership (in general) was found to be associated with operational capacity, member relations and goal orientation, the statistical analysis did not confirm specific links between task-, change-, or externally oriented leadership and these elements of collaboration. Rather than suggesting that these behaviors are ineffective, the interview findings point to the complex,contextual and recursive nature of leadership in networks. Interview data indicated that many leadership behaviors co-occur, and that their effects may only become visible when exercised in combination or over time. Similarly, the interview data also indicate that leadership and collaboration ought not to be seen as a one-directional relationship, but rather a recursive process in which leadership and the collaborative process strengthen one another, without a distinct 'starting point.'

Finally, this study supports the argument that leadership deserves equal attention alongside structural and institutional explanations of network effectiveness. Leadership provides a mechanism through which collaboration is initiated, sustained, and steered toward shared goals. The findings suggest that cultivating a broad set of leadership behaviors is important for the quality of collaborative processes. Training programs and organizational policies should support the development of diverse leadership behaviors in their employees and recognize contributions to collaboration beyond formal authority structures. Understanding, fostering, and strategically exhibiting these behaviors can significantly enhance the prospects for successful collaborations in the public sector.

5

Developing leadership in inter- and intra-organizational networks: using Design Science to develop an intervention aimed at advancing leadership

Author statement

This chapter was single-authored by the author of this dissertation. I developed the leadership intervention, conducted the focus groups and questionnaire, analyzed the data, and wrote the full chapter. My supervisors contributed by critically assessing the focus group topic list, reviewing the questionnaire items, and reflecting on the empirical analysis. They also provided conceptual and methodological feedback throughout the process.

5.1 Introduction

The role of leadership in collaborative contexts has received growing scholarly attention over the past two decades (Crosby & Bryson 2010; Morse 2010; Kramer et al. 2019). In interorganizational networks, leadership is conceptualized as a more concentrated or more distributed process in which actors engage in leadership behaviors to steer each other towards collective and individual goals (Akerboom, Groeneveld and Kuipers 2024). This conceptualization shifts the analytical focus from individual leaders to leadership as a set of relational behaviors embedded in a complex context.

Although the body of scholarly knowledge on leadership in interorganizational settings has expanded (Crosby & Bryson, 2010; Silvia & McGuire, 2010; Ansell & Gash, 2018), much remains unclear about how leadership can be developed or enhanced in such contexts. Leadership development literature predominantly focuses on intra-organizational settings, emphasizing the cultivation of leadership skills within organizational boundaries (Day, 2001; Van Velsor, McCauley & Ruderman, 2010). As a result, leadership development practices often target individuals in formal hierarchical roles—such as managers, team leaders, or designated high potentials—who are expected to exercise formal authority (Drath et al., 2008; McCauley et al., 2014).

This focus stands in contrast to the nature of leadership in interorganizational networks, where leadership is frequently shared or distributed across actors without formal authority (Ospina & Foldy, 2010; Bryson, Crosby & Stone, 2015). The consequences are twofold: first, leadership development efforts are often not fitted to the collaborative demands of network settings; and second, individuals who are well-positioned to contribute to leadership processes in networks may be overlooked or unsupported in their development.

Therefore, there is a need for leadership development approaches that go beyond the traditional model of transferring knowledge and skills through individual training programs. Such approaches often take place outside the collaborative context, and therefore risk overlooking the relational, situated, and processual nature of leadership in networks (Raelin, 2016; Ospina et al., 2020). To be effective in interorganizational networks, leadership development should be embedded in the actual practice and context of collaboration, enabling participants to learn and experiment *in situ* (Hoppe, 2011; Huxham & Vangen, 2013). This means that leadership development should not only target individual

capacities but also foster collective sensemaking, coordination, and influence dynamics as they unfold within and across organizational boundaries.

Given the lack of such context-sensitive development strategies, this study aims to design a leadership intervention specifically tailored to intra- and interorganizational networks. To this end, this study aims to develop and test an artefact that can be used to enhance leadership in networks. To do so, the research draws on principles from design-oriented approaches, which allow for the development and iterative testing of interventions in real-world contexts where conventional methodologies may fall short (Van Aken & Romme, 2009; Barzelay & Thompson, 2010). The artefact will be developed through a Design Science framework (Johannesson and Perjons 2014). Design Science refers to an approach to scientific enquiry that involves the study and development of artefacts which aim to mitigate or solve a practical problem (Dresch et al. 2015). Consequently, this paper aims to answer the following research question: "*How can Design Science be applied to create an intervention that aims to enhance leadership development in networks?"*

This paper proceeds as follows. Firstly, the next section describes the theoretical underpinnings of the intervention. Secondly, the approach of scientific enquiry used in this study, Design Science, is introduced. Consequently, this paper describes the development and evaluation of the artefact. This paper concludes with the results of the empirical, qualitative evaluation of the intervention.

5.2 Theoretical framework

As this study aims to develop an intervention that enhances leadership within the specific context of networks, this theoretical framework will first establish how current leadership theory and practice perceive and engage in leadership development. Secondly, this section describes how current leadership theory and practice fall short on understanding leadership development in the specific context of networks, and explains the intricate characteristics of networks. This section concludes with an overview of the foundations and limitations of leadership development within this context.

Leadership and leadership development: from leader-centric to processual

Leadership development aims to understand, predict, and effectively enhance the leadership capacity of individuals and groups (Day, 2001; Van Velsor, McCauley, & Ruderman, 2010; McCauley, DeRue, & Yost, 2015). This can be done through programmatic interventions

such as assessments, mentoring or formal education (McCall 2010) or experience-focused interventions (Kegan and Lahey 2016).

From the onset of leadership theory in during the 1950s, its focus has primarily been individual *leaders* and the specific traits or competencies they have to influence followers towards their goals (Drath et al. 2008). Consequently, leadership development practices have been geared towards the enhancement of specific competencies in individual leaders (see, for instance, Mumford et al. 2007). These leadership development practices have often been limited to developing 'high potentials' – employees of organizations deemed to have leadership potential (Church et al. 2021).

However, this predominant focus on (potentially) formal *leaders* in leadership development is problematic for two reasons. Firstly, this approach excludes other employees from developing leadership capabilities and exploring their role in the process of leadership (Day et al. 2021). Secondly, this approach does not sufficiently address or enhance factors exceeding individual competencies, such as work climate and psychological safety.

Therefore, recent literature on leadership has shifted its focus towards *processes of leadership* rather than individual *leaders* (Higgs 2022; By 2021; Moore, Elliott & Hesselgreaves 2023). Recent leadership studies emphasize that leadership behaviors do not necessarily need to be exhibited by formal leaders or managers. Rather, a multiplicity of actors may display leadership. Hence, scholars suggest that leadership – as opposed to leaders - should be seen as a shared, distributed or collective process in which many actors participate (Denis, Langley and Sergi 2012; Ospina et al. 2020). According to Denis, Langley and Sergi (2012 p.212) leadership can be regarded as "a collective phenomenon that is distributed or shared among various people, potentially fluid, and constructed through interaction." This conceptual shift allows for a broader understanding of leadership and includes whole teams, networks or organizations.

The need for leadership across organizational boundaries

Although this relational lens on leadership as a process in which collectives can participate has paved the way for leadership development that engage a wider audience, the creation of leadership development interventions in the specific context of networks is still pending. Both leadership theory and leadership development practice predominantly focus on organization-internal leadership development. This is unfortunate, as organizations are increasingly required to collaborate across organizational boundaries (Voets, Keast and

Koliba 2019), both between organizational units and teams (Edmondson and Harvey 2018) and in interorganizational contexts (Gray 1985).

To illustrate the need for interventions tailored to collaborative contexts, it is important to understand the intricacies of collaborative settings. There are two aspects that set networked collaboration apart from organizations. Firstly, scholarly literature characterizes networks as inherently paradoxical (Connelly et al. 2008; Saz-Carranza and Ospina 2010; Koppenjan and Klijn 2004). Compared to individual organizations, networks are confronted with several tensions that need to be managed carefully. For instance, Saz-Carranza and Ospina (2010) emphasize the so-called '*unity-diversity-tension*.' This tension refers to the challenge of promoting coordinated decision-making and collaborative actions among independent entities that have unique aspirations, operational objectives, and organizational traits. A second paradox associated with collaborative systems concerns the lack of formal hierarchy or leadership. Collaborative systems generally do not have a defined leader. Formal instruments of encouraging or sanctioning members are missing (Klijn 2005). As a result, while there may be a convener who is not necessarily a member of the group (Huxham and Beech 2003), collaborative contexts often involve many 'leaders' who appear depending on the specific task at hand (Connelly et al. 2014).

These characteristics suggest that leadership in networked settings cannot be effectively developed through conventional, individual-centered training programs. Instead, leadership development must be adapted to the collaborative context itself. It requires an approach that not only builds individual leadership capacity but also cultivates shared leadership development within the network structure. There is a need for a leadership intervention which focuses on enhancing leadership processes in networks, specifically aimed at enabling individual network participants to recognize their potential for participating in network leadership as a process in which network participants are encouraged to collaborate to achieve common goals.

The foundations and limitations of leadership in networks

To design an effective leadership development intervention for interorganizational networks, it is essential to understand both the conceptual foundations of leadership in these contexts and the organizational constraints that shape its enactment. Leadership in networks is understood as a dynamic and relational process, involving a range of behaviors oriented toward tasks, relationships, change, and the external environment (Akerboom,

Groeneveld and Kuipers 2024). These behaviors are not confined to formal network coordinators but can be performed by a variety of actors.

However, the enactment of these behaviors is not merely a matter of individual competence or motivation. Organizational and institutional conditions significantly shape what is possible. Misalignment between organizations, political ambiguity, cultural stereotypes, and a lack of top-level support can all constrain employees when participating in networks (Van Meerkerk and Edelenbosch 2017). These factors suggest that leadership in networks must be understood as contextually embedded and structurally conditioned—an insight with direct implications for leadership development.

This argument underlines the need for a development approach that is situated in the actual practice of collaboration and sensitive to the relational and structural constraints actors face. Rather than focusing solely on individual skill-building, such an intervention must enable participants to experiment, reflect, and adapt leadership behaviors in real network settings.

Design Science Research offers a suitable methodological foundation for such a development approach. As a problem-solving paradigm, DSR focuses on designing and testing practical interventions—such as tools, models, or frameworks—that are grounded in real-world complexity and refined through iterative evaluation (Dresch et al. 2015). This makes it particularly valuable for addressing the relational and structural challenges of leadership in interorganizational networks. Rather than isolating leadership development from practice, Design Science enables the co-creation of context-sensitive interventions in collaboration with practitioners, ensuring that they are both theoretically informed and practically relevant.

5.3 Research approach: Design Science

This study uses Design Science as its methodological basis, paired with qualitative data collection methods. Johannesson and Perjons (2014) distinguish five phases in the process of artefact creation. Each of the phases requires a research strategy in which empirical data are collected and assessed through scientific methods (Collatto et al. 2017).

The first phase, '*explicate the problem*' aims at analyzing a problem and identifying its root causes. In this stage, the researcher formulates the particular problem the artefact intends

to solve, based on (academic) literature (March and Storey 2008). Once the problem has been defined, the second phase, *'define requirements'* focuses on establishing a set of criteria the artefact needs to meet in order to effectively address the problem at hand (Dresch et al. 2015). This process can be viewed as the transformation of the practical problem into specific elements the artefact must address in its design. These requirements can be, for instance, functional, aesthetical, or efficiency-driven. The third phase, *'design and develop artefact'* involves a process in which the researcher creates a prototype of the artefact, based on the problem at hand and the requirements set in the previous phases. Fourthly, the phase *'demonstrate artefact'* requires the researcher to test the artefact by applying it to a case, or "proof of concept," in order to demonstrate the usability of the artefact in regards to the problem (Hevner et al. 2004). Lastly, the phase *'evaluate artefact'* involves testing the artefact to determine whether the artefact meets the requirements and to what extent the artefact mitigates the problem at hand (Dresch et al. 2015).

Table 5.1 illustrates the data collection methods used in each of the five stages of the Design Science framework. In the next section, these data collection methods are explained in more detail, followed by an explanation of how each step in the process informed the design of the artefact.

Table 5.1 *Overview of data collection methods, based on research phase*

	Define Requirements	**Design and develop artefact**	**Demonstrate artefact**	**Evaluate artefact**	**Explicate the problem**
Aim	Establish criteria for artefact effectiveness	Create a prototype of the artefact through an iterative process of feedback	Apply the artefact to target group.	Determine whether artefact meets the requirements and mitigates the problem	Analyze problem and its root causes
Method	Focus groups (N=44)	Pilot testing (N=25) Qualitative questionnaire (N=73)	Qualitative questionnaire (N=86) Group interview (N=19)		Literature review (Section 5.2)

5.4 Design process

This section explains the design process of a leadership development intervention according to the above five phases of artefact development (Johannesson and Perjons 2014). The data collection method for each phase is described. The data collected in that phase are then analyzed, followed by a description of how each data collection method informed the development of the leadership development intervention.

5.4.1 Phase 1: Explicate the problem

Data collection

To explicate the problem, this study draws on leadership and leadership development literature to highlight a particular gap of knowledge the artefact needs to address. As the literature review in Section 5.2 has shown, a key gap lies in the absence of leadership development interventions specifically designed for and *in* collaborative contexts, where leadership is often shared among multiple actors rather than concentrated in a single individual. The intervention should account for the processual and behavioral nature of leadership, as well as the organizational context factors that may either constrain or enable its enactment.

Interpretation of data

Based on the literature review, the problem this intervention aims to mitigate is that current leadership practices do not sufficiently cover the intricacies of leadership in a collaborative context (Drath et al. 2008; Mumford et al. 2008; Chruch et al. 2021).

Consequences for artefact development

To mitigate this issue, this study develops a leadership intervention that applies to the specific context of collaborative networks. Using the literature as its starting point, this intervention should take into account the informal and processual nature of leadership in networks, in which network participants use leadership behaviors to achieve organizational and collective goals. The intervention should also consider that leadership - though promising – can be constrained by organizational context factors.

5.4.2 Phase 2: Define requirements

Data collection

The second step of the Design Science cycle – *defining requirements* - involved focus groups (N=44). Focus groups are considered an adequate method to retrieve the opinions and perspectives of participants, as focus groups allow participants to respond to each other and allow the researcher to ask follow-up questions (Bryman 2016). The questions posed to respondents were informed by the literature review presented in Section 5.2, as well as the key findings of Chapters 2, 3, and 4 of this dissertation. Respondents were invited to reflect on their needs and expectations concerning leadership development in interorganizational networks. The full topic list used to guide these discussions is provided in Appendix D.1. The focus groups were held with three categories of respondents: one focus group consisted of management development professionals (N=13), three focus groups were held with professionals involved in inter-organizational collaboration (N=18), and one focus group contained professionals involved in organization-internal collaboration (N=13). The focus groups were recorded and transcribed verbatim and took 90 minutes. The researcher used inductive coding to retrieve participants' views on five elements: the main learning goal, form, practical requirements and risks related to the intervention as discussed by the participants.

Interpretation of data

The focus groups retrieved five coding categories, which were translated into requirements for the leadership intervention: learning goals, learning form, practical prerequisites, and risks. An overview of these coding categories is provided in Table 5.2.

Learning goals

Based on their experiences with collaboration in networks, several focus group participants identified key skills and competencies necessary for effective networking. They emphasized the importance of courage, including the ability to make decisions that do not yield immediate personal benefits, as well as the capacity to consider the interests of others. Additionally, transparency about one's own capabilities and limitations, along with curiosity about the perspectives of other network members, were highlighted as essential competencies applied in practice.

Participants also reported frequently sensing an underlying layer of unspoken interests and expectations within their network collaborations. They expressed a strong need for

an intervention that addresses these implicit dynamics. Almost all focus group members indicated a desire for theoretical knowledge about networks, including their functioning and effective practices. Furthermore, they emphasized the importance of individual awareness regarding their own position and the positions of others within the network. They also sought practical action perspectives—concrete strategies for improving collaboration.

Some respondents specifically mentioned the need for a blueprint outlining appropriate leadership behaviors for different situations. In addition to individual awareness, others underscored the significance of collective reflection on the collaboration process. They expressed the need for an intervention that facilitates reflection on a fundamental question: how can network collaboration generate societal value rather than merely serving individual interests?

In sum, based on respondents' comments, the focus groups retrieved two broad themes that participants agreed on as learning goals for the leadership intervention. Firstly, the artefact should help participants recognize and understand leadership in networks. According to the focus group respondents, the intervention must provide foundational theoretical knowledge about networks, including what networks are and how they differ from individual organizations. The focus group respondents also indicated that the intervention should include knowledge about leadership in networks, specifically addressing the various leadership behaviors that exist within these contexts. The focus group respondents also emphasized that the intervention should enhance mutual understanding between network partners. Lastly, the focus group respondents suggested that the intervention should educate participants about the essential components required for a network to function effectively.

The second theme the focus groups agreed on was the importance of gaining insight into one's own leadership behavior. The focus group respondents recommended that the intervention should raise awareness of each participant's role and position within the network, as well as highlight the opportunities they have to demonstrate leadership and strengthen the network. The focus group respondents stated that the intervention should offer concrete courses of action that participants can apply in various situations to strengthen the network. The focus group respondents also suggested that the intervention should enhance the network's learning capacity by encouraging participants to reflect on its functioning.

Learning form

Focus group respondents also emphasized requirements related to the form of the artefact. The focus group respondents stressed that the intervention should be realistic and well aligned with real-world practice. Fictional cases or situations tend to disengage participants from the intervention. Additionally, focus group respondents emphasized the need for an intervention that allows for both individual learning and collective learning among network partners.

Practical prerequisites

Thirdly, the respondents mentioned practical prerequisites to be considered. According to feedback from focus group participants, the intervention should be easily integrated into daily routines, such as a brief exercise at the beginning of meetings. They also stressed the importance of ensuring that the intervention aligns with or does not disrupt existing practices (holistic approach), and that its language and naming should be tailored to suit different target groups. Additionally, due to the geographical spread of partners, there was a consensus on the benefit of offering hybrid options for accessibility and inclusivity.

Risks

Lastly, the focus groups retrieved a particular risk involved in developing and applying an intervention in network practice. Respondents indicated that any intervention will remain unsuccessful if the organizational context is not susceptible to change.

Consequences for artefact development

The results of the focus groups are listed in Table 5.2. This list of requirements is used to develop a prototype of an intervention that enhances leadership in public sector networks.

Table 5.2 *Overview of artefact requirements*

Criterion	Specification	Description
Learning goal: recognize and understand leadership in networks	*Knowledge of networks*	The intervention must deliver basic knowledge of networks: what are networks, how do they differ from individual organizations?
	Knowledge of leadership	The intervention must cover knowledge of leadership in intra- or inter-organizational networks: what leadership behaviors exist within networks?
	Knowledge of partner organizations	The intervention should contribute to a better understanding between network partners.
	Knowledge of collaboration requirements	The intervention should inform the participant about the components a network needs to function properly.
Learning goal: Insight into own (leadership) behavior	*Participant self-awareness*	The intervention should increase awareness of the role/position of the participant in the network and the opportunities they have to strengthen the network (demonstrate leadership).
	Action-orientation	The intervention should provide guidelines that participants can use in various situations to strengthen the network through leadership.
	Reflection	The intervention should contribute to the learning capacity of the network by having participants reflect on the functioning of the network.
Learning form	*Realism*	The case must be well aligned with practice or "immersive." Hence, unrealistic cases or situations should be avoided.
	Generic application	The intervention should be applicable to different networks.
	Individual component	The intervention must allow for individual learning.
	Joint component	The intervention must be designed so that network partners can learn together.
Practical prerequisites	*Embeddedness in everyday practice*	The intervention must be applicable in everyday practice.
	Alignment with existing interventions	The intervention must align with, or at least not conflict with, existing interventions.
	Language use	The language used in the intervention must be adapted to the target group.
	Hybrid possibilities	It is desirable to offer hybrid/online possibilities, as network partners may be located remotely.
Risks	*Willingness*	The intervention should take into account that its efficacy depends on the willingness of participating members to implement intervention outcomes.

5.4.3 Phase 3: Design and develop artefact

Data collection

Thirdly, the *design and development phase* involved the creation of an artefact (a leadership intervention) on the basis of the outcomes of the focus groups and literature review. This step involved an iterative process of artefact development and feedback. Feedback was gathered through pilot testing and demonstrations (N=73). Demonstrations involved a presentation of the artefact to either individuals or small groups, in which participants were asked to provide feedback on each element of the artefact. After these demonstrations, participant comments were coded as requirements. The pilot tests involved four cases of networks to which the artefact was applied. An overview of cases can be found in Table 5.3.

The process involved a combination of purposive sampling and snowball sampling. Purposive sampling was used to establish criteria for the 'fitness' of the test cases. These criteria included: (a) test cases had to contain a minimum of three participants; (b) participants should represent autonomous organizations (inter-organizational networks) or autonomous sub-units (intra-organizational networks); (c) the networks should already be established, to ensure that participants can reflect on the questions included in the intervention. After the test, participants were encouraged to advertise the intervention to peers in their professional network. Hence, snowball sampling was used to retrieve more test cases. These additional test cases were also required to adhere to the requirements set through purposive sampling.

Test case respondents (N=73) were asked to provide feedback on the basis of a qualitative questionnaire. This qualitative questionnaire consisted of four open-ended questions aimed at measuring how the intervention performed on the basis of the requirements of the artefact: (1) What do you think of the *content* of the intervention? How does the intervention contribute to its learning goals? (2) What do you think of the *practical usability* of the intervention? For instance, do you think you can use this intervention in your network? (3) What do you think about the *visual design* of the intervention? Think about, for instance, language used, aesthetics. (4) Do you have any *other feedback* on this intervention? Similar to the demonstrations, the tests provided input for the refinement of the requirements and improvements to the intervention.

Table 5.3 *Overview of feedback and test cases participating in the development phase*

Testcase	Type of feedback	Target group	Focus	Respondents
1	Demo	Academic peers	Generic	10
2	Demo	Network participant	Generic	1
3	Demo	Network spokesperson	Generic	1
4	Demo	Network participants	Intra-organizational	2
5	Demo	Network participants	Generic	6
6	Demo	Network participants	Inter-organizational	4
7	Demo	Serious game developer	Generic	1
8	Testcase	Innovation network	Inter-organizational	22
9	Testcase	Healthcare network	Inter-organizational	9
10	Testcase	Innovation network	Inter-organizational	27
11	Testcase	Innovation network	Intra-organizational	15

Consequences for artefact design

Based on the requirements retrieved from the focus groups, a prototype of the intervention was developed. This section describes the first draft of the intervention and its learning objectives, learning form and practical prerequisites. As the process of developing the artefact involved an iterative process of development and feedback, the section describes how the artefact was refined through demonstrations and testcases.

Learning objectives

Based on the requirements, the intervention aims to help participants understand the essential components of effective collaboration, and what their network needs to become more effective, help participants understand and recognize leadership in their network, and help participants recognize their own opportunities for exhibiting leadership.

Learning form

The prototype involves a gamification of techniques used to generate and structure a dialogue between network participants about the collaboration process and the role of leadership in this process. This format was selected on the basis of four requirements. The intervention is *generic* in its application, as it contains questions related to collaboration and leadership, which are applicable to various types of collaborations. Secondly, the prototype consists of both collective and individual learning components. In certain exercises, participants are challenged to converse with each other, whereas other exercises require each participant to reflect on their own conduct. Thirdly, the format is realistic/immersive as it does not contain a fictional scenario.

Practical prerequisites

In the development process, a gamification of techniques was also chosen as it fits the practical prerequisites mentioned by the focus group respondents. Firstly, this intervention *can be embedded in everyday practice*. The intervention contains a series of smaller exercises meant to generate a dialogue between participants on collaboration and leadership. Each exercise can be conducted separately in 20 minutes. The full intervention takes approximately 3 hours. Attention was also paid to *language* used in the intervention: the researcher aimed at creating an intervention that is suitable for various subcategories of employees who operate in networks, ranging from operational to strategic levels of organizations. Thirdly, the prototype can theoretically be used online through videocall software, although the form of the intervention lends itself best to physical meetings.

Practitioner feedback: demonstrations and test cases

The artefact was first presented to individual members of intra- or interorganizational networks. During these presentations, the researcher demonstrated the artefact components. The demonstrations provided opportunities for feedback. Consequently, this feedback was used to establish additional requirements, and to improve the intervention before effectively evaluating its use. The additional requirements are summarized in Table 5.4.

The intervention requirements, as identified by respondents, emphasize several key elements. First, the intervention must maintain internal consistency, ensuring that all materials are coherent and free from contradictions. It should provide a socially safe environment where participants feel comfortable discussing sensitive topics related to collaboration and leadership. Clarity is also essential; the intervention should be comprehensible, enabling participants to apply it independently with the help of clear instructions.

Respondents highlighted the importance of accessibility, stressing that the intervention should be inclusive and suitable for diverse target groups, considering factors such as color blindness and varying language proficiency levels. Additionally, the content should align closely with participants' learning objectives, ensuring that it remains relevant and impactful. Respondents also emphasized that the insights gained from the intervention should be readily applicable within the chain or network, enhancing implementation feasibility.

To encourage participation, the intervention's design and appearance should appeal to participants. It must also be complete, providing all the necessary information for

participants to navigate it successfully. A logical structure, with a clear flow between the steps, was identified as crucial for a seamless and coherent process. While the intervention should not be overly time-consuming, respondents stressed the need for sufficient space for discussion to enable deeper insights.

Flexibility emerged as another key requirement, with respondents noting that the intervention should be adaptable to the specific context of the network, including the time available for its execution. Lastly, the intervention must meet the expectations set during its promotion, ensuring that participants feel their needs and expectations are fulfilled.

Table 5.4 *Additional requirements retrieved from the design and development phase*

Requirement	Description
Consistency	The intervention must be internally consistent/coherent. Materials should not contradict each other.
Social Safety	The intervention must provide a safe environment to discuss difficult topics related to collaboration and leadership.
Clarity	The intervention must be comprehensible. With the help of instructions, players should be able to apply it autonomously.
Accessibility	The intervention should be inclusive and accessible to various target groups (consider: color blindness, language levels).
Content	The content of the intervention should align with the participants' learning objectives.
Implementation feasibility	The insights from the intervention should be implemented within the chain/network.
Appeal	The intervention should, in its appearance, encourage participants to take part.
Completeness	The intervention must be complete. All information that participants need to go through the intervention should be present.
Intervention Mechanics	The intervention must be logically structured; there should be a logical flow between the different intervention steps.
Practical Feasibility	The intervention should not take too much time but should be executable in between activities. At the same time, there should be sufficient space for discussion to allow for more thorough findings.
Flexibility	The intervention must be adaptable to the context of the network (consider: the time the network has to carry out the intervention).
Expectation Management	The intervention must meet the expectations that the participant has based on the promotion of the intervention.

5.4.4 Phase 4: Demonstrate artefact

This section describes the material components of the intervention and explains how these material components respond to the problem and match the requirements. The intervention consists of a series of exercises, which are summarized in Table 5.6. For each component of the intervention, a picture of examples of intervention materials is included in Appendix D.2.

The exercises are intended to generate and facilitate dialogue among network members about collaboration and leadership in their respective networks. For each of these exercises, educational materials were developed on the basis of the literature review on leadership and collaboration. Specifically, the intervention contains the main insights from the literature review and Chapter 2, 3 and 4. The intervention consists of sets of cards, which are discussed at subsequent stages in the intervention. These sets include cards regarding the collaborative phase of the network, cards that specify essential components of collaborative processes, cards that describe contextual factors limiting or encouraging collaboration, and cards specifying leadership behavior. In Table 5.5, each of the sets of cards is explained, after which a description of their application in the intervention is given.

Table 5.5 *Components of the artefact*

Intervention component	Description	Intervention materials	Reference
1. Network Phase Identification	At the start of the intervention, participants are encouraged to select the network phase they identify most with, in order to help them find the most appropriate leadership behaviors as the intervention progresses.	Network phase cards	Morse & Stephens (2012)
2. Baseline Measurement	Cards mentioning essential elements of collaboration are used to raise participants' awareness of aspects of their own collaboration that are functioning well or poorly. Respondents are asked to categorize the cards: is the component mentioned on the card going well, or does it require improvement? The cards correspond with three essential elements of collaboration: operational capacity, member relations and a common goal orientation.	Module cards	Chapter 4
3. Context Mapping	Context factors are displayed on cards with a green (positive) and a red (negative) side. Participants are encouraged to discuss the cards and explain how the cards apply to their own organizational context: positively or negatively. The cards correspond with organizational factors hindering or encouraging leadership in networks.	Context factor cards	Chapter 3
4. Leadership Scan	Cards with leadership behaviors and practical examples of these behaviors are distributed among participants. Participants are asked to identify leadership behaviors which they believe are required, given the specific aspect of collaboration that needs improvement. The cards correspond with Yukl's taxonomy of leadership (2012), adjusted to network contexts.	Leadership cards	Chapter 2
5. Reflection	Respondents reflect on who could display leadership behaviors in their network, and in which direction (to each other, towards their own organization, or externally). They do so on an individual basis (reflection sheet) and as a group.	Leadership cards and Reflection sheet	Chapters 1, 2 and 3

Table 5.6 summarizes how each of the artefact components is developed to match the artefact criteria as established through the literature review and focus groups.

Table 5.6 *Overview of alignment between artefact components and requirements*

Criterion	Specification	Description	Intervention component
Learning goal: recognize and understand leadership in networks	*Knowledge of networks*	The intervention must deliver basic knowledge of networks: what are networks, how do they differ from individual organizations?	User manual and instruction sheets for participants
	Knowledge of leadership	The intervention must cover knowledge of leadership in intra- or inter-organizational networks: what leadership behaviors exist within networks?	Step 3: Leadership Scan
	Knowledge of partner organizations	The intervention should contribute to a better understanding between network partners.	Step 2: Context-Mapping
	Knowledge of collaboration requirements	The intervention should inform the participant about the components a network needs to function properly.	Step 1: Baseline measurement
Learning goal: Insight into own (leadership) behavior	*Participant self-awareness*	The intervention should increase awareness of the role/position of the participant in the network and the opportunities they have to strengthen the network (demonstrate leadership).	Step 3: Leadership Scan Step 4: Reflection
	Action-orientation	The intervention should provide guidelines that participants can use in various situations to strengthen the network through leadership.	Step 3: Leadership Scan Step 4: Reflection
	Reflection	The intervention should contribute to the learning capacity of the network by having participants reflect on the functioning of the network.	Step 1: Baseline measurement Step 4: Reflection

Table 5.6 *Overview of alignment between artefact components and requirements (continued)*

Criterion	Specification	Description	Intervention component
Learning form	*Realism*	The case must be well aligned with practice or "immersive." Hence, unrealistic cases or situations should be avoided.	Participants only reflect on their own network; not a fictional case.
	Generic application	The intervention should be applicable to different networks.	The intervention provides participants the ability to apply the steps to their own network.
	Individual component	The intervention must allow for individual learning.	Step 4: (Individual) Reflection.
	Joint component	The intervention must be designed so that network partners can learn together.	All steps of the intervention are focused on group-based learning.
Practical prerequisites	*Embeddedness in everyday practice*	The intervention must be applicable in everyday practice.	The intervention consists of various steps. To achieve all learning goals, all steps have to be met. However, participants can pick a step they want to apply to make the intervention more feasible in everyday practice.
	Alignment with existing interventions	The intervention must align with, or at least not conflict with, existing interventions.	The intervention does not interfere with other interventions.
	Language use	The language used in the intervention must be adapted to the target group.	The intervention is aimed at civil servants who operate in networks on a frequent basis. The language is tailored to this target group.
	Hybrid possibilities	It is desirable to offer hybrid/online possibilities, as network partners may be located remotely.	The intervention can be played in a hybrid mode with some modifications.

Table 5.6 *Overview of alignment between artefact components and requirements (continued)*

Criterion	Specification	Description	Intervention component
Risks	*Willingness*	The intervention should take into account that its efficacy depends on the willingness of participating members to implement intervention outcomes.	The intervention actively encourages participants to discuss the outcomes of the intervention within their own organization or organizational sub-unit.

5.4.5 Phase 5: Evaluate artefact

Data collection

Consequently, during the *evaluation phase*, the final version of the intervention was applied to seven networks/respondents to verify its performance. An overview of these cases can be found in Table 5.7. Of the seven cases, four received a shorter version (<2 hours) of the intervention, and three cases received the complete version (>2 hours). From the cases with a shorter version, two cases focused on organization-internal collaboration, and two cases focused on external collaboration. Out of the cases which received the complete version one focused on organization-internal collaboration, the other two were inter-organizational.

The evaluation of the intervention was carried out through a qualitative questionnaire (N=86) in combination with a group interview (N=19). The aim of the qualitative questionnaire was to provide insights into the experiences of participants of the intervention at an individual level, immediately after the intervention. In alignment with the recommendation to use short, easily comprehensible questions in questionnaires (Bryman, 2016, p. 234), the questionnaire consisted of five open questions that encouraged the respondent to reflect on their own learning process. These questions are attached in Appendix D.3.

The group interview took place two months after the intervention and aimed to explore the experiences of the intervention at a collective (network) level. Group interviews provide an appropriate form of data collection that allows participants to respond to each others' comments and engage in discussions, enriching the data. The network participants were asked to reply to questions about the insights that the intervention provided, and to

verify whether and how participants used those insights. The topic lists of the qualitative evaluation can be found in Appendix D.4. The group interviews were only held with participants of the cases which received the complete version of the intervention. The evaluations were transcribed ad verbum.

Data collection for the evaluation of the intervention continued until thematic saturation was reached. Saturation was perceived here as a matter of identifying redundancy in the data; the degree to which new data repeat what was expressed in previous data (Saunders et al. 2018). The authors repeated the evaluation with new cases until no new evidence was found that rejects or conflicts with the results found in the previous cases.

Table 5.7 *Overview of cases participating in the evaluation of the intervention*

Case no.	Policy domain	Type of collaboration	Version	Qualitative questionnaire participants	Interview participants
1	Welfare	Organization-internal	Short	9	0*
2	Welfare and healthcare	Inter-organizational	Short	24	0*
3	Security	Organization-internal	Full	6	5
4	Debt collection	Inter-organizational	Full	10	9
5	Welfare	Inter-organizational	Short	14	0*
6	Municipal (interdisciplinary)	Organization-internal	Short	12	0*
7	Security	Inter-organizational	Full	10	5

*No interviews were held with participants of the short version of the intervention.

Interpretation of data: Immediate, individual-level experiences

Participants' immediate experiences with the intervention were explored through both quantitative and qualitative components. The qualitative questionnaire responses provide an overview of how participants perceived the intervention's impact, while the qualitative reflections offer deeper insights into their learning process and engagement. The quantitative components, such as the means (on a 1-5 scale) and standard deviations per question, are provided in Table 5.8.

Overall, participants expressed a positive view of the intervention, highlighting its value in helping them better understand collaboration dynamics and leadership within their

networks. Participants described gaining a clearer perspective on what was working well in their collaborations and where improvements were needed. For instance, respondent 35 mentions: *"We're doing well on a personal level, but a real eye-opener was that we still have some progress to make together in this area."* Another respondent argues: *"I've noticed that everyone supports the established goals, but each organization has its own primary objective or reason for participating (in a network, sic.). These can vary greatly."*

In particular, the intervention was frequently mentioned as a tool for increasing self-awareness regarding leadership needs within their networks, and which types of behaviors participants themselves could make more use of. For instance, Respondent 44 mentions specific leadership behaviors their network could use more of: *"Task- and change-oriented (leadership, sic). The relationship is already strong. That came through clearly."* Another respondent (84) adds: *"A combination of change-oriented and task-oriented leadership to develop a vision and move towards it in a structured way."* Respondent (83) mentioned that the typology used in the intervention is a helpful tool in deciding which leadership the network needs: *"Especially identifying the four types of leadership provides insight into determining which form is important and valuable at this stage."*

Participants did, however, mention that they find it difficult to use the leadership behaviors in practice. Respondent 12 mentions: *"I know my preferred style, but incorporating the other aspects is sometimes challenging for me—especially the 'how."* A recurring theme in participants' reflections was the depth of insight gained over time. Those who participated in the longer version of the intervention tended to articulate a stronger sense of clarity and confidence in addressing network challenges. They described how the extended engagement allowed for more meaningful discussions, a deeper exploration of leadership roles, and stronger connections among participants. In contrast, those in shorter interventions noted that while the experience was valuable, time constraints sometimes limited opportunities for deeper dialogue and reflection. For instance, Respondent 57 mentions: *"At times, it was challenging to dive deeper for a better understanding, but this was already a great start."*

The context of collaboration also shaped participants' experiences. Those participating in internal networks—where members were already familiar with each other—described a greater ease in discussing challenges and implementing insights from the intervention. In contrast, participants in interorganizational networks sometimes found it more difficult to openly address sensitive topics, especially in shorter interventions. This suggests that while the intervention provided valuable learning opportunities across all contexts, the

depth of engagement and willingness to discuss difficult topics were influenced by both the duration of the intervention and the existing relationships within the network.

In summary, the intervention was generally experienced as a learning opportunity, particularly in fostering leadership awareness and helping participants identify strengths and weaknesses in their collaborations. However, the findings also underscore the importance of time and relational context in shaping the depth of participant engagement in the intervention.

Table 5.8 *Mean Scores (1-5) and Standard Deviations by Intervention Duration and Collaboration Type*

	By duration				By collaboration type			
	Short		Long		External		Internal	
Questionnaire item	*Mean*	*Std. Deviation*	*Mean*	*Std. Deviation*	*Mean*	*Std. Deviation*	*Mean*	*Std. Deviation*
"This intervention has helped me identify what is going well in the collaboration and which areas require improvement."	3,78	0,622	4,08	0,572	3,79	0,7	4,04	0,344
"This intervention has helped me gain an understanding of the factors that positively or negatively influence the collaboration."	3,85	0,582	3,85	0,464	3,78	0,589	4	0,4
"The intervention has helped me gain an understanding of the leadership I can (further) demonstrate to elevate the network."	3,81	0,706	3,72	0,737	3,76	0,733	3,85	0,675
"The intervention has helped me address topics in the collaboration process that are typically not discussed within the network."	3,38	0,895	3,88	0,909	3,39	0,965	3,88	0,726
"The intervention has taught me to better understand the type of leadership my network currently needs."	3,84	0,781	4	0,566	3,84	0,751	4	0,645

Interpretation of data: longer-term, network-level experiences

The intervention aimed to enhance participants' competencies across two main learning goals: (1) recognizing and understanding leadership in networks, and (2) gaining insight into their own leadership behavior. Based on group interviews, the following analysis highlights their perspectives on the extent to which these objectives were met from a longer-term, network-level point-of-view.

Regarding the first learning goal, respondents frequently mentioned gaining a foundational understanding of networks and the ability to distinguish them from individual organizations. For example, one respondent shared that the intervention highlighted a recurring tension between collaborative goals and organizational goals, alongside the pressure to prioritize their own organization's needs. This feedback suggests that the intervention addressed this objective at a theoretical level.

Secondly, respondents noted that the intervention included discussions on leadership behaviors within both intra- and interorganizational networks. However, several participants expressed challenges in purposefully applying these behaviors. One respondent commented: *"The intervention made me aware that, regardless of the situation, you always need a combination of all four types of leadership behaviors."* When asked whether she applied these behaviors in practice, the respondent stated: *"Well… not purposively, maybe subconsciously?"* Another participant suggested that providing a template at the end of the intervention, summarizing the leadership behaviors they identified as critical for their networks, could serve as a useful reminder to practice these behaviors regularly.

Thirdly, respondents generally reported an enhanced understanding of their network partners and reflected positively on the collaborative exercises. These exercises were seen as beneficial for fostering communication and trust. However, one respondent cautioned against assuming a direct causal link between the intervention and improved partner understanding. They noted that networks already motivated to strengthen relationships are more likely to engage in such interventions. Thus, the intervention may support better partner relations, but only as part of broader, pre-existing efforts to improve these dynamics.

Lastly, respondents acknowledged that the intervention outlined the key components needed for networks to function effectively. For instance, in one network, all participants agreed that member relations were their greatest strength, while they lacked sufficient

operational capacity to organize their efforts effectively. However, participants emphasized the need for deeper exploration of practical strategies to achieve these goals.

In regards to the second learning goal, insight into participants' own leadership behavior, Respondents indicated that the intervention increased their self-awareness regarding their roles within the network. Through reflective exercises, they identified specific areas where they could exercise leadership to strengthen network ties. However, participants emphasized that a single intervention is insufficient to foster lasting behavioral change. They suggested that combining the intervention with a more extensive coaching trajectory would provide opportunities to practice leadership behaviors in real-world contexts.

Secondly, respondents appreciated the practical tools and strategies provided by the intervention, which they felt boosted their confidence in applying these approaches in various situations. However, participants recommended follow-up sessions to consolidate these skills. One respondent (focus group 3) proposed including a template that summarizes individual outcomes and provides tips on practicing leadership behaviors, as well as a document summarizing group outcomes, to encourage sustained application of these skills.

Thirdly, respondents agreed that the intervention's main contribution was fostering a reflective learning environment. They emphasized that this reflective approach helped them critically evaluate their own leadership capacities. Respondents also recall that the session helped them understand their own (subconscious) tendencies to expect certain leadership behaviors from other network members, such as the largest organization and the network coordinator.

Table 5.9 *Summary of intervention experiences as reported by respondents*

Learning goal	Individual experiences (qualitative questionnaire)	Group-level experiences (group interviews)
Learning Goal 1: Recognize and Understand Leadership in Networks		
Knowledge of Networks	The intervention successfully familiarized participants with the fundamental principles of networks, distinguishing them from standalone organizations. Nonetheless, certain participants indicated a desire for more resources or extended time.	Respondents indicate a foundational comprehension of networks and an ability to differentiate them from individual organizations.
Knowledge of Leadership	Participants highlighted an improved understanding of various leadership behaviors. However, they also emphasized the need for insights into the most effective strategies in specific network environments.	Participants demonstrate an awareness of leadership; however, the intervention falls short in adequately illustrating leadership in practice.
Knowledge of Partner Organizations	Participants noted heightened recognition of one another's strengths and requirements, potentially fostering more unified and productive collaboration.	Respondents report a deeper understanding of their network partners. Activities were regarded as instrumental in enhancing communication and building trust. Nonetheless, the potential impact of selection bias may influence the findings.
Knowledge of Collaboration Requirements	Participants were able to pinpoint and deliberate on these collaborative prerequisites, though some remarked that more organized instruction on these aspects would be beneficial. The dialogues enabled participants to identify deficiencies in their network's operations and pinpoint areas for improvement to strengthen collaboration.	Respondents recognized that the intervention effectively highlighted the critical components required for networks to operate efficiently. However, they stressed the importance of further exploration into practical approaches to achieve these objectives.

Table 5.9 *Summary of intervention experiences as reported by respondents (continued)*

Learning goal	Individual experiences (qualitative questionnaire)	Group-level experiences (group interviews)
Learning Goal 2: Insight into Own (Leadership) Behavior		
Participant Self-Awareness	The intervention effectively facilitated self-awareness by prompting participants to reflect on their roles and contributions within the network. Participants reported gaining a more defined understanding of their position and influence in the network, as well as an appreciation of how their leadership behavior could affect network dynamics.	The intervention enhanced participants' self-awareness concerning their role within the network. Reflective exercises enabled them to pinpoint specific areas where they could demonstrate leadership to reinforce network connections.
Action-orientation	The intervention offered participants tangible strategies, such as methods for enhancing collaboration, establishing common objectives, and resolving conflicts. Nevertheless, participants expressed a desire for additional case studies or scenarios to further practice these behaviors.	Participants valued the practical tools and strategies introduced during the intervention, which they believed enhanced their confidence in implementing these approaches across different contexts. However, they suggested follow-up sessions to further solidify these skills.
Reflection	The structured reflection sessions encouraged participants to critically assess the network's strengths and weaknesses and identify opportunities for improvement. Participants suggested that follow-up sessions could support the continuity of this reflective practice.	Participants concurred that the intervention's primary achievement was creating a reflective learning environment, allowing them to gain greater insight into their leadership potential and their expectations in relation to others.

5.5 Conclusion and discussion

The purpose of the current study was to develop an intervention that enhances leadership in networks, using a Design Science framework. Specifically, this study aimed to answer the following question: "*How can Design Science be applied to create an intervention that aims to enhance leadership (development) in networks?"* For this purpose, this study set out to identify the problem, develop requirements for the intervention, design and develop the intervention, demonstrate the artefact, and evaluate its performance.

The literature review has shown that current leadership and leadership development theory and practice focuses mainly on developing leaders and/or leadership in single organizations (Drath et al. 2008; Mumford et al. 2008; Church et al. 2021). This is problematic in the context of contemporary public sector challenges, which increasingly require collaboration across organizational boundaries (. In such settings, leadership is often shared, fluid, and context-dependent—emerging from behavior and interaction rather than formal authority. Consequently, conventional leadership development approaches are not suited for networked environments, as they do not account for the relational, behavioral, and contextual complexities of leadership in collaborative settings. Hence, this study set out to determine how leadership can be developed within collaborative contexts, such as organization-internal or inter-organizational networks.

Through focus groups, this study established requirements for the intervention. These requirements related to the learning goals, learning form, practical prerequisites and risks involved in the intervention. In the development phase of the artefact, demonstrations and test cases revealed additional requirements to further improve the artefact. Based on these steps, an intervention was created that aims to enhance leadership by means of a gamification of exercises in which network members discuss their mutual collaboration and leadership.

The artefact evaluation covered both the immediate, individual experiences through a qualitative questionnaire and the longer-term, group-level experiences through group interviews. According to the results of the qualitative questionnaire, the intervention has largely met the learning goals by enhancing participants' knowledge of network leadership and increasing their self-awareness within the network. While participants gained foundational knowledge of networks and leadership behaviors, participants of the short version of the intervention mentioned that a more detailed exploration of network-specific dynamics and leadership approaches could further strengthen the outcomes of the game. Additionally, the provision of action-oriented guidance and reflection practices were highly valued, though incorporating follow-up activities could sustain and deepen these insights. Overall, according to the participants, the intervention effectively raised their awareness of leadership in networked environments, though the survey and group interview outcomes suggest some refinements could enhance its effectiveness.

Based on the group interviews, participant feedback suggests that the intervention partially met its learning objectives. Respondents reported improvements in both theoretical

understanding and practical insights regarding leadership within networks. Although participants valued the structured format and interactive activities, their feedback highlights the need for greater emphasis on practical applications and the inclusion of follow-up sessions to amplify the intervention's effectiveness. While the intervention, as a single initiative, successfully raises awareness of leadership in networks, it falls short of achieving sustained behavioral change. The intervention did help participants reflect on their networks and which leadership their network needs, though some improvements could be made to maximize its long-term impact and actually following through on exhibiting leadership.

These findings suggest that while the intervention contributed to awareness and reflection, additional support may be needed to help participants translate insights into action. Future iterations of the intervention could perhaps benefit from further exploration of how leadership functions in practice within networks and how participants can actively apply these insights in their own contexts.

The intervention reveals important theoretical insights about leadership development in networks. It demonstrates that leadership capacity can be cultivated through facilitated interaction that covers shared challenges, frames leadership as a collective process, and provides structured space for behavioral reflection. The success of the intervention supports a relational and behavioral understanding of leadership, suggesting that development occurs when embedded in the actual collaborative context, rather than in isolation from it. The study also highlights the importance of context in developing leadership. In so doing, it responds to calls by other researchers to take context seriously (Van der Hoek, Groeneveld and Beerkens 2021) and to perceive leadership as a relational process in which multiple actors can exhibit leadership behaviors fit to contextual circumstances (Denison et al. 1995). Specifically, as earlier studies on leadership in networks highlight, leadership development in the context of networks deserves more attention (Crosby and Bryson 2017).

For practitioners, the output of this study - a leadership intervention – helps those who operate in inter- and intra-organizational networks recognize and develop their own leadership in collaborative contexts. As leadership development tends to focus on the development of specific skills in individuals, focusing mainly on skills required in an organizational setting, this intervention shifts participants' view on leadership as a process in which multiple individuals – with or without a leadership position – can participate in

order to attain individual and collective goals. This cognitive awareness provides a first step towards behavioral change.

Research limitations

While this study offers valuable insights into a leadership intervention designed to facilitate leadership in networks, several limitations must be acknowledged. First, selection bias poses a challenge, as participants who volunteered for the intervention may already have a predisposition to developing their leadership skills or enhancing their network, potentially skewing the findings. Second, the dynamic and fluid nature of networks complicates the implementation and sustainability of the intervention. Network membership often changes over time, with individuals joining and leaving. Consequently, newcomers who did not participate in the intervention may dilute its long-term impact. Third, the intervention is particularly suited to established networks where members already have prior interactions, enabling them to reflect on strengths and areas for improvement. However, many networks are not pre-established but emerge spontaneously to address specific challenges. These ad hoc networks often consist of members who are unfamiliar with one another, limiting the intervention's applicability. Fourth, the study was conducted within a specific national context – The Netherlands - characterized by cultural norms of openness and directness, as highlighted by Hofstede (2001). These cultural attributes may not be generalizable to other countries where such norms are less prevalent. As a consequence, an intervention that requires participants to openly express their opinions about the collaborative process may not work in other cultural contexts. Finally, the study primarily relied on participants' self-reported experiences of the intervention using qualitative methods. However, the research did not establish a quantitative relationship between the intervention and its outcomes, which limits the ability to draw causal inferences.

While this study demonstrates that leadership awareness and reflection can be fostered through targeted intervention, the broader question of how to support sustained leadership development in networks remains. Leadership development in collaborative settings differs from traditional organizational leadership programs, which often focus on individual skill acquisition in hierarchical contexts (Day, 2000; Van Velsor, McCauley & Ruderman, 2010). In contrast, networks require development approaches that emphasize collective reflection, experiential learning, and relationship-building (Raelin, 2016; Crosby & Bryson, 2017). The intervention presented in this study addresses these needs by embedding learning in actual collaborative dynamics. Yet, the limited duration of the intervention highlights the need for ongoing developmental support, such as follow-up sessions, peer reflection groups,

or coaching formats that reinforce and extend insights over time. Future interventions could build on concepts such as *leadership-as-practice* (Carroll, Levy & Richmond, 2008) or collaborative leadership learning (Ospina & Foldy, 2010) to design more continuous, embedded, and adaptive learning trajectories that mirror the evolving nature of network collaboration.

Directions for future research

Building on the findings of this study, future research could explore several directions to deepen understanding and enhance the practical application of the leadership intervention. First, quantitative studies are needed to rigorously establish the long-term effectiveness of the intervention. Such studies could measure its impact on network outcomes, providing stronger evidence of its efficacy. Second, the intervention itself could serve as a valuable research tool to investigate network dynamics and leadership practices. For instance, future research could examine how participants perceive challenges during different stages of collaboration, identifying specific issues linked to context variables. This might involve exploring whether certain contextual factors (e.g., resource availability, organizational structures) correlate with challenges in operational capacity, member relations, or goal orientation. Additionally, studies could assess whether participants consistently associate specific leadership behaviors with improvements in these areas of the collaborative process. By combining these approaches, future research could not only validate the intervention's impact but also generate actionable insights into the interplay between network context, leadership behaviors, and collaboration outcomes.

6

General discussion and conclusion

This dissertation explored the question: *How does leadership enhance collaboration in public sector networks, and how can it be developed?* This question is highly relevant, as public sector networks—characterized by horizontal relationships between autonomous organizations—are increasingly used to address complex societal problems. Despite their growing importance, the leadership needed to foster effective collaboration in these settings remains both theoretically underdeveloped and empirically underexplored.

This dissertation responded to limitations in leadership literature, which typically focused on hierarchical, intra-organizational settings, despite the growing importance of horizontal partnerships between autonomous organizations. As a result, leadership in networks has remained insufficiently understood, under-theorized, and weakly supported in practice. This dissertation extended network management literature by shifting attention from designated formal roles—such as network managers or brokers—to the broader, shared leadership capacity distributed across network members. It also strengthened collaborative governance literature by operationalizing leadership behavior and linking it empirically to collaborative processes. Finally, this dissertation introduced a new approach to leadership development, using the network as the central context of a leadership intervention.

Drawing on four interrelated studies, the dissertation explored how leadership manifests in public sector networks, what organizational and contextual factors shapes it, how it influences collaboration, and how it could be supported through intervention. Together, these studies offered a comprehensive, theoretically and empirically grounded framework for understanding and developing leadership in public sector networks.

This chapter first presents the key findings and conclusions of Chapters 2, 3, 4, and 5 in Section 6.1. Section 6.2 offers a critical reflection on these findings, elaborating on their implications for the study of leadership in networks. The limitations of this research and recommendations for future studies are discussed in Section 6.3. Finally, Section 6.4 outlines the practical implications of this study.

6.1 Main findings

This dissertation used Yukl's organization-focused definition of leadership as its starting point, in which leadership is defined as *"the process of influencing others to understand and agree on what needs to be done and how to do it, as well as the process of facilitating individual and collective efforts to accomplish shared objectives"* (Yukl, 2012). Within network contexts, this process requires balancing organizational goals with shared network objectives (Lemaire 2020).

The definition employed in this study emphasizes the processual and behavioral nature of leadership, making it particularly suited to networked settings. Unlike individual organizations, which are characterized by hierarchical structures, formal leadership positions, and structured tools to motivate employees, networks consist of horizontal relationships between equal partners (O'Toole Jr. 1997; Klijn and Skelcher 2007). Consequently, network settings do not inherently include predefined formal leadership positions, allowing multiple actors to influence one another through leadership behaviors.

6.1.1 Current academic landscape on leadership in networks: conceptually divided

In the current body of literature, leadership in networks is understood in different ways depending on the underlying assumptions about who leads, toward what purpose, and in which context. Table 6.1 below presents a simplified typology that distinguishes between networking and network management theory, leadership theory and collaborative governance theory.

Table 6.1 *Typology of branches of literature involved in network leadership research*

Branch of literature	Leadership focus	Goal	Context	(Main) missing element
Networking	Boundary spanners and brokers	Organizational goals	Organizational	Collective goals
Network management	Network manager	Network goals	Network	Recognition of shared/ distributed leadership
Leadership	Individual and collective	Organizational goals	Organizational	Application to network context
Network governance	Roles/functions	Shared network goals	Network	Behavioral lens

Each of these literatures emphasizes different aspects of leadership. Networking theory tends to focus on the strategic behavior of a single actor, often termed a boundary spanner or broker, who represents an organization and pursues organizational goals through building connections (Van Meerkerk and Edelenbos 2018; Meier and O'Toole 2005). Similarly, network management theory views leadership as a strategic coordination function, often still located in a central figure such as the network manager, but oriented toward enabling the network as a whole to achieve shared goals (Agranoff and McGuire,

2001). The subject of study here is the network itself, with leadership positioned as a boundary-crossing and facilitating activity. By contrast, leadership theory conceptualizes leadership as the influence of a range of actors: individual leaders or collective forms such as shared or distributed leadership (Denis et al., 2012). Yet, this branch of literature has mainly focused on the context of formal organizations and their goals. Lastly, network governance theory often recognizes leadership implicitly—through roles such as sponsor, catalyst, or steward (Ansell and Gash, 2008)—but tends to treat it as a contextual or enabling factor rather than as a central object of study. Moreover, leadership is usually not studied as behavior, but as function or role, often linked to legitimacy and capacity-building in collaborative settings.

Each of these theoretical strands offers valuable insights into leadership in the context of networks, yet none provides a complete conceptual account. Networking theory contributes an understanding of how individuals engage in network relations, but its predominant focus on organizational self-interest limits attention to collective network goals. Network management theory, while helpful in identifying coordination strategies, falls short in capturing the dynamic, emergent, and distributed nature of leadership as it unfolds across actors. Leadership theory, for its part, offers a rich behavioral lens, but is largely grounded in intra-organizational settings and lacks sensitivity to the structural and relational complexities of networks. Finally, collaborative governance theory has deepened our understanding of network functioning and institutional design, but often treats leadership as a functional role or enabling condition rather than as an observable, enacted behavior. Together, these limitations highlight the need for an integrative approach that brings together behavioral, relational, and contextual dimensions of leadership in networks.

6.1.2 Conceptualization of leadership: behaviors, distribution and direction matter

To examine how leadership manifests in networks, Chapter 2 provided a conceptual framework based on a literature review and a multiple case study of three networks in the Netherlands. This framework shows how leadership in networks takes shape through four behavioral orientations—task-, relations-, change-, and externally oriented leadership—and how these behaviors can vary in direction (toward one's own organization, other network members, or external stakeholders) and distribution across actors. In its design, this conceptual framework builds on Yukl's taxonomy of leadership behaviors (2012) and demonstrates how this taxonomy is applicable to the context of networks. It also builds on contemporary approaches to leadership that highlight leadership as a shared or

distributed process in which multiple actors participate (Uhl-Bien et al. 2007). Importantly, the findings of Chapter 2 indicate notable differences in leadership configurations across networks with distinct structural and functional characteristics, leading to theoretical propositions regarding the role of network properties—such as governance form, legal basis, function, and diversity—in shaping leadership processes. In doing so, this study reinforces previous calls to incorporate contextual factors in leadership research (Schmidt and Groeneveld, 2021; Stoker, Garretsen and Soudis, 2019; Van der Hoek, Beerkens and Groeneveld, 2021).

6.1.3 Antecedents of leadership: organization-level factors

Building on the findings of the previous study, which indicated that contextual factors may influence leadership in networks, Chapter 3 examined how organization-level factors shape network leadership through an in-depth single-case study. Interviews with network participants at both strategic and tactical levels identified nine organizational factors that either enable or constrain individuals in demonstrating leadership within network settings. Consequently, the leadership behaviors exhibited by individual network members contribute to varying degrees of leadership concentration and differing levels of commitment to collective or organizational goals within networks. These findings connect earlier studies on the inherent characteristics of public sector management (Rainey, 2009; Boyne, 2002) with insights from boundary spanning research (Van Meerkerk and Edelenbos, 2018), and indicate that network leadership is not only shaped within the network itself, but also by the organizational setting from which participants operate. The study suggests that organizations play a role in enhancing or reducing leadership engagement in networks by the way they structure incentives, expectations, and resources in their own organization. This dual embeddedness of leadership—within the network and the home organization—has important implications for leadership development. It suggests that supporting leadership in public sector networks requires targeted attention to both levels. Within organizations, this means creating conditions that enable staff to act beyond institutional boundaries: aligning incentives with the network, clarifying expectations, and legitimizing boundary-spanning roles. In the network, it requires network participants to put effort into building trust, developing a shared view of the common goal orientation, and organizing operational capacity.

6.1.4 Effects of leadership on the collaborative process

Another key gap in the literature concerned the effects of leadership on collaborative processes in networks. To address this, Chapter 4 explored leadership as an independent

variable and its influence on three key elements of the collaborative process: operational capacity, member relations, and (common) goal orientation. Using a mixed-methods approach that combined survey data with semi-structured interviews, the study finds that leadership is positively associated with the collaborative process. Specifically, relations-oriented leadership is shown to be positively associated with member relations within networks. The study also found that leadership behaviors are interrelated, which highlights the need for additional hypothesis testing. The main contribution of this study is that it provides insights into the relationships between leadership and network collaboration.

6.1.5 Developing leadership in networks

Having established the manifestation, antecedents, and effects of leadership in networks, Chapter 5 explored the development of an intervention designed to support participants in cultivating leadership within their respective networks. In doing so, this study contributes to recent developments in leadership development theory (Day et al., 2021; Ospina et al., 2020), which argue for a broader, process-based view of leadership development in collective settings – rather than focusing on the development of individual 'high potentials.' Employing Design Science as its methodological framework, the study designed and tested an intervention through focus groups, a survey, and group interviews. Following from the analysis, the tool enables network participants to specify how they perceive the collaboration and which leadership behaviors they believe are being demonstrated or are lacking.

6.1.6 General conclusion

Together**,** these four studies show that leadership as enacted through task-, relations-, change-, and externally oriented behaviors enhances collaboration in public sector networks. Leadership contributes to a common goal orientation, operational capacity, and improved member relations – the basis for joint network collaboration. For networks to reach their leadership potential, it is important that organizations pay attention to the ways in which they encourage or hinder network collaboration by their own employees. Moreover, this dissertation demonstrates that leadership in networks can be developed through structured reflection, recognition, awareness and understanding of leadership in networks. The intervention developed through this dissertation helps to make leadership processes visible and discussable among network members.

Figure 6.1 visualizes these main findings in a comprehensive framework. This comprehensive framework illustrates and defines leadership in networks as a recursive process in which

multiple actors use behaviors to influence each other, their own organizations and the external environment in order to attain both organizational and collective (network) goals. In this environment, network members are confined by both their organizational context and the structural characteristics of the network. Within this context, leadership emerges through behaviors used by network members. This process can either be more concentrated, in which certain network members exhibit more leadership behavior than others, or more shared among network members. These leadership behaviors interact with dimensions of the collaborative process – member relations, operational capacity and a common goal orientation – in an iterative and recursive process. The intervention developed in Chapter 5 demonstrated that network leadership can be developed through enhancing network members' knowledge of the functioning of networks, reflections on the current quality of the collaborative process, as well as recognition of the role of leadership and awareness of each members' contribution to leadership in the network.

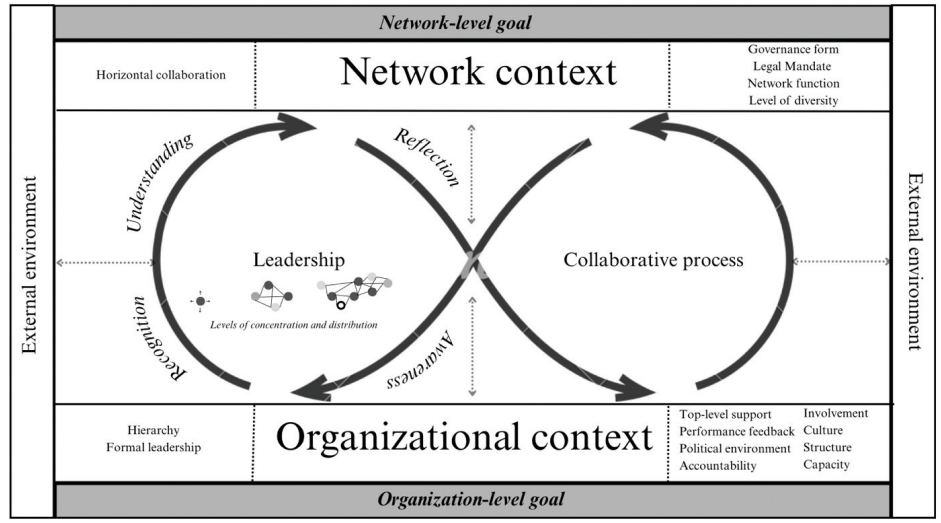

Figure 6.1: Comprehensive framework of leadership in public sector networks

In sum, this dissertation responded directly to the core academic puzzle by bridging and advancing four strands of literature. First, it extended leadership theory into the underexplored context of interorganizational networks, where leadership emerges as a more concentrated or more distributed, behavioral process. It advanced network management theory by shifting attention from individual actors to leadership by multiple network members, for the benefit of the network as a whole. It enriched collaborative governance theory by offering a behavioral framework to study leadership empirically, beyond

abstract roles or structures. Finally, it contributed to leadership development theory by demonstrating how leadership can be developed within networks, through a reflective, practice-based intervention. Taken together, these contributions provide a comprehensive and empirically grounded understanding of how leadership enhances collaboration in public sector networks—and how it can be supported in both theory and practice.

6.2 Discussion

This dissertation offers several insights for understanding and researching leadership in public sector networks. To reflect on the broader implications of these findings, the discussion is organized around three themes: (1) conceptualizing leadership in public sector networks, (2) the relationship between leadership and context, and (3) the development of leadership in networks.

6.2.1 Conceptualizing leadership in public sector networks

This dissertation contributes to a broader, behavioral, and context-sensitive understanding of leadership in public sector networks—responding to the four gaps identified in the introductory chapter. Specifically, the findings contribute to four theoretical branches: leadership, network management, collaborative governance, and leadership development theory.

Firstly, this dissertation builds on *leadership theory* by using modern approaches to leadership theory that suggest that leadership is best understood as a behavioral process rather than a role or individual trait (Yukl, 2012; Uhl-Bien et al., 2007; Denis et al., 2012; Gronn, 2002; Spillane, 2006). By empirically applying a four-part taxonomy of leadership behaviors—task-, relations-, change-, and externally oriented—the research has illustrated how leadership manifests in public sector networks. This behavioral lens proved analytically productive because it allows researchers to study leadership where formal authority is absent, while also highlighting how influence is enacted through behavior. To leadership research, the conceptual framework in Chapter 1 provides leadership scholars a framework for identifying and comparing leadership across network settings. The findings also prompt a refinement of Yukl's (2012) leadership taxonomy. While the framework was analytically useful, the concept of "external orientation" requires adjustment in network settings. In these settings, leadership flows in multiple directions: inward toward one's organization, across network actors, and outward toward external stakeholders. A more nuanced

understanding of directionality would therefore benefit leadership theory in networked contexts.

At the same time, the findings nuance idealized portrayals of networks as purely horizontal. While the structure of networks allows for collaboration, leadership can still concentrate in particular actors—such as network coordinators or initiators—who are seen as legitimate sources of direction. This echoes earlier work in *network management literature* (Provan and Kenis, 2008; Klijn, Steijn and Edelenbos, 2010; McGuire and Silvia, 2009; Kickert, Klijn and Koppenjan, 1997), which highlights the role of coordination mechanisms and managerial influence. This study adds a behavioral dimension to those structural insights: even in settings with a less hierarchical basis, actors can still interpret leadership through the lens of formal roles. On the other hand, however, the behavioral lens allowed us to understand the crucial role members have without formal roles, as Chapter 2 indicated opportunities for relations- and change-oriented leadership for members without a formal leadership role.

To *collaborative governance literature*, this dissertation has shown the value of a behavioral perspective on leadership in the context of networks. However, an interesting remark can be made about the observability of leadership behavior. Throughout the individual studies, respondents found it hard to observe, articulate, and reflect on leadership behavior. Respondents often did not recognize their own leadership behaviors, which points to a broader issue: leadership in collaborative governance is enacted but not always perceived or noticed. This may result in unrecognized and underutilized leadership potential. Structured moments of reflection—as facilitated by the intervention in Chapter 5—helped network members surface, name, and evaluate leadership dynamics, making these processes more explicit and actionable.

In sum, this theme contributes to leadership theory by expanding behavioral approaches to non-hierarchical settings; to network management by expanding its scope from network managers to all members; and to collaborative governance by surfacing the invisibility of leadership as a practical and conceptual challenge. In doing so, this dissertation also supports the call for better integration between leadership theory and network or collaborative governance theory. As Ospina (2016) argues, leadership in public networks is often shared, relational, and shaped by context, but these features are still underdeveloped in both fields. By showing how leadership depends on network structure, function, and

organizational context, this study helps to bring these fields closer together and contributes to a more connected and practical understanding of leadership in collaborative settings.

6.2.2 The relationship between leadership and context

This dissertation underscores that leadership in interorganizational networks is fundamentally shaped by context. Responding to longstanding concerns about the neglect of context in leadership research (Johns, 2006, 2024; Oc, 2018), this study shows that both network- and organization-level factors are essential for understanding how leadership emerges and unfolds in network settings.

Apparent in Chapter 2, this dissertation proposed that network-level factors such as governance form (e.g., NAO, lead organization, or self-regulated structures), legal status, member diversity, and network function interact with leadership dynamics. From Chapter 3, it has become clear that organization-level factors such as internal management features and public organization traits interact with leadership in networks. Other organizational contextual elements, such as involvement in network tasks, organizational culture, structural arrangements, and operational capacity, further condition the ability of actors to exert or respond to leadership.

Throughout the dissertation, it thus became clear that leadership in networks is closely connected to leadership within organizations. Network participants do not operate in a vacuum—they bring with them the constraints, expectations, and incentives of their home organizations. Often, organizational priorities dominate, making it difficult to fully commit to collective goals at the network level. The findings of Chapter 3 suggest that barriers within organizations can directly inhibit leadership engagement in networks. When employees are evaluated primarily on organizational KPIs, for instance, cross-boundary collaboration may seem like a secondary concern.

Conversely, this dissertation shows that organizations have considerable potential to foster leadership in networks, by creating enabling conditions and sending consistent signals that leadership behaviors beyond organizational boundaries are valued. This begins with alignment between internal and network goals and includes practical support, such as time, autonomy, and recognition for those active in interorganizational collaboration. These findings contribute to network and public management literature by showing how intra-organizational leadership conditions can shape network-level engagement.

6.2.3 The development of leadership in networks

As follows from Chapter 5, leadership development efforts have long primarily focused on internal organizational management, which is logical given traditional leadership paradigms. However, leadership training that extends beyond organizational boundaries into networks is scarce, and has only recently received attention (Grøn et al., 2024).

This dissertation contributes to *leadership development literature* by offering a context-specific intervention aimed at enhancing leadership awareness and capacity in networks. Drawing on Design Science (Johannesson and Perjons, 2014) the intervention provided participants with space to reflect on who leads, how leadership is distributed, and what kind of leadership the network needs.

This dissertation also contributes to the modest, yet growing literature on leadership development for interorganizational collaboration. While Grøn et al. (2024) demonstrate the value of leadership training for formal public managers in improving coordination across organizational boundaries, the intervention in Chapter 5 took a different approach. Rather than focusing solely on skill development among formal leaders, the intervention developed and tested in this study involved all members of the collaborative network. This approach aligned with recent scholarship emphasizing that leadership development must move beyond individualized competencies to foster relational leadership in collectives (Eva et al., 2021). Getha-Taylor and Morse (2013) similarly argue that leadership development for collaborative governance should emphasize reflective practice and involve all participants, not just formal leaders. By organizing a collective reflection process that engaged the full range of network participants, this approach emphasized the network as the unit of analysis, in which participants learn collectively. In doing so, this intervention closely matches recent leadership research, which emphasizes the relational and distributed nature of leadership (Day, Riggio, Tan, & Conger, 2021; Denis, Langley, & Sergi, 2012).

Together, the findings of this dissertation highlight that leadership in networks is context-dependent, behaviorally enacted, and unevenly distributed—requiring active support and structured reflection to flourish. They offer theoretical contributions to four literatures by providing a cross-cutting behavioral perspective and practical implications for supporting leadership in collaborative governance

6.3 Research limitations and avenues for future research

This dissertation set out to explore leadership within interorganizational networks, a subject that, as outlined in the introduction, presents several methodological and practical challenges. These challenges relate both to the complexity of conceptualizing and measuring leadership and to the specific characteristics of networks, such as unclear membership boundaries and high degrees of difference among participants (Kerrissey, Satterstrom and Edmondson 2020; Voets, Koliba and Keast 2019; Huxham and Vangen, 2000). Throughout the dissertation, these challenges have been addressed through a multi-method research design, aimed at ensuring robustness in data collection and analysis.

Even with thoughtful research design, a few challenges remained. First of all, a fundamental question when empirically studying a network turned out to be determining where an organization ends and the network begins. This study primarily focused on formal, institutionally recognized networks, as they were easier to identify and observe. However, this focus may limit the theoretical and empirical generalizability of the findings. Informal or ad hoc collaborations—such as temporary working groups or loosely coordinated task forces—may involve different leadership dynamics that are less visible or more fluid than those captured in this study. Future research should explicitly examine informal network settings to assess whether the leadership behaviors and patterns identified here also emerge in less formalized collaborations. This would not only strengthen the empirical basis for a behavioral understanding of leadership in networks but also help refine theory to account for variation in formalization, visibility, and actor engagement across different types of collaborative arrangements.

A second challenge concerned the issue of comparability across network cases. Each network studied in this dissertation differed in terms of governance form, size, purpose and composition. This variability made it difficult to draw cross-case conclusions—particularly in relation to how leadership behaviors manifest in different network configurations. While the diversity of cases enriched the empirical depth of this research, it also limited the extent to which findings could be generalized across network types. This was especially relevant in relation to the findings in Chapters 2 and 4, which aimed to identify leadership behaviors and link them to the quality of the collaborative process.

Another related difficulty was the time-intensive nature of network mapping. Because networks often lack fixed boundaries and formalized membership, it was challenging to

identify relevant actors and trace patterns of interaction. These two issues—comparability and resource intensity—highlight a broader challenge for the field: the difficulty of producing cumulative knowledge in network research based on individual studies.

To address this, this dissertation advocates for increased collaboration among scholars studying leadership in networks. By pooling empirical data, sharing network cases, and coordinating measurement strategies, researchers can build more robust comparative datasets and jointly develop shared frameworks for analyzing leadership across diverse network types. This recommendation echoes the call by Kerrissey, Satterstrom, and Edmondson (2020), who argue—in the context of studying dynamic team configurations—that collaborative research efforts are essential to account for the fluid, complex nature of cross-boundary work. In a similar vein, such collaboration can enhance methodological consistency, support theoretical refinement, and enable more systematic comparison across network settings.

Establishing the effects of leadership within networks also proved to be a complex methodological challenge. A central issue was the question of causality: does leadership influence the quality of collaboration, or do well-functioning collaborative processes enable the emergence of effective leadership? This dissertation did not aim to definitively resolve this "chicken-and-egg" dilemma, but rather to take empirical steps toward disentangling this relationship.

In particular, Chapter 4 addressed this issue most explicitly by examining associations between four types of leadership behavior and three key dimensions of collaborative processes—operational capacity, member relations, and goal orientation—using a mixed-methods design. While this design allowed for triangulation and richer interpretation, it did not support causal inference in a strict sense. Rather, it generated initial empirical insights into how leadership behaviors relate to collaboration quality, laying the groundwork for future longitudinal or experimental designs.

The leadership intervention presented in Chapter 5 was not designed to establish causal relationships, but rather to facilitate reflection among network participants on their collaborative dynamics and leadership patterns. While this tool can deepen understanding of participants' perceptions and behaviors, it complicates rather than clarifies causal inference, as it actively intervenes in the system being observed. Nonetheless, future research could build on this intervention by applying it in multiple cases over time, allowing

for comparisons across settings or pre-post analyses. Such designs could eventually help clarify how leadership practices evolve in relation to collaboration outcomes.

Lastly, finding respondents who could reflect on leadership over extended periods proved challenging, as network compositions frequently change due to staff turnover, project cycles, or shifting priorities (Huxham and Vangen, 2000; Mandell and Keast, 2008). This dissertation captured networks largely at a single moment in time, which limited the ability to assess long-term dynamics or causally trace how leadership develops in relation to collaboration outcomes.

Nevertheless, the empirical chapters did seek to incorporate a reflection on the time dimension where possible. In the interviews, respondents were invited to reflect not only on their current experiences but also on changes over time—in leadership practices and network dynamics. Furthermore, the intervention study presented in Chapter 5 introduced a limited longitudinal dimension, as participants engaged with the tool over multiple sessions and were prompted to consider how leadership and collaboration evolved throughout the time between both sessions.

Still, these elements cannot substitute for fully longitudinal research designs, which remain scarce in the literature but are essential for understanding the developmental nature of leadership in networks (Cullen-Lester and Yammarino, 2016; Ospina et al., 2020). Future studies should therefore adopt designs that follow networks over time, through multiple data collection waves or embedded ethnographies, to explore how leadership unfolds in response to contextual change, crises, or growth.

Finally, data collection was affected by the COVID-19 pandemic. This issue was especially salient in the first three studies, yet no longer prevalent in the fourth study. The reliance on online communication limited opportunities to observe leadership in physical settings, which may have influenced the findings. On the other hand, the increase of online collaboration opens up a new research agenda explicating the role of leadership in network collaboration in online and hybrid contexts.

6.4 Practical implications

To finalize this dissertation, I offer several recommendations for organizations and practitioners seeking to foster leadership in networked governance contexts.

First, it is essential to make leadership in networks explicit. Too often, leadership remains an implicit or invisible force in collaborative settings. Organizations and networks should create space to reflect with network participants on the presence—or absence—of leadership in their collaboration. This includes discussing how leadership is distributed across actors, who exhibits or should exhibit leadership, and what types of leadership behaviors (Task-, relations, change- and externally oriented) the network requires to function effectively. The serious game discussed in Chapter 5, is explicitly designed to help network members open up about these matters, thereby stimulating network members to collectively reflect on the subject of leadership and its effects on inter-organizational collaborative process.

Second, organizations should invest in raising awareness about the mutual interdependence between organizations and the networks in which they operate. As demonstrated in Chapter 3, organizational structures, norms, and practices can either constrain or enable leadership within networks. This underscores the need for public organizations to recognize that leadership in networks is not isolated from internal-organizational dynamics, but is influenced by them. One way to foster this awareness is through leadership development initiatives that explicitly address the unique challenges of leadership in networked environments. Currently, many leadership programs remain oriented toward traditional hierarchical contexts and do not equip public professionals for the relational, boundary-crossing, and often informal leadership required in interorganizational settings. And if they do, they predominantly focus on how networks can be steered towards organizational goals. Including network leadership in the curriculum can help close this gap and help network members harmonize organizational and network goals.

Third, it is important to broaden access to leadership development beyond formal leaders. In networks, leadership is often enacted by those without positional authority. Therefore, organizations should encourage all employees—regardless of their role or title—to explore and strengthen their leadership capacities. This inclusive approach aligns with the distributed nature of leadership in networks and recognizes the leadership potential present across professional boundaries. Chapter 1, which presents a conceptual model in which leadership behaviors, distributions and directions are provided, offers practitioners a helpful tool in identifying leadership in their network and how they could contribute to it.

Finally, practitioners should invest time – for instance through the intervention developed in this study - in identifying and applying specific leadership behaviors that enhance

collaboration in their networks. This includes task-oriented behaviors that provide direction and clarity, relationship-oriented behaviors that build trust and cohesion, change-oriented behaviors that stimulate innovation, and externally oriented behaviors that connect the network to its broader environment. Understanding which of these behaviors are most needed—and by whom—can help improve the network's collective performance and its ability to create public value.

Together, these recommendations emphasize that leadership in networks is not a given, but a capacity that must be made visible, developed intentionally, and shared broadly both within organizations as well as within networks themselves.

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A

Addendum

Appendix A: Chapter 2

A.1. Interview protocol

1. Introductory Questions:

- Could you briefly introduce yourself?
- In what way were/are you involved in [name of case]?
- How would you describe [name of case]?
- Can you tell more about the conditions and 'rules of the game' of the collaboration? (Is it formal/informal, what are the communication channels, who is/isn't allowed to participate? Is there a secretariat or a lead organization?)

2. Substantive Questions:

Collaboration and public value / common goal:

- Why does this collaboration exist? How would you describe 'the purpose' or the 'societal task' of [name of case]?
- From what objective was/is your organization involved in [name of case]?
- Follow-up question: Has this always been the case (since your involvement), or do you see changes or phases in this?

Leadership (general)

- Was/is there leadership in [name of case]?
- If so, who or what exercised that leadership?
- Is this leadership formally established, or is this your own interpretation?
- Was/is there also a lack of leadership in certain areas?
- If so, can you indicate where that lack occurred/occurs?
- Follow-up question: Can you describe a specific situation in which the leadership manifested itself? How did it show?
- Follow-up question: Has this always been the case (since your involvement), or do you see changes or phases in this?

Leadership and creating a common goal/shared purpose:

- Did the purpose of the collaboration feel 'shared' with other partners?
- In what way did that purpose feel shared?
- What did the [leader(s)] do to stimulate that shared purpose?

- Follow-up question: Has this always been the case (since your involvement), or do you see changes or phases in this?
- Follow-up question: Can you describe a specific situation in which leadership manifested itself to stimulate the purpose?

Other good practices and/or barriers in the collaboration:

- How do/did you experience the collaboration with the partner(s)?
- What challenges did you encounter during the collaboration?
- Follow-up question: Has this always been the case (since your involvement), or do you see changes or phases in this?
- Follow-up question: Can you describe a specific situation in which this challenge manifested? How did you deal with it yourself?

3. Concluding

- Is there anything you would like to add that has not yet been discussed during the interview?
- Who else should I interview for this research?
- How would you like to be kept informed about this research?

Appendix B: Chapter 3

B.1. Interview protocol

1. Questions for Introduction:

- Could you briefly introduce yourself?
- In what way were/are you involved in [NAME NETWORK]?
- How would you describe [NAME NETWORK]?
- Could you tell more about the conditions and 'rules of the game' of the collaboration? (Is it formal/informal? What communication tools are used? Who is allowed/not allowed to participate? Is there a secretariat or lead organization?)

2. Substantive Questions:

Collaboration and the 'shared purpose'/common goal orientation:

- Why does this network exist? How would you describe the 'purpose' or the 'societal challenge' of [NAME NETWORK]?
- From which objective was/is your organization involved in [NAME NETWORK]?
- Follow-up question: Has this always been the case (since your involvement), or have you seen changes or phases?

Leadership (General)

- Was/is there leadership in [NAME NETWORK]?
- If so, who or what exercised that leadership?
- Is this leadership formally established, or is that your interpretation?
- Was/is there also a lack of leadership at certain points?
- If so, can you indicate where this lack occurred?
- Follow-up question: Can you describe a specific situation in which leadership manifested itself? How did it show?
- Follow-up question: Has this always been the case (since your involvement), or have you seen changes or phases?

Leadership behaviors:

The respondent was asked to reflect on whether the following leadership behaviors occurred in the network. The researcher provided a brief description of the type of behavior, with examples.

- Task-oriented behavior
- Relations-oriented behavior
- Change-oriented behavior
- Externally-oriented behavior

Follow-up questions on leadership behavior:

- Who demonstrated that behavior?
- What did that person do? Can you explain how they did it?
- Has this always been the case (since your involvement), or have you seen changes or phases?

Other good practices and/or barriers in the collaboration

- How do/did you experience the collaboration with the partners?
- What challenges did you encounter during the collaboration?
- Follow-up question: Has this always been the case (since your involvement), or have you seen changes or phases?
- Follow-up question: Can you describe a specific situation in which this challenge manifested? How did you handle it?

3. Concluding questions

- Is there anything else you would like to add that hasn't been discussed yet?
- Who else should I interview for this research?
- How would you like to be kept informed about this research?

Appendix C: Chapter 4

C.1. Survey items

For each of the variables, survey items were developed on the basis of existing (validated) scales, if available. To assess validity, an exploratory factor analysis was conducted, followed by a reliability analysis of selected items.

Leadership

To measure the independent variable 'leadership' Yukl's taxonomy of leadership behaviors was used, which distinguishes task-, relations-, change-, and externally oriented behaviors. For each sub-category of leadership behaviors, multiple items were developed. For each of these behaviors, respondents were required to indicate the frequency in which the behavior was displayed – not specifying who displays the behavior. Response options ranged on a six-point scale from "Never" to "Always" and included the option not to answer.

Task-oriented leadership

The task-oriented leadership subscale consisted of 9 items (α = 0.863). The items aimed to measure the following behaviors: clarifying, planning, monitoring operations and technical problem solving.

Relations-oriented leadership

The relations-oriented leadership subscale consisted of 11 items (α =.910). The items aimed to measure supporting behaviors, helping others to develop skills, recognizing efforts and empowering others.

Change-oriented leadership

The change-oriented leadership subscale consisted of 6 items (α =.855). The items aimed to measure the following behaviors: advocating and envisioning change, encouraging collective learning and encouraging innovation. An exploratory factor analysis confirmed the compatibility of the survey items.

Externally-oriented leadership

The Externally-oriented leadership subscale consisted of 4 items (α =.908) measuring three types of behaviors: networking, external monitoring and representing. An exploratory factor analysis confirmed the compatibility of the survey items.

Collaborative process in inter-organizational networks

Operational capacity

The measurement of dependent variable "operational capacity" consisted of five items measuring clarity (formalization) and resource munificence. One item was retrieved from a validated measurement scale by Wageman, Hackman and Lehman (2005). Due to the unavailability of existing scales, the authors formulated four other items. Response options ranged on a five-point scale from "I completely disagree" to "I completely agree" and included the option not to answer. The scale has a reliability score of Cronbach's α = .701.

Member relations

Member relations were measured through three dimensions: psychological safety, trust and shared identity.

Psychological safety

The measurement of psychological safety is based on four items developed by Edmondson (1999), though slightly altered to include 'networks' rather than 'teams.' Response options ranged on a five-point scale from "I completely disagree" to "I completely agree" and included the option not to answer. This scale has a reliability score of Cronbach's α = .753.

Trust

The dependent variable 'trust' was measured through five survey items developed by Klijn, Edelenbos and Steijn (2010) which measure agreement trust, benefit of the doubt, reliability, absence of opportunistic behavior, and goodwill trust. Response options ranged on a five-point scale from "I completely disagree" to "I completely agree" and included the option not to answer. This scale has a reliability score of Cronbach's α = .797.

Shared identity

The measurement of shared identity was based on a scale of group identification by Henry, Arrow and Carini (1999) which measure both affective, behavioral and cognitive conceptualizations of a shared identity. Response options ranged on a five-point scale from "I completely disagree" to "I completely agree" and included the option not to answer. This scale has a reliability score of Cronbach's α = .837.

Goal orientation

(Common) goal orientation was measured through three dimensions: mutual interdependence, joint problem solving orientation and (goal) commitment.

Mutual interdependence

To measure interdependence, the survey included items measuring both task and goal interdependence.

Two items were retrieved from Wageman, Hackman and Lehman (2005), and two items were retrieved from Pee, Kankanhalli and Kim (2010). Response options ranged on a five-point scale from "I completely disagree" to "I completely agree" and included the option not to answer. This scale has a reliability score of Cronbach's $\alpha = .674$.

Joint Problem-Solving Orientation

The variable 'joint problem solving orientation' was measured through translated survey items from Kerrissey et al (2010). Response options ranged on a five-point scale from "I completely disagree" to "I completely agree" and included the option not to answer. This scale has a reliability score of Cronbach's $\alpha = .810$.

Goal commitment

The dependent variable 'goal commitment' was measured through four items developed by Klein et al. (2014). Response options ranged on a five-point scale from "Not at all" to "Very strongly" and included the option not to answer. This scale has a reliability score of Cronbach's $\alpha = .865$.

Control variables

To control for team factors that are not included in the conceptual model, the following control variables were included: *gender, age, position of the respondent (managerial or non-managerial), network layer* (strategic/tactical), and *time spent* on the network according to the respondent.

Overview of variables quantitative survey

Variable	Survey items	Cronbach's alpha
Task-oriented leadership	Clarifying responsibilities of partners in the network	0.863
	Dividing tasks among partners in the network	
	Setting targets and deadlines for the partners	
	Sending relevant information to partners	
	Identifying required actions to achieve common goals	
	Monitoring progress regarding agreements made	
	Identifying bottlenecks in the collaborative process	
	Evaluating the quality of the collective work	
	Sharing organizational capacity for the benefit of the network	
Relations-oriented leadership	Emphasizing collaborative successes ('we have done X well!")	0.910
	Complimenting partners for their efforts	
	Offering assistance to partners when they experience a bottleneck in the collaboration	
	Taking the initiative to get to know partners better outside of meetings.	
	Showing empathy when a partner experiences a bottleneck in the collaboration	
	Delving into the context of partner organizations (such as legal frameworks) to better understand partners	
	Asking partners to provide input on a proposal	
	Showing interest in the perspectives of other members.	
	Asking partners what their needs are regarding the collaboration	
	Asking partners how they see 'the purpose' or 'the task' of the collaboration	
	Emphasizing what partners have in common with each other	
Change-oriented leadership	Emphasizing the common goal	0.855
	Describing a vision of what the network could achieve for the target group	
	Emphasizing the added benefits of collaboration in tackling the societal problem	
	Encouraging a change of the networks' modus operandi	
	Encouraging partners to do more than strictly required	
	Making partners aware of potential chances or risks for the network	

Overview of variables quantitative survey (continued)

Variable	Survey items	Cronbach's alpha
Externally-oriented leadership	Initiating external relations in order to gather budget or expertise for the benefit of the network.	0.908
	Identifying new potential network partners.	
	Initiating relationships with potential network partners.	
	Using your own professional network to provide new knowledge to the network.	
Operational capacity	It is clear what everyone's tasks is in the network to achieve the common goal.	.701
	The knowledge of each partner is utilized.	
	The network has sufficient administrative support to facilitate the collaboration	
	The network has sufficient resources to achieve the common goal.	
	Formal agreements in this network clarify our collective course of action.	
Member relations: trust	The parties in this project generally live up to the agreements made with each other.	0.797
	The parties in this project give one another the benefit of the doubt.	
	The parties in this project keep in mind the intentions of the other parties.	
	Parties do not use the contributions of other actors for their own advantage.	
	Parties in this project can assume that the intentions of the other parties are good in principle.	
Member relations: psychological safety	I feel I can bring up problems and tough issues with the other party.	0.753
	I feel the other party would not deliberately act in a way that undermines my efforts.	
	If you make a mistake, the other party often holds it against you.	
	It isn't difficult to ask other members of this network for help.	
Member relations: shared identity	I see myself as quite similar to other members of the group	0.837
	I enjoy interacting with the members of this group	
	Members of this group like one another	
	I think of this group as part of who I am	

Overview of variables quantitative survey (continued)

Variable	Survey items	Cronbach's alpha
Goal orientation: Joint Problem-Solving Orientation	I view the other parties as true partners	0.810
	We always ask one another questions to understand how best to proceed	
	Each party offers important points to help our work together proceed	
	We invite one another to be part of the problem-solving process	
Goal orientation: mutual interdependence	Members of this team had their own individual jobs to do, with little need for them to work together (reverse coded).	0.674
	Generating the outcome or product required a great deal of communication and coordination among members.	
	The [partners'] task completion often depends on [my tasks]	
	I depend on [the partners'] task completion.	
Goal orientation: commitment	How committed are you to [this target]?	0.865
	To what extent do you care about [this target]?	
	How dedicated are you to [your/the/this] [target]?	
	To what extent have you chosen to be committed to [your/the/this] [target]?	

Appendix D: Chapter 5

D.1. Topic list focus groups

Part 1: Understanding Leadership Needs in Network Contexts

1.1 Perceptions of Network Leadership

- What comes to mind when you hear the term leadership in networks?
  Probes: Who provides leadership? What does it look like in practice?

1.2 Ideal Role of Leadership

- In your view, what role should leadership ideally play in a network or collaborative chain?
  Probes: Is it about creating consensus, connecting stakeholders, securing resources?

1.3 Organizational Support

- How does your organization support you in working within networks or collaborative chains?
  Probes: Are there training opportunities? Do you receive support from your manager?

1.4 Leadership Challenges

- What kinds of leadership challenges do you encounter in network settings?
  Probes: Lack of leadership, unclear responsibilities, dominant or competitive behavior between organizations?

1.5 Collaboration Barriers

- Have you encountered obstacles in collaborating with chain/network partners?
  Probes: Relational issues (lack of initiative, finger-pointing), resource issues (personnel or budget shortages), lack of consensus on shared goals?

1.6 Knowledge Needs

- What kind of knowledge about leadership in networks and chains would be useful to you?
  Probes: Awareness of leadership dynamics, understanding different types of leadership behavior, practical strategies for applying leadership?

Part 2: Practical Requirements for the Intervention

2.1 Desired Impact of the Intervention

- What outcomes or effects would you like a leadership intervention to achieve?
  Probes: Raising awareness, challenging taboos, identifying blind spots, surfacing sensitive issues?

2.2 Preferred Format

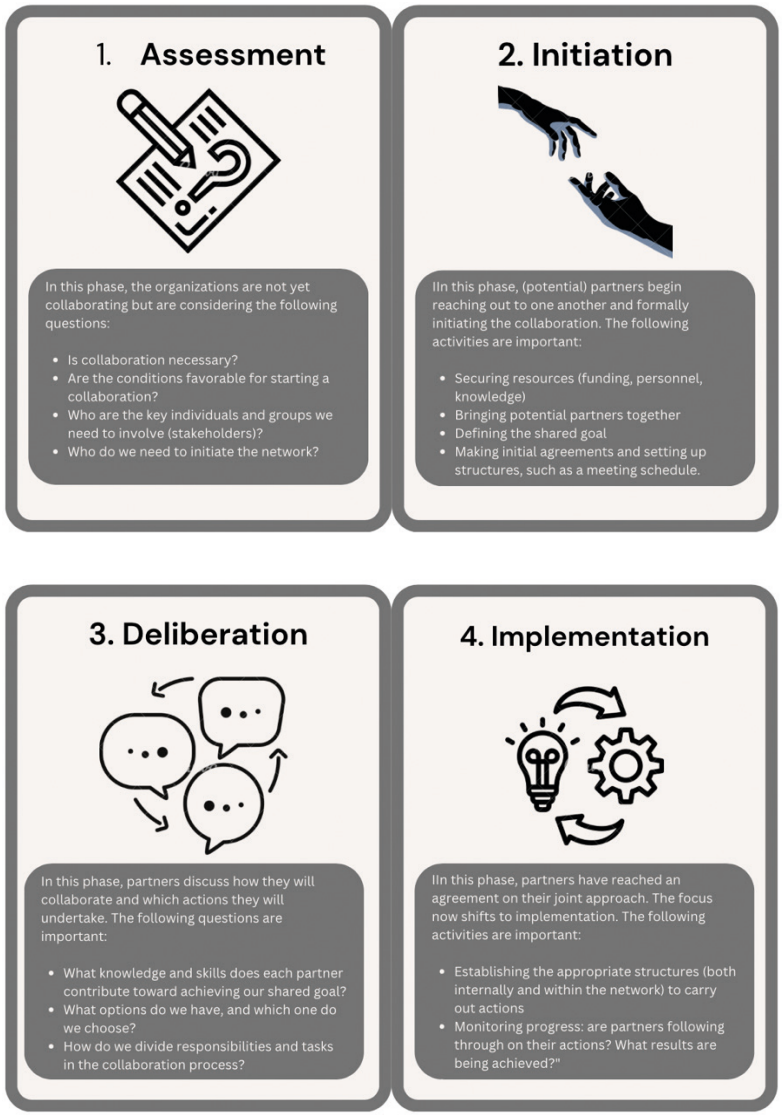
- What kind of intervention format would you prefer?
  Probes: Card game, digital game, board game, role play, virtual reality (VR)?
  Probes: Should it target individuals or groups?
  Probes: Should it involve realistic cases or simulations?

2.3 Practical Conditions and Constraints

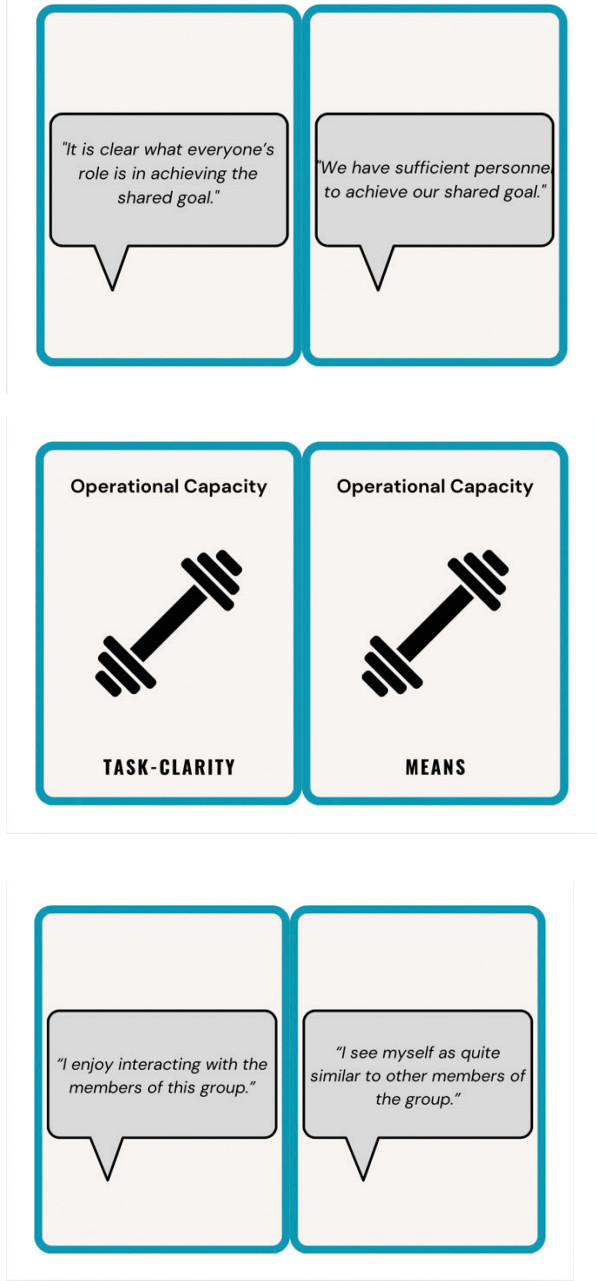
- What practical factors need to be considered when designing the intervention?
  Probes: Time limitations, preference for individual or guided (moderated) formats, availability of digital tools/computers in your organization?
  Probes: Are there other important considerations such as organizational culture, structure, or implementation constraints?

D.2. Intervention materials

1. Network phase identification



2. Baseline measurement



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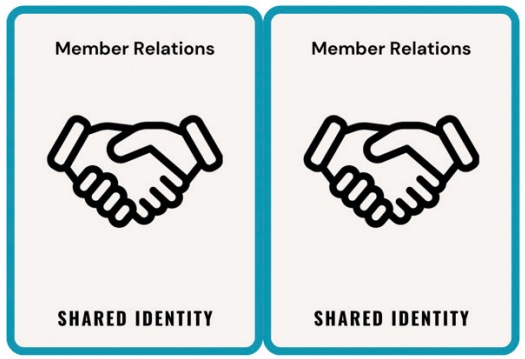
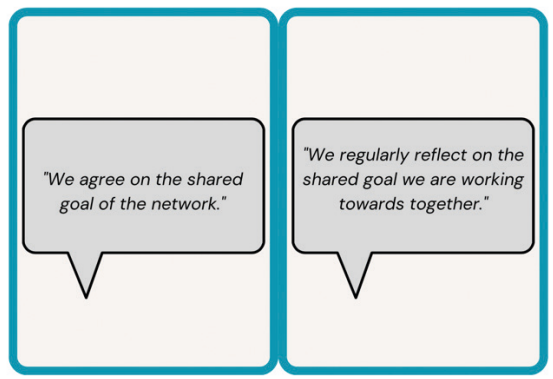
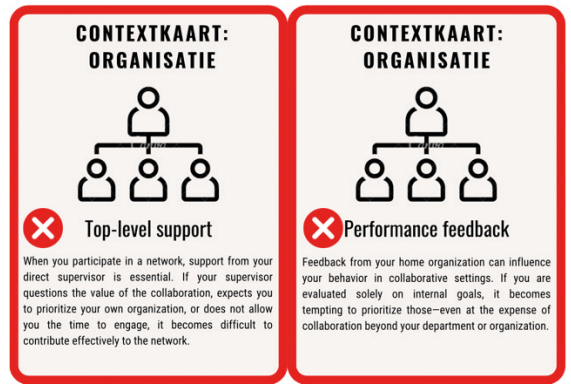




3. Context Mapping



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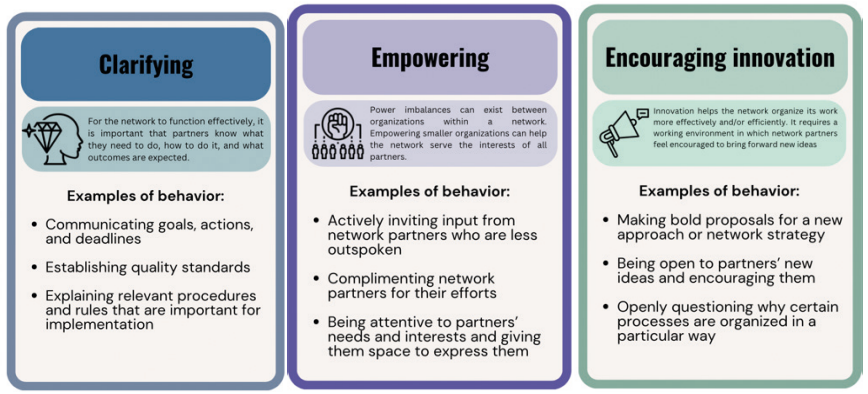
4. Leadership scan



5. Reflection

Which **relations-oriented leadership** will you (further) apply in your chain or network in the coming period, and in which direction will you demonstrate it? Multiple options are possible. Tick only the behaviors that apply

	In which direction will you (further) demonstrate leadership?		
	Home organization (e.g. colleagues)	Network partners	Other actors (external)
Supporting: Offering partners help and/or advice when they need it.	○	○	○
Empowering: Ensuring that smaller network partners are also seen and heard.	○	○	○
Demonstrating interest: Showing interest in partners by asking questions and understanding their perspective.	○	○	○
Showing empathy: Listening without judgment and showing understanding toward partners.	○	○	○
Emphasizing collective identity: Highlighting shared needs and interests, and more frequently inquiring about the other party's needs.	○	○	○

D.3. Qualitative questionnaire

Questions can be answered using a five-point scale *(1; completely disagree; 2; disagree; 3; neutral; 4; agree; 5; completely agree)*

1. "This intervention has helped me identify what is going well in the collaboration and which areas require improvement."
Can you explain your answer?

2. "This intervention has helped me gain an understanding of the factors that positively or negatively influence the collaboration."
Can you explain your answer?

3. "The intervention has helped me gain an understanding of the leadership I can (further) demonstrate to elevate the network."
Can you explain your answer?

4. "The intervention has helped me address topics in the collaboration process that are typically not discussed within the network."
Can you explain your answer?

5. "The intervention has taught me to better understand the type of leadership my network currently needs."
Can you explain your answer?

D.4. Group interview protocol

1. Can you indicate what insights the intervention has given you?

2. What intention did you have to change something in the collaboration process based on those insights?

- *Is there a specific aspect of the collaboration (strength, relationships, shared goal) that you want to improve?*
- *Do you want to show (different) leadership behavior towards each other?*
- *Do you want to demonstrate (different) leadership behavior towards your home organizations?*
- *Do you want to demonstrate (different) leadership behavior to the outside world?*
- Is this purely a change in behavior, or (also) the distribution of this behavior across the group?

3. Has anything changed at network level since then in the behavior you show towards each other?

4. Has anything changed at organizational level since then in the behavior that you yourself, or together with the partners, employ towards your home organization for the benefit of the network?

5. Has anything changed in the way you as a network position yourself to the outside world? (For example: the media; subsidy providers)

Ethics and AI Statement

Ethics Committee

For each empirical project included in this dissertation (Chapters 2, 3–4, and 5), an ethics application was submitted to the Ethics Committee of the Faculty of Governance and Global Affairs, Leiden University. All applications were reviewed and approved by the committee prior to data collection. The studies were conducted in accordance with the ethical standards and guidelines of the faculty and the broader principles of research integrity.

Use of AI tools

The content, ideas, and conclusions presented in this dissertation are entirely my own. Artificial intelligence tools were used solely to refine the phrasing of specific sentences, not to proofread or edit the dissertation as a whole. Specifically, I used ChatGPT (OpenAI) to check grammar, improve phrasing, and ensure appropriate academic tone, as English is not my native language. AI tools were not used to generate or analyze content, nor to assist with interpretation or argumentation. Their use complied with institutional and academic integrity guidelines.

Dutch Summary

Voorbij de hiërarchie, samen op zoek naar maatschappelijke meerwaarde:
Leiderschap in ketens en netwerken in de publieke sector

Leiderschap in ketens en netwerken: balanceren tussen organisatie- en netwerkdoelen

Overheidsorganisaties werken steeds vaker samen in ketens en netwerken om maatschappelijke problemen te adresseren. Ketens en netwerken zijn samenwerkingsverbanden van drie of meer autonome organisaties die gezamenlijk een publiek doel nastreven. Deze samenwerking is vaak gebaseerd op wederzijdse afhankelijkheid en vindt doorgaans plaats zonder hiërarchische verhoudingen of formele sturingsmacht, hoewel dit per netwerk kan verschillen. Denk daarbij bijvoorbeeld aan de Zorg- en Veiligheidshuizen, de strafrechtketen of de vreemdelingenketen.

Toch is samenwerken in ketens en netwerken verre van eenvoudig. Elke organisatie brengt haar eigen doelen en belangen mee, terwijl het netwerk vraagt om het gezamenlijk nastreven van één maatschappelijk doel. Dat leidt vaak tot spanningen tussen organisatiebelangen en netwerkdoelen. De noodzaak om samen te werken is evident, maar de praktijk blijkt weerbarstig. Voorbeelden van schrijnende incidenten in de jeugdzorg of geestelijke gezondheidszorg laten zien wat er mis kan gaan als die samenwerking tekortschiet. Netwerken zoals Toezicht Sociaal Domein onderzoeken dergelijke tekortkomingen om uitvoeringsorganisaties te helpen ervan te leren.

In deze horizontale samenwerkingsverbanden blijkt leiderschap een essentiële factor. Leiderschap speelt een rol in het bijeenbrengen van partners, het organiseren van middelen en het formuleren van gemeenschappelijke doelen. Ook in de wetenschap groeit de belangstelling voor leiderschap in ketens en netwerken. Waar leiderschapsonderzoek zich traditioneel richt op leidinggeven binnen organisaties, vragen ketens en netwerken om andere conceptuele kaders. In literatuur over netwerkmanagement en *collaborative governance* blijft leiderschap vaak beperkt tot individuele actoren of rollen, zoals netwerkmanagers, brokers of mediators. Deze benaderingen missen op hun beurt de rijkdom van leiderschapstheorieën waarin gedrag, context en gedeeld leiderschap centraal staan.
Deze dissertatie brengt deze perspectieven samen en onderzoekt hoe leiderschap zich manifesteert in ketens en netwerken, welke condities dat beïnvloeden en hoe leiderschap ontwikkeld kan worden. De centrale onderzoeksvraag luidt:

Hoe draagt leiderschap bij aan samenwerking in ketens en netwerken in de publieke sector, en hoe kan het ontwikkeld worden?

Conceptualisering van leiderschap in ketens en netwerken

Hoofdstuk 2 ontwikkelt een conceptueel raamwerk voor leiderschap in ketens en netwerken. Op basis van literatuur en casusonderzoek in drie netwerken wordt leiderschap benaderd als een gedragsmatig, relationeel en – in meer of mindere mate – gedeeld proces. Niet alleen formele netwerkmanagers tonen leiderschap; ook andere netwerkleden leveren via hun gedrag een bijdrage aan de richting van het netwerk naar haar gezamenlijke doel. Het onderzoek start daarom vanuit de volgende definitie van leiderschap: leiderschap is een proces waarbij men anderen beïnvloedt om te begrijpen en overeenstemming te bereiken over wat er gedaan moet worden en hoe dat moet gebeuren, en het proces van het faciliteren van individuele en collectieve inspanningen om individuele en gedeelde doelstellingen te realiseren (Yukl 2012).

Vier typen leiderschapsgedrag staan centraal: taakgericht, relatiegericht, veranderingsgericht en extern gericht gedrag (Yukl 2012). Deze gedragingen komen in verschillende mate voor en lijken volgens het casusonderzoek samen te hangen met de netwerkcontext, zoals de mate van diversiteit, mandaat en sturingsvorm.

De analyse laat zien dat het bestaande model van Yukl (2012) - dat gestoeld is op leiderschap in individuele organisaties - bruikbaar is voor de bestudering van leiderschap in netwerken, maar aanpassing vergt. Zo blijkt de term ‘extern gericht gedrag’ verwarrend, omdat ‘extern’ in een netwerkcontext andere grenzen impliceert dan in een organisatiecontext. Ook krijgen leiderschapsgedragingen een andere invulling. Zo is taakgericht leiderschap gericht op het faciliteren – niet het sturen – van het samenwerkingsproces. Relatiegericht leiderschap bestaat uit het aangaan van relaties met potentiële nieuwe leden door te vragen naar hun behoeften en uitdagingen. Ook bestaat het uit het versterken van bestaande relaties binnen het netwerk, door netwerkleden hulp aan te bieden, interesse te tonen in hun belevingswereld en door gemeenschappelijkheden te benadrukken. Daarnaast richt verandergericht leiderschap zich op het creëren van urgentie tot samenwerking, door met elkaar te visualiseren wat de gevolgen zijn van een gebrek aan samenwerking, en wat het netwerk zou kunnen betekenen voor de doelgroep.

Organisatiecontext als voorwaarde voor leiderschapsgedrag
Hoofdstuk 3 onderzoekt hoe de interne context van publieke organisaties leiderschapsgedrag in netwerken kan bevorderen of juist belemmeren. Medewerkers die deelnemen aan ketens en netwerken, zoals beleidsadviseurs of casusregisseurs, fungeren vaak als 'boundary spanners'. Zij bewegen tussen de eigen organisatie en het netwerk, en proberen beide werelden met elkaar te verbinden.

Aan de hand van interviews in een netwerk binnen de justitiële keten laat het onderzoek zien hoe factoren zoals verantwoordingseisen, prestatie-indicatoren, steun van het (top-) management en politieke druk het gedrag van deze medewerkers beïnvloeden. Sommige organisaties geven medewerkers ruimte en vertrouwen om in het netwerk actief te zijn, andere leggen via hiërarchische sturing of interne KPI's juist beperkingen op. Deze institutionele context bepaalt mede wie in het netwerk leiderschap kan tonen – en of dat gedeeld of geconcentreerd plaatsvindt. Eenzijdige dominantie van bepaalde organisaties kan leiden tot doelverschuiving: het netwerk richt zich dan vooral op de belangen van enkele deelnemers, in plaats van het collectieve doel.

Effecten van leiderschapsgedrag op het samenwerkingsproces in ketens en netwerken
Het derde empirische onderzoek in Hoofdstuk 4 onderzoekt hoe verschillende typen leiderschapsgedrag samenhangen met de kwaliteit van samenwerking in netwerken. De aanleiding voor dit onderzoek ligt in de noodzaak om niet alleen te begrijpen *wat* voor leiderschapsgedrag getoond wordt in netwerken, maar ook *welke uitwerking* dit gedrag heeft in het samenwerkingsproces. Hoewel leiderschap vaak wordt gezien als cruciaal voor succesvolle samenwerking, ontbreekt het in de literatuur aan empirische inzichten over hoe concreet gedrag hieraan bijdraagt.

In deze studie wordt de kwaliteit van het samenwerkingsproces afgemeten op basis van drie elementen die volgens de wetenschappelijke literatuur van belang zijn: operationele slagkracht, goede relaties tussen netwerkleden en een gedeelde doeloriëntatie. Onder operationele slagkracht wordt verstaan dat het netwerk voldoende middelen (budget, expertise, menskracht) bezit om slagvaardig te zijn, in combinatie met duidelijkheid over de taken die partners moeten vervullen in het netwerk. Onder goede relaties worden vertrouwen, sociale veiligheid en het ervaren van een gedeelde identiteit geschaard. Ten slotte wordt met een gedeelde doeloriëntatie verstaan dat netwerkleden een gedeeld doel

voor ogen hebben, zich aan dit doel committeren, zich hier in gezamenlijkheid voor inzetten en zich daarbij afhankelijk voelen van elkaar.

Door middel van een vragenlijst en interviews in een landelijk opererend netwerk in de justitiële keten wordt aangetoond dat leiderschap inderdaad samenhangt met de kwaliteit van het samenwerkingsproces. Uit de uitkomsten van twee *Structural Equation Models* blijkt dat relatiegericht leiderschap positief samenhangt met goede relaties tussen netwerkleden. Het relatiegerichte leiderschap benadrukt gevoelens van verbondenheid en saamhorigheid met andere netwerkleden en de inclusie van alle leden in het samenwerkingsproces. Zo kunnen leden elkaar bijvoorbeeld aansporen om input te geven en onderzoeken hoe de netwerkleden elkaar kunnen helpen of versterken. Hoewel de geringe omvang van de onderzoekspopulatie aanspoort tot voorzichtigheid, biedt dit onderzoek een startpunt voor aanvullend, grootschalig en longitudinaal vervolgonderzoek naar de rol van leiderschap in ketens en netwerken.

Leiderschap ontwikkelen in ketens en netwerken
Het laatste empirische onderzoek in Hoofdstuk 5 richt zich op de ontwikkeling van leiderschap in netwerken. De aanleiding voor dit onderzoek ligt in de observatie uit het vorige hoofdstuk, die benadrukt dat er een positieve relatie is tussen leiderschap en het samenwerkingsproces in ketens en netwerken. Tegelijkertijd is er weinig bekend over hoe leiderschapscapaciteit in deze context effectief kan worden versterkt. Bestaande leiderschapstrainingen zijn veelal gericht op formele leiders binnen hiërarchische organisaties en sluiten daardoor onvoldoende aan bij de horizontale dynamiek van netwerken. Dit hoofdstuk beantwoordt de vraag hoe leiderschap in netwerken ontwikkeld kan worden.

Op basis van ontwerpgericht onderzoek ('*Design Science*') is met input van professionals een werkvorm ontwikkeld waarin netwerkdeelnemers gezamenlijk reflecteren op leiderschap in hun netwerk. De interventie biedt ruimte om stil te staan bij vragen als: *wie* toont leiderschap, hoe wordt leiderschap *gedeeld*, en *welk leiderschap is nodig* om de samenwerking verder te brengen? Door dit als netwerk-partners gezamenlijk te bespreken, worden impliciete aannames over leiderschap expliciet gemaakt en kunnen deelnemers bewustere keuzes maken in hun gedrag in ketens en netwerken.

De resultaten tonen aan dat de interventie volgens deelnemers bijdraagt aan een groter bewustzijn van leiderschap in ketens en netwerken en hoe leiderschap binnen en vanuit deze context versterkt kan worden.

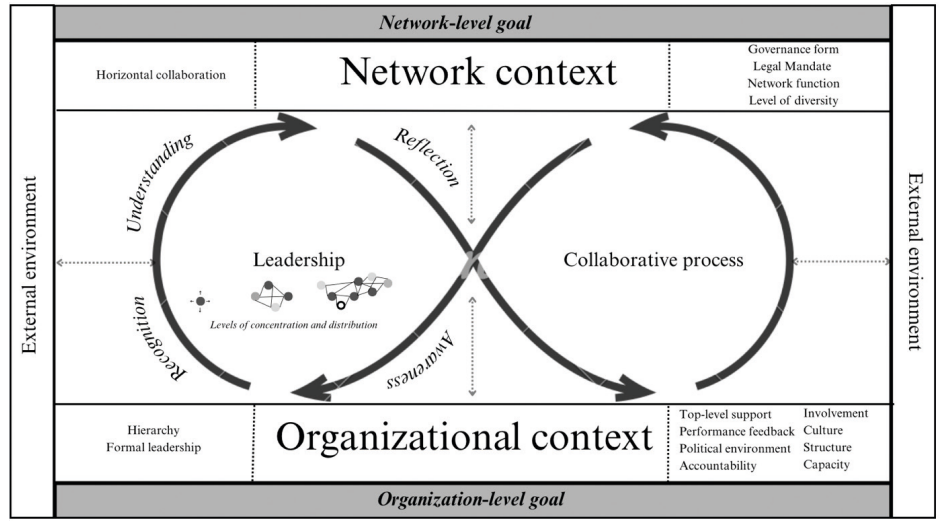
De theoretische relevantie van dit hoofdstuk ligt in de toepassing van leiderschapsontwikkeling buiten de klassieke context van hiërarchische organisaties, en laat het zien hoe leiderschap *in situ* kan worden ontwikkeld binnen ketens en netwerken. Door gebruik te maken van *Design Science* wordt bovendien een methodologische bijdrage geleverd aan de ontwikkeling en toetsing van praktijkgerichte interventies. Praktisch biedt het een concreet, toepasbaar instrument voor leiderschapsontwikkeling in ketens en netwerken dat gezamenlijk leren en reflectie stimuleert en aansluit bij de logica van gelijkwaardige samenwerking.

Slotbeschouwing: Naar een nieuw perspectief op leiderschap in ketens en netwerken

Deze dissertatie laat zien dat leiderschap in ketens en netwerken méér is dan de taak van een (formele) netwerkmanager of coördinator. Het is een gedeeld en contextafhankelijk proces waaraan het gedrag van verschillende netwerkleden bijdraagt. Deze inzichten zijn waardevol voor zowel wetenschappers als professionals die samenwerken in ketens en netwerken.

De dissertatie sluit aan op een hiaat in de wetenschappelijke literatuur – het ontbreken van een conceptueel raamwerk om leiderschap in ketens te onderzoeken, te duiden en te ontwikkelen - door vier stromingen met elkaar te verbinden en te verdiepen. Die verbinding en verdieping is geïllustreerd in Figuur 7.1. Ten eerste wordt leiderschapstheorie uitgebreid naar de relatief onontgonnen context van ketens en netwerken, waarin leiderschap zich toont als een proces waarin netwerkdeelnemers naar elkaar, naar hun thuisorganisaties en naar de buitenwereld leiderschapsgedrag laten zien om een gezamenlijk doel te bereiken. Vervolgens wordt de netwerkmanagementliteratuur verrijkt door de aandacht te verschuiven van individuele netwerkmanagers naar gedeeld leiderschap door meerdere netwerkleden, ten behoeve van het netwerk als geheel. De theorie over *collaborative governance* wordt verdiept door een gedragsmatig, analytisch kader te introduceren dat verder gaat dan abstracte rollen. Tot slot levert de dissertatie een bijdrage aan de literatuur over leiderschapsontwikkeling, door aan te tonen hoe leiderschap in netwerken ontwikkeld kan worden via een reflectieve, praktijkgerichte interventie binnen de unieke context van een netwerk. Samen bieden deze

bijdragen inzicht in hoe leiderschap samenwerking in publieke netwerken versterkt—en hoe leiderschap in ketens en netwerken praktisch ondersteund kan worden.



Figuur 7.1: Leiderschap in ketens en netwerken in de publieke sector.

De dissertatie heeft concrete, praktische implicaties. Ten eerste is het belangrijk om leiderschap in netwerken expliciet te maken. Vaak blijft leiderschap een impliciete of onzichtbare kracht in samenwerkingsverbanden. Organisaties en netwerken zouden ruimte moeten creëren om met netwerkdeelnemers te reflecteren op de betekenis van leiderschap in hun samenwerking. De interventie die in het kader van dit onderzoek is ontwikkeld, kan hierin ondersteunen.

Ten tweede zouden organisaties moeten investeren in het vergroten van het bewustzijn van de wederzijdse afhankelijkheid tussen organisaties en de netwerken waarin zij opereren. Zoals aangetoond in hoofdstuk 3 kunnen factoren als organisatiecultuur, prestatieprikkels en (gebrek aan) steun vanuit het topmanagement leiderschapsgedrag in netwerken mogelijk maken of juist belemmeren. Leiderschapsontwikkelingstrajecten die expliciet ingaan op de specifieke uitdagingen van leiderschap in ketens en netwerken zijn hierbij een waardevol instrument.

Ten derde is het belangrijk om leiderschapsontwikkeling niet te beperken tot formele leiders. In netwerken wordt leiderschap vaak getoond door personen zonder formele positie

of titel. Daarom zouden organisaties alle medewerkers—ongeacht hun functie—moeten aanmoedigen om hun leiderschapsvaardigheden te verkennen en te versterken.

Ten vierde zouden netwerkprofessionals tijd moeten investeren in het identificeren en toepassen van concreet leiderschapsgedrag dat samenwerking bevordert. Het in deze dissertatie ontwikkelde conceptuele raamwerk en de praktijkgerichte interventie bieden daarvoor een handig hulpmiddel.

Gezamenlijk benadrukken deze aanbevelingen dat leiderschap in ketens en netwerken geen vanzelfsprekendheid is, maar een proces dat zichtbaar gemaakt en bewust ontwikkeld moet worden—zowel binnen organisaties als binnen netwerken zelf.

Acknowledgements / Dankwoord

Daar ligt hij dan. Na een intensief traject voelt het bijna onwerkelijk om mijn proefschrift te publiceren. Een periode gevuld met gesprekken, interviews, focusgroepen, testrondes, experimenten en vragenlijsten, samengebracht in één boek van ongeveer 150 pagina's.

Hoewel ik metaforen vaak wat clichématig vind, doet mijn PhD-traject me nog het meest denken aan een zeilreis. Geen comfortabele cruise, maar een tocht waarbij je – na eerst roeilessen te hebben genomen tijdens je bachelor en master – ineens zelf een zeilschip moet besturen. De kapitein? Jijzelf. De route? Onzeker. De vaardigheden? Die ontwikkel je onderweg.

Op dat schip kreeg ik continu te maken met keuzes: welke literatuur is relevant, welke onderzoeksvragen zijn actueel, en waar kan het onderzoek plaatsvinden? Maar ook fundamentele vragen: waar liggen mijn interesses, wat motiveert me echt? Gaandeweg ontdekte ik dat mijn drijfveer ligt in het ontwikkelen van inzichten die praktisch bruikbaar zijn. Binnen de wetenschap is dat niet altijd vanzelfsprekend, maar ik ben dankbaar dat daar in dit traject veel ruimte voor was. Ik ben trots op de serious game *Leiderschap in ketens en netwerken,* ontwikkeld met de VPL-partners, en dankbaar dat ik het laatste deel van mijn PhD in deeltijd kon afronden – eerst naast mijn werk als adviseur bij DJI en later als senior inspecteur bij de Inspectie JenV.

Als promovendus leer je voortdurend nieuwe vaardigheden om op koers te blijven: schrijven, analyseren, presenteren. Dit traject heeft me geholpen vaardigheden te ontwikkelen die ook buiten de wetenschap van waarde zijn. Die ontwikkeling is geen individueel proces – ze wordt mogelijk gemaakt door de mensen die onderweg meezeilen.

Allereerst: Sandra en Ben, hartelijk dank voor jullie begeleiding als promotoren. Het onderzoeksprogramma *Verder met Publiek Leiderschap* had niet bestaan zonder jullie inzet om bruggen te bouwen tussen universiteit en praktijk. Jullie feedback was altijd scherp, opbouwend en richtinggevend. Ook wil ik graag mijn dank uitspreken aan alle leden van de lees- en oppositiecommissie.

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onderzoeksprojecten opzetten, data verzamelen en wetenschappelijke inzichten toetsen aan de praktijk.

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Curriculum vitae

Moniek Akerboom was born on 4 April 1993 in Nieuwkoop, The Netherlands. She attended Groene Hart Lyceum in Alphen aan den Rijn, where she developed a strong interest in politics and societal issues. This passion led her to study Public Administration at Leiden University (2011-2014), a program centered around governmental decision-making and addressing societal challenges.

During her studies, Moniek sought to broaden her perspective by taking additional courses at the Faculty of Humanities. Subjects such as religious studies expanded her worldview. Her curiosity about global perspectives also led her to participate in an exchange program at McGill University in Montreal, Canada. There, she explored fascinating topics like ethics, women's studies, and feminist theory.

After earning her degree in Public Administration, Moniek pursued a Master's in Public Management at Leiden University (2014-2015). During this time, she developed a keen interest in applied research. She gained hands-on experience as a student assistant at the Institute of Public Administration and completed research internships at the Immigration and Naturalization Service and the Advisory Committee on Migration Affairs. Later, she obtained a second master's degree in Crisis and Security Management (2016-2017), graduating *cum laude*. Following this, she joined the Institute of Security and Global Affairs at Leiden University as a researcher, focusing on studies related to the Dutch National Police. In addition, she tutored undergraduate students in Security Studies.

In 2020, Moniek began her PhD on (Public sector) Leadership. Throughout her doctoral research, she remained actively engaged in the security domain, conducting case studies on the Dutch Custodial Institutions Agency and the National Police. Her PhD allowed her to bridge academic research with real-world impact, thanks to the active involvement of practitioners who served as key participants in the program "Furthering Public Leadership."

In 2023, Moniek took on the role of Advisor on Detention and Reintegration at the Dutch Custodial Institutions Agency, where she worked on educational programs for detainees. As of April 2025, she joined the Inspectorate of Justice and Security, where Moniek conducts research on the quality of law enforcement and law enforcement education.

This dissertation investigates how leadership is exercised, influenced, and can be developed within public sector interorganizational networks. As public challenges increasingly require collaboration across organizational boundaries, understanding leadership beyond hierarchical settings is critical.

The research addresses four central questions: how leadership in networks can be conceptualized; how internal organizational factors enable or constrain leadership behavior; how different leadership behaviors affect collaborative processes; and how leadership can be practically developed within networks. These questions are explored through an integrated research design comprising theoretical synthesis, multiple case studies, a mixed-methods study, and a design science intervention.

The dissertation contributes to theory by advancing a behavioral, relational, and contextualized understanding of leadership in public sector networks It provides practical insights for strengthening leadership capacities among network members. In sum, leadership beyond hierarchies is shown to be essential for achieving effective collaboration and delivering public value in a public sector landscape that aims to tackle complex societal challenges.