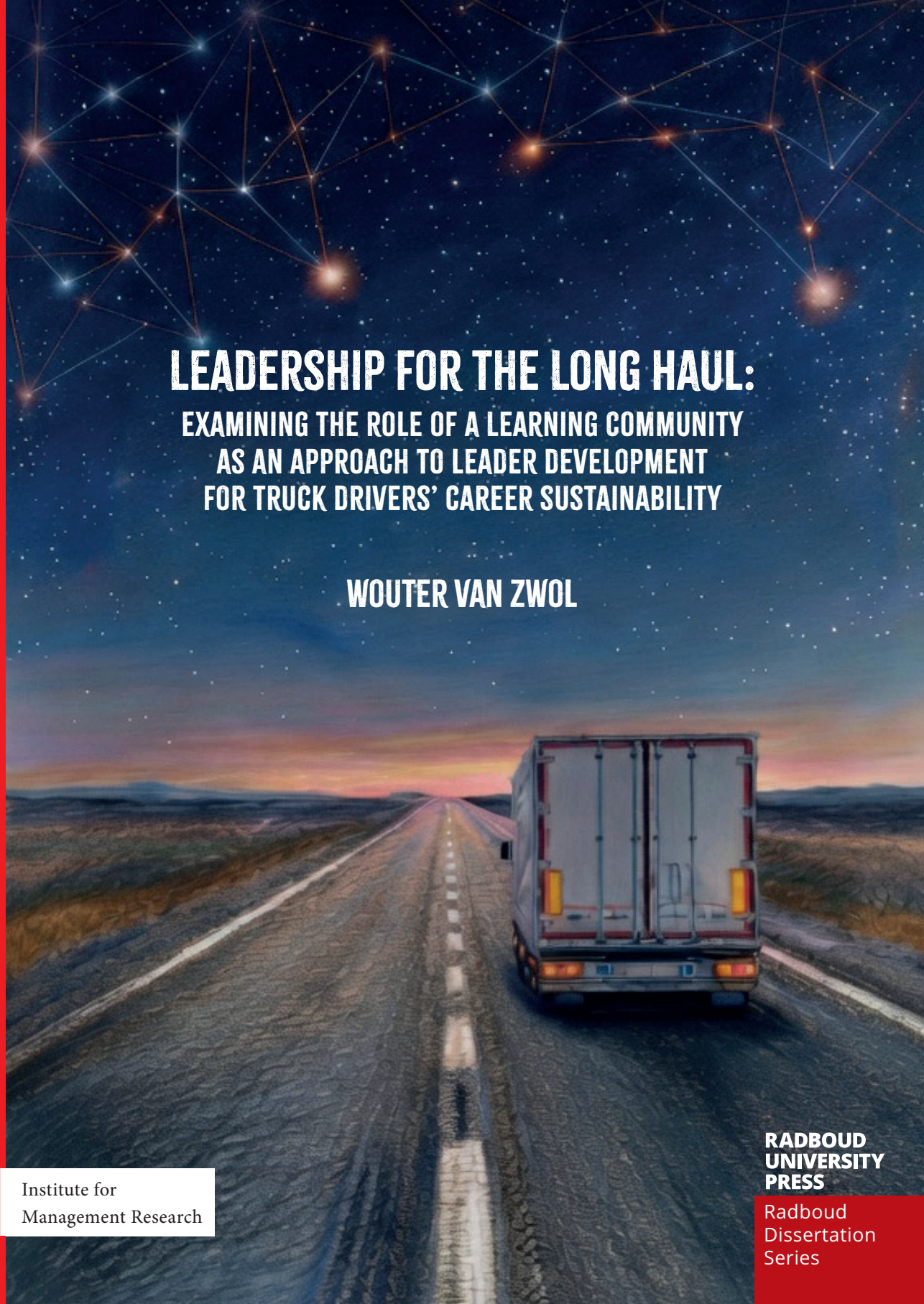

LEADERSHIP FOR THE LONG HAUL:

EXAMINING THE ROLE OF A LEARNING COMMUNITY AS AN APPROACH TO LEADER DEVELOPMENT FOR TRUCK DRIVERS' CAREER SUSTAINABILITY

WOUTER VAN ZWOL

Institute for Management Research

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Leadership for the Long Haul

Examining the role of a Learning Community as an approach to leader development for truck drivers' career sustainability

Wouter Gerardus Adrianus van Zwol

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Leadership for the Long Haul

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Voor oma Joke

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Prologue

"*Promise that you will sing about me*" – Kendrick Lamar (2012)

In the song *"Sing About Me, I'm Dying of Thirst"*, Kendrick Lamar poetically gives voice to lives marked by struggle and silence. Throughout his work, he foregrounds those who are often unheard or forgotten: The individuals growing up in the ghettos of Compton who face violence, poverty, and discrimination. Yet Lamar's discography stands apart from stereotypical 'gangster rap' as his music blends poetry with an activist spirit. At its core, his work is a plea to be seen, to be heard, and not to be forgotten.

This same plea lies at the heart of, and is one of the reasons behind, writing this dissertation. This work is not intended as an activist statement; rather, it seeks to illuminate the underrepresentation of blue-collar workers, especially truck drivers, within Work and Organizational psychology. Especially in leadership research where their voices remain largely absent. Their voices and stories are often only represented in terms of absenteeism reports, efficiency metrics, or turnover statistics.

Yet behind every metric is a human being: For instance, a truck driver with back pain navigating a triple shift, a team leader balancing rules, regulations and empathy on the warehouse floor, an employee wondering if anyone notices their effort. This research turns toward these lived realities to the everyday ways in which leadership is enacted and experienced in blue-collar work contexts, and how leaders in this context can be supported in their own professional development. Through the stories of truck drivers and their formal leaders this dissertation brings into view what leadership literature so often leaves in the shadows. It is an attempt to "sing about" those who are rarely sung about, and to recognize leadership where it also happens, and not only just where we usually look.

Chapter 1: Introduction

Societal background

Truck driving in peril

Truck driving can be considered as one of the most essential professions for our economies as truck drivers play a vital role in maintaining national and international supply chains. Currently, road transport is the second mode of freight transportation in the European Union (European Commission, 2025). In countries such as the Netherlands, home to Europe's largest port (Rotterdam) and fourth largest cargo airport (Schiphol) (Eurostat, 2024, 2025), the road transport sector plays a critical role in ensuring the functioning of these logistic gateways. When it comes to employment, approximately 92,000 individuals are employed as professional truck drivers in the Netherlands (Sectorinstituut Transport en Logistiek, 2025). With an annual volume of 642 million tons and a net revenue of approximately 40 billion euros, the road transport sector continues to play a vital role in the Dutch economy (CBS, 2025a, 2025b).

Despite truck drivers' critical function, the profession faces several challenges. For instance, the Dutch transport sector faces a persistent shortage of truck drivers. Since 2021, vacancy levels have remained structurally high, and in 2024 there were about 7,350 openings (Sectorinstituut Transport en Logistiek, 2025). A key issue is aging: 40% of drivers are aged 55 or older, and many are retiring (Centraal Bureau voor de Statistiek, 2024). Many vacancies remain hard to fill due to a lack of qualified candidates (Uitvoeringsinstituut Werknemersverzekeringen, 2023). Nearly half of transport companies report operational limitations due to staff shortages (Sectorinstituut Transport en Logistiek, 2025; Uitvoeringsinstituut Werknemersverzekeringen, 2023). In response, the industry introduced an early retirement scheme allowing drivers in heavy occupations to stop working up to three years before their official pension age (Pensioenfonds Vervoer, 2024). However, this also accelerates workforce outflow.

Sustaining truck drivers' careers

As aforementioned challenges show, the career sustainability of truck drivers is under strain, but is simultaneously very much needed. These challenges manifest across the domains of health, happiness, and productivity, being the three indicators (Van der Heijden, 2005) that are distinguished in the process model of sustainable careers (De Vos et al., 2020). Together, these challenges form a set of risk factors that can jointly undermine career sustainability in this occupational context and will be further illustrated in the next section.

With regard to health, according to data from CBS and TNO (CBS StatLine, 2025), truck drivers in the Netherlands not only report sick leave more often than the national average, but their absences also last significantly longer, averaging 27.3 days per episode, compared to the national average of 17.1 days. This is also reflected in existing empirical studies, which indicate that they are particularly vulnerable to both physical and psychosocial health risks. For example, truck drivers are exposed to prolonged sitting and whole-body vibrations which can cause lower back pain (Cann et al., 2004). Moreover, tank truck drivers are at risk of inhaling toxic gases during loading and unloading (Vainiotalo & Ruonakangas, 1999). The long and irregular hours, limited recovery opportunities, chronic time pressure, and tight regulations make truck driving not only demanding for drivers' health, but also difficult to sustain over longer periods of time (De Croon et al., 2004; Van der Beek, 2012; Wijngaards et al., 2019).

With regard to happiness, several studies revealed that truck drivers experience straining job demands that can negatively relate to their job satisfaction (e.g., Van der Beek, 2012). Drawing on momentary happiness data, Wijngaards et al. (2019) found that truck drivers report higher levels of happiness when off the job compared to when they are working. Several work-related factors, such as road congestion, were shown to negatively impact job satisfaction. Spending extended periods on the road, an inherent aspect of truck driving, therefore appears unlikely to contribute positively to drivers' overall happiness. This prolonged time away from home further complicates the work-life balance. Working long hours can interfere with the ability to balance work and private lives, particularly for truck drivers who have limited flexibility in their working arrangements. Previous studies found that long work hours positively relate to work-family conflicts (T. W. H. Ng & Feldman, 2008). Work-family conflict is found to be negatively associated with job satisfaction and overall life satisfaction (Erdogan et al., 2012; Michel et al., 2009).

It is not just the tough working conditions that form risks towards drivers' happiness; many also feel disheartened by how the public views their profession. A large-scale study among Dutch truck drivers showed widespread dissatisfaction with the public perception of their job and a strong reluctance to advise others to enter the profession (De Winter et al., 2024). These sentiments signal a broader perceived lack of recognition and dignity that characterizes many blue-collar occupations (Lucas, 2015). Such perceptions are not merely symbolic, they can directly impact workers' engagement and their job retention (Lucas et al., 2017).

With regard to productivity, technological developments such as automated driving pose a significant threat to employment in the sector, hanging over it as a sword of Damocles (Van Fossen et al., 2023; S. Wang et al., 2023). Beyond the risk of job displacement, automation is fundamentally reshaping skill requirements for those who remain employed in the sector (Gittleman & Monaco, 2020; Hötte et al., 2023; Jetha et al., 2021). Increasingly, drivers are expected to possess technological competencies, and a capacity to interact with (semi-autonomous) vehicle systems (Gąsiorek, 2022). For many workers, particularly those in blue-collar professions such as trucking, this transformation raises concerns about their ability to remain employable. Moreover, formal opportunities for skill development and upskilling are often limited in these occupational contexts (European Labour Authority, 2024a, 2024b), which can give rise to (occupational) stress (De Cuyper et al., 2012; Hobfoll, 1989; Hobfoll et al., 2018). As such, while technological innovation holds the promise of increased efficiency, it simultaneously shows that drivers' career sustainability is under pressure.

As the aforementioned challenges towards the indicators of career sustainability illustrate (i.e., health, happiness, and productivity), the question arises how drivers can be facilitated to navigate their own career sustainability. When looking at the nature of their job, it has been readily recognized that truck drivers operate geographically dispersed and experience a high degree of job autonomy (Van der Beek, 2012). Typically, a high sense of job autonomy allows employees to manage their workload, stay intrinsically motivated, and adapt tasks and methods to their strengths (Deci & Ryan, 2000). However, drivers' occupational environment is often perceived as inflexible and physically demanding, which throws up barriers to agentic actions to foster career sustainability (see Chapter 3). For instance, truck drivers' jobs are marked by exhausting schedules, limited career progression, and a persistently negative public image (De Winter et al., 2024; Van der Beek, 2012). Such factors are difficult to navigate individually, complicating the ability of drivers to autonomously maneuver their career sustainability. Against this backdrop, constraints limiting drivers' ability to independently craft their career sustainability, the literature emphasizes the essential role of external stakeholder support (De Vos et al., 2020; Donald et al., 2024; Van der Heijden & De Vos, 2015).

Among these stakeholders, frontline leaders (i.e. those responsible for the direct supervision of employees who produce goods or deliver services)

as representers of the organization, emerge as particularly influential, due to their regular and direct interactions with this geographically dispersed workforce, and thus being the gatekeepers to career resources and advancement opportunities (Baruch & Rousseau, 2019; Fugate et al., 2021; Van der Heijden & De Vos, 2015). This positions frontline leaders in the unique position to provide meaningful support and foster career sustainability for drivers. This highlights the need to explore how they can mitigate occupational challenges towards a sustainable career for truck drivers.

The role of leaders in truck drivers' career sustainability

The literature supports the notion that leaders play a crucial role in supporting individuals' awareness, attitudes, and actions towards protecting and enhancing career sustainability of their employees (Baruch & Rousseau, 2019; Fugate et al., 2021; Van der Heijden & De Vos, 2015). Truck drivers' frontline leaders, typically team managers or dispatchers, are the ones who shape truck drivers' day-to-day experience of work. They allocate tasks, monitor safety, resolve conflicts, offer support, and influence whether drivers feel recognized or dispensable (LeMay & Keller, 2019; Williams Jr. et al., 2017; Wygal et al., 2021). Typically, HRM is considered the actor most concerned with employees' career sustainability (De Vos et al., 2020; Van der Heijden & De Vos, 2015). However, formal HR practices aimed at supporting blue-collar workers, which truck drivers are considered to belong to, often fail to meet their specific needs (Kruyen & Sowa, 2023). Consequently, frontline leaders play a decisive role in shaping drivers' career sustainability, as they are the ones who directly influence drivers' daily work experiences, well-being, and opportunities for growth.

Given the importance of leaders' role for fostering drivers' career sustainability, I turn to the literature to better understand how enacted leadership practices (i.e., leadership behaviors) impact followers across occupations (see Chapter 2). Yet, little is known about how these behaviors play out in blue-collar contexts such as road transport, where work conditions and career trajectories differ substantially from those in white-collar professions (Hennequin, 2007). Previously, scholars have already noted that most leadership research studies leaders, not followers (Oc et al., 2023). Moreover, as this work focused mainly on white-collar settings (Bergman & Jean, 2016), where people have autonomy, innovate, and collaborate in teams, the findings may not fit other work contexts (Johns, 2024). For instance, these environments lend themselves well to dominant leadership theories focused on vision, and intellectual stimulation (Bass & Avolio, 1993). However, those who lead

followers who perform physical, regulated, and routinized labor (i.e., blue-collar work), may recognize in practice that such followers' characteristics are quite different from those working in a non-manual, cognitive-intensive, and or politically-sensitive setting. Consequently, "they should focus on how a group of individuals interact with each other first to determine their common, shared objective and then turn to the things they need to do to achieve that objective" (Oc et al., 2023, p. 18).

Specifically, truck drivers and leaders face a spatial separation that can create a distinct set of relational conditions that influence how frontline leaders interact with drivers, as well as how leadership support is perceived. In that sense, spatial separation can not only neutralize leadership behaviors (Antonakis & Atwater, 2002; Podsakoff, 1994; Podsakoff et al., 1984; Popper, 2013), but also increases the psychological distance between leader and employee, which can even have detrimental effects (Marstand et al., 2025). Qualitative evidence from bus drivers shows that minimal and largely reactive supervisor–driver interactions, combined with limited face-to-face contact, undermine meaningful communication, trust, and psychological safety, resulting in leadership being perceived as predominantly transactional rather than relational (Irai et al., 2025).

Building on the preceding sections, I identify a paucity in leadership research that limits our understanding of how leadership in sectors such as transport and logistics can help manage work pressure, ensure safety, foster dignity and recognition, and promote career sustainability.

However, because this specific context with its unique dynamics is empirically not well understood, we may overlook the role that leaders can play for truck drivers' career sustainability. This lacuna is not merely empirical but also theoretical. Dominant leadership frameworks, developed primarily in white-collar contexts, rest on assumptions about autonomy, proximity, and knowledge-based collaboration that do not hold in blue-collar work. As a result, our understanding of how leadership operates under conditions of physical labor, spatial separation, and tightly structured work remains conceptually underdeveloped. This not only narrows our conceptual understanding of leadership, but also limits the practical support and training available for frontline leaders and workers in truck driving and other blue-collar sectors.

The interplay between leadership and career sustainability in blue-collar occupations

1

To contribute to remedying current blind spots in our understanding of leadership in blue-collar contexts towards career sustainability, I state that it is important to set out how leadership in this dissertation is understood, what leaders' role in career sustainability is, and how leader development in this context can be stimulated through participation in an LC.

Changing views on leadership

Leadership research has often portrayed leadership as an individual trait or fixed style, emphasizing universal effectiveness across models such as transformational, servant, and ethical leadership (T. Fischer et al., 2024; Hiller et al., 2011). However, recent critiques point to conceptual and methodological limitations, particularly "valence-based conflation," where positively defined leadership constructs predict similarly positive outcomes, creating risks of circular reasoning and overstated effectiveness (T. Fischer et al., 2023, 2024; T. Fischer & Sitkin, 2022). In response, scholars increasingly adopt a relational and dynamic perspective, conceptualizing leadership as a co-constructed process shaped by interactions between leaders and followers (Epitropaki et al., 2017, 2020; Khan et al., 2020; Liden et al., 2025). Drawing on social identity theory (Hogg, 2001; Steffens et al., 2021; Van Knippenberg & Hogg, 2003), leadership is viewed as a group phenomenon emerging from shared social identities. Leadership thus arises when individuals embody group norms, values, and beliefs, representing a collective "us", and gaining trust, influence, and legitimacy through relational processes (Haslam et al., 2020).

While this shift towards relational and contextual models is promising, many studies remain anchored in white-collar environments, corporate teams, executive boards, or professional service firms, where concepts like collaboration, self-direction, and upward mobility are part of the dominant work culture (Oc, 2018). Consequently, one crucial source of variation remains underexplored in our understanding of leadership: the occupational context (Abbott, 1993; Johns, 2024; S. Johnson et al., 2005). Occupational contexts encompass the material conditions, routines, norms, and meanings that structure how people work in a given field (Dierdorff, 2019). These contexts do not merely influence leadership; they co-produce it from a relational standpoint. For example, caregiving roles center emotional labor and empathy (Huynh et al., 2008), military work is instilled with obedience and hierarchy

(Koch-Bayram & Wernicke, 2018), and logistics work hinges on regulation, timing, and efficiency (World Bank, 2023).

To theorize this occupational embeddedness, Bourdieu's concept of *vocational habitus* (1977, 1984, 1990) offers a powerful lens. Through repeated exposure to field-specific demands, individuals internalize dispositions and ways of acting that align with the logic of their work. Recent empirical research shows that occupational environments not only attract people with certain personality traits, but also amplify and reinforce these traits over time through socialization (Rossetti et al., 2025). These insights underscore the importance of viewing leadership as situated within and co-produced by the vocational habitus that structure how workers perceive, enact, and respond to influence in occupationally-specific ways. For instance, leading a group of welders involves navigating a set of norms, values, and work practices that differ significantly from those found in a team of marketing specialists–highlighting how occupational socialization can shape what leadership looks like in each context. In other words, drawing on notions such as vocational habitus, it is plausible that leadership functions differently across occupational contexts. Understanding these contextual differences is a necessary step before examining the role of leaders in supporting the career sustainability of truck drivers.

Leadership as a mechanism for career sustainability

In the preceding sections, I outlined the current understanding of truck drivers' career sustainability (p. 8–11) and the potential influence of frontline leaders (p. 12–13). Yet, research and theory to date provide limited insight and/or direction into how leadership functions within the distinct occupational context of truck driving. Therefore, I argue that addressing truck drivers' career sustainability requires a clearer understanding of how leadership can support drivers' *career sustainability*–"the capacity to create, test, and maintain one's adaptive capability" (De Vos et al., 2020, p. 1). A sustainable career is typically defined by three key dimensions: happiness, health, and productivity (Van der Heijden, 2005).

While career research has increasingly adopted more dynamic perspectives on careers (e.g., the protean, boundaryless, and sustainable career frameworks) most empirical studies have relied on student or university educated white-collar or student samples. For example, in their meta-analysis of 135 studies on protean and boundaryless career orientation research, Wiernik and Kostal

(2019, p. 286) found that 73 percent of the samples held a university-level education, with 26 percent drawn from student populations.

Practically skilled workers, like truck drivers, are often overlooked or even presumed not to have "careers" in a traditional sense (Peterson et al., 2009; Schabram et al., 2023). Moreover, research shows that career sustainability depends on several factors, but is largely determined by the individual's social context (Bal et al., 2021; De Vos et al., 2020; Delva et al., 2021; Forrier et al., 2018). Leaders can facilitate or frustrate employees' agency in career sustainability through the practices they enact, the recognition they provide, and the organizational norms they reinforce: They are often thought of as gatekeepers within the organization to relevant resources that enable individual's agency and ability to foster their career sustainability (Baruch & Rousseau, 2019; Fugate et al., 2021; Van der Heijden & De Vos, 2015).

Therefore, the ways in which this agency is shaped by and embedded within social contexts remain insufficiently understood as shaping one's career is often approached through the lens of individual agency (De Vos et al., 2020; Delva et al., 2021). To explore the interplay between individual agency and the social context, I adopt the sustainable careers framework as a conceptual lens as it incorporates a multi-stakeholder approach towards studying and understanding careers (De Vos et al., 2020; Van der Heijden, 2005). Building on this framework, I consider how frontline leaders, acting as representatives of their organization, can either enable or constrain the agency of individual drivers in shaping their career sustainability. Embedded in the social space of the workplace, frontline leaders hold a position of influence through which they may affect employees' perceptions of control, opportunity, and support (Conger & Kanungo, 1988; Haslam et al., 2023). In doing so, they directly shape the (im)possibilities for protecting and enhancing their employees' agency towards career sustainability.

Addressing truck drivers' career sustainability requires better understanding of how leadership can support this in their unique work environment. Existing leadership knowledge, predominantly based on white-collar contexts, offers limited guidance for frontline leaders in road transport. The leaders in blue-collar contexts manage logistical complexity, enforce strict regulations and safety protocols, and lead employees who work remotely under physically demanding conditions. Following this notion, I posit that leader development

in such environments is also of key importance for frontline leaders. In the next section, I shall give a more detailed account of this.

Developing frontline leaders for sustainable trucking careers: Exploring the role of a Learning Community

In blue-collar settings, such as truck driving, frontline leaders not seldomly rise through the ranks with limited formal preparation for a leadership role, and opportunities for structured development may be scarce (Decius et al., 2021). Yet the range of challenges they face, such as dealing with work pressure and employee well-being, require competent frontline leaders.

In order to support frontline leaders in navigating these demands and enhancing their influence on their employees' career sustainability, I will explore the potential of a Learning Community (LC)-based approach. LCs are dynamic social systems characterized by shared goals, active participation, horizontal learning, and mutual engagement. Participants collaborate voluntarily, shaping their own learning paths through dialogue, reflection, and experimentation (Schipper et al., 2023; Stoll et al., 2006; Wenger, 1998). Unlike traditional, hierarchical training methods, LCs enable both individual and collective development, making them especially effective in addressing complex professional challenges (Schipper et al., 2023; Stoll et al., 2006; Wenger, 1998). By bringing frontline leaders together in an LC to reflect, discuss, and learn with peers, leaders address real work problems, experiment with new actions, and share outcomes, linking learning directly to practice. This social process can help leaders build competence while developing a more context-sensitive approach than classroom training alone (Howorth et al., 2012; Smith et al., 2019).

In this dissertation, I adopt a lens focused on *leader development*, which is the perceived growth of individual leaders' self-awareness, skills, and sensemaking capacities. This is distinct from *leadership development*, which concerns the cultivation of collective leadership processes and social dynamics (Day et al., 2014). Collective leadership development requires simultaneous participation from both leaders and followers. However, in the context of road transport, due to the difficulty of both leaders and followers being present in a shared physical space, this remains logistically challenging. Additionally, our current understanding of how leadership is enacted in this occupational setting remains limited. Therefore, this study adopts an initial focus on frontline leaders, aiming to enhance their individual capabilities (i.e., leader development).

By concentrating on how leaders in the road transport sector learn amongst other leaders and develop within their specific occupational context, this research seeks to contribute both to theory and practice on leader's professional development. Emerging evidence has brought about that community-based, or peer-based learning approaches towards leader development can offer a context-sensitive approach to learning and development needs in organizations (Kotlyar et al., 2015; Roberts, 2012; Rowe et al., 2023; Smith et al., 2019; Wilson & Hartung, 2015). LCs, in particular, have shown promise in enabling experiential, reflective learning that aligns more closely with challenges leaders face.

To study leader development in a way that is grounded in the lived realities of blue-collar frontline leaders, I set out in this dissertation to design, evaluate, and assess the effectiveness of an LC as a context-sensitive approach to leader development. LCs can support leaders in their non-formal professional development from within the occupational context itself, rooted in everyday challenges, tacit knowledge, and collective inquiry. This makes LCs particularly well-suited for blue-collar environments, where formal opportunities for development remain scarce and not seldomly context-insensitive (Decius et al., 2021).

Research question and objectives

Following from the aforementioned sections, this dissertation will investigate how leadership is practiced and developed through an LC within the road transport sector, with a specific focus on truck drivers. The conditions truck drivers face generate specific leadership dilemmas which can be translated in the following research question: "How do frontline leaders in the Dutch road transport industry shape conditions that matter for truck drivers' career sustainability, and how does a Learning Community contribute to their development in this context?"

In order to address this research question, as further outlined below, this dissertation aims to study: (1) the role of occupation-as-context in leadership research, (2) understand the role of frontline leadership in career sustainability for truck drivers, and (3) advance theoretical and practical understanding of how leader development unfolds within a learning community designed to strengthen leaders' ability to support truck drivers' career sustainability.

Research objectives

The central research question leads to a number of research objectives for this dissertation, the first being: **Contribute to the role of occupation-as-context in leadership research**. This objective is addressed in **Chapter 2**, which presents an elaborate overview and analysis of the literature on leadership behavior and follower outcomes. In this chapter, I identify theoretical and empirical blind spots concerning the role of occupational context in leadership research. The central research question of this chapter is: *How is occupational context accounted for in leadership research, and in what ways does it shape both the enactment of leadership behaviors and relationships with follower outcomes?*

Informed by a literature review of the existing scientific knowledge on leadership practices across occupational contexts, the second objective of this dissertation is: Understanding the role of frontline leadership regarding truck drivers' career sustainability.

In **Chapter 3**, I address this objective by investigating how leadership is enacted across road transport organizations and how it interacts with both organizational structures and truck drivers' experiences of individual agency. The central research question of this study is: *How do occupational structures and working conditions in the road transport sector shape both truck drivers' agency and the role of leadership in fostering sustainable careers?*

Building upon both the literature review and an empirical study, the third objective of this dissertation is: **To advance theory and practice on shaping a Learning Community that develops leaders for enhancing truck drivers' career sustainability.** This objective is particularly addressed in **Chapters 4 and 5**, where the design of an LC tailored to the developmental needs of frontline leaders in the road transport sector is presented. In **Chapter 4**, I address this objective by introducing and evaluating a theory-informed LC design aimed at the interorganizational professional development of leaders across road transport companies. The central question of this study is: *Which Learning Community design elements (I) do frontline leaders perceive as effective, in what contextual conditions (C), through which learning mechanisms (M), and with what professional development outcomes (O)?*

In **Chapter 5**, I examine the developmental pathways of leaders participating in the LC (as designed and implemented in Chapter 4) over time. Specifically, I examine whether their developmental trajectories translate to behavioral

change as perceived by their followers. This behavioral change matters because frontline leaders operate in complex conditions when trying to support truck drivers' career sustainability (Chapter 3). The central question central in this study is: *How do distinct pathways of leader development unfold within a learning community, and how do these pathways relate to leaders' behavioral change at work?*

Thesis outline

This dissertation presents a rich, multi-method empirical investigation into how leadership towards career sustainability and leader development through participation in an LC unfold within the occupational context of truck driving—a blue-collar sector often overlooked in leadership research.

The structure of this dissertation mirrors a truck's assembly process. Like assembling a truck before it hits the road, this research begins by building a solid chassis (i.e., the foundation) through a **scoping review and exploratory meta-analysis on the role of occupational context in leadership behavior and follower outcome relationships** (Chapter 2). Then, the carrosserie and interior (i.e., the substance) are added through an in-depth qualitative **comparative case study** on the role of frontline leadership towards career sustainability (Chapter 3). The truck is then fueled by **theory-informed design of a Learning Community** tailored for the development of frontline leaders (Chapter 4). Finally, the road ahead is paved, and the driver placed behind the wheel, through a detailed **longitudinal, abductive grounded theory study** that reveals different pathways of leader development through participation in an LC (Chapter 5). In this dissertation, I aim to extend the scholarship and practice on (frontline) leader development with a specific focus on truck drivers' career sustainability. The next section details its theoretical and practical contributions.

Theoretical contributions

The four empirical chapters each address a distinct aspect of the overarching research question. Below I outline what each chapter contributes.

Chapter 2 establishes a conceptual foundation by systematically examining how occupational context has been treated in leadership research. Using a scoping review combined with an exploratory meta-analysis, this chapter

shows that most studies on leadership behaviors and follower outcomes, when transparently reporting the sampled occupations, have been carried out in white-collar contexts, leaving blue-collar settings largely unexplored. It responds to calls for a more nuanced theorization of context in leadership studies (Johns, 2018, 2024) and extends emerging work on occupation-as-context in work and organizational psychology (Dierdorff, 2019). By analyzing how the strength of leadership–outcome relationships differ across occupational groups, it contributes to contingency-based leadership theory (Day & Antonakis, 2012; Osborn et al., 2002) and identifies occupation as a boundary condition for leadership effectiveness.

Chapter 3 builds on this overview by turning to the empirical reality of the road transport sector. Through a qualitative comparative case study involving frontline leaders and truck drivers, it explores how structural conditions and individual agency interact in shaping career sustainability. The chapter contributes to the literature on career sustainability by revealing the tensions leaders and drivers face between short-term operational demands and longer-term goals for health, employability, and well-being (De Vos et al., 2020). It further develops an occupation-specific understanding of career agency by showing how truck drivers navigate their career agency in their work context.

Chapter 4 moves from understanding to intervention. It introduces and evaluates the LC as a context-sensitive approach to leader development in the transport sector. Drawing on multiple data sources, the chapter shows how LCs enable experiential and peer-based learning among frontline leaders (Bachkirova & Jackson, 2024). It also explains how such communities can be designed and sustained in operationally driven settings where formal training is often impractical (Decius et al., 2021). In doing so, it offers an alternative to more formalized development by demonstrating how leadership learning can be embedded in daily work and grounded in the specific challenges of blue-collar contexts. Finally, it offers practical insights for HR professionals and leadership facilitators on how to design and guide LCs that can stimulate both individual and collective learning for leaders (Garavan & McCarthy, 2008; Schipper et al., 2023).

Chapter 5 then examines the developmental outcomes of the leaders participating in the LC, as designed and implemented in Chapter 4, over time. Using longitudinal qualitative data from both leaders and their followers, it develops a typology that captures the distinct developmental pathways

of leaders through participation in an LC. This chapter advances leader development theory by linking specific mechanisms in a collective learning setting (i.e. the LC) (Day, Riggio, et al., 2021). The inclusion of follower perspectives adds a unique contribution by linking leaders' learning to observed behavioral changes at work (Vogel et al., 2021). An overview of these chapters and how they relate to the contributions outlined above is given in Table 1.1.

Practical contributions

Through this dissertation research, I contribute to practical insights by:

- Showing that safeguarding the long-term employability of truck drivers hinges on recognizing and developing the leadership exercised closest to the cabin. Dispatchers and other frontline supervisors decisively shape drivers' daily work experience and career outlook; without explicitly targeting these actors, sector-wide sustainability initiatives will fade or falter.
- LCs emerge as a way to professionalize such frontline leaders, especially when embedded in cross-organizational, "triple-helix" collaborations with educational institutions. This dissertation offers design guidelines for practitioners to set up an LC to foster leader development.
- By reframing leadership as something enacted both formally and informally, the study further invites policymakers and social partners to design interventions that reach the many "unofficial" influencers who steer front line workers' culture.
- Finally, I offer a methodological template, combining qualitative depth with rigorously evaluating whether these developmental efforts can help foster healthier, happier, and more productive road transport workforces.

Table 1.1 An overview of the chapters, the appropriate research questions, methodologies and contributions

Chapter	Research questions that are answered
1 – Introduction	What problem does the thesis tackle and why do truck drivers' careers and frontline leadership matter?
2 – Scoping review & meta-analysis	How is occupational context handled in leadership studies, and how does it shape the link between leadership behaviors and follower outcomes?
3 – Comparative case study	How do sector structures and daily working conditions affect truck drivers' agency and the role of frontline leaders in career sustainability?
4 – Learning Community design	Which Learning Community design elements (I) do frontline leaders perceive as effective, in what contextual conditions (C), through which learning mechanisms (M), and with what professional development outcomes (O)?
5 – Longitudinal LC evaluation	How do distinct pathways of leader development unfold within a learning community, and how do these pathways relate to leaders' behavioral change at work?
6 – Discussion	How do the combined findings of Chapters 2-5 answer the overarching question: *"How do frontline leaders in the Dutch road transport industry shape conditions that matter for truck drivers' career sustainability, and how does a learning community contribute to their development in this context?"*
	What does this mean for leadership theory and practice?

Methodologies used	Main contributions
Conceptual framing and narrative literature review.	Sets the scene, defines key terms, and lays out the overall research agenda for the dissertation.
Scoping literature review plus exploratory meta-analysis of prior leadership studies.	It shows that occupation acts as a moderator in leadership research and highlights blind spots in current theory.
Qualitative comparative case study (interviews with drivers and leaders, document analysis).	Reveals tensions between short-term operational pressures and long-term career sustainability and enriches theory on career agency in blue-collar work.
Design-based, multi-method evaluation of an inter-organizational Learning Community.	Provides actionable LC design principles for a blue-collar context
Longitudinal qualitative study with before–after follower feedback; cross-case typology building.	Clarifies when and how LC participation builds leader skills and translates into real workplace change, advancing leader-development theory and practice.
Integrative synthesis of all empirical chapters: cross-study comparison, theoretical reflection, and framework building.	Delivers a cross-level model that links occupation-as-context, frontline leadership behaviors, and leader development; distills practical guidelines for leader development through LCs in blue-collar settings and sets a future research agenda.

Chapter 2: The role of occupation in leadership behavior and follower outcome relationships: A scoping review and exploratory meta-analysis

This chapter is under revision at an international peer-reviewed journal as:
Van Zwol, W. G. A., De Jong, J. P., Van der Heijden, B. I. J. M., & Rusman, E. (2025). The role of occupation in leadership behavior and follower outcome relationships: A scoping review and exploratory meta-analysis. [Under revision, first round].

Abstract

In this research, we aim to explore the often-overlooked role of followers' occupation in leadership behavior studies. Through a scoping review of 1,083 articles, we found that 23% of leadership studies explicitly consider occupation as a contextual factor. Moreover, we concluded that there are patterns with respect to which leadership behaviors are studied within different occupational groups. To further scrutinize the role of occupations on research on leader behaviors and follower outcomes relationships, we conducted an exploratory meta-analysis ($k = 50$), which reveals that some leadership behaviors correlate differently with follower outcomes depending on occupational context. This study highlights the need for future research to adopt standardized occupational classifications, and to integrate occupation-as-context in study designs by utilizing alternative sampling methods. Practically, our findings can guide leaders, organizational practitioners, and educators in tailoring leadership development programs to enhance effectiveness across diverse occupational contexts.

Introduction

Is transformational leadership also effective for leading construction workers? And how about transactional leadership for teachers? Scholars have extensively studied leadership practices across diverse organizational settings, and the research community increasingly recognizes that effective leadership is highly context-dependent (Fernandez & Vecchio, 1997; Johns, 2024; Oc, 2018; Osborn et al., 2002). One critical contextual variable in research on the effectiveness of leadership behavior is follower's occupation.

The contemporary labor market is marked by a high degree of occupational heterogeneity, with the number and nature of occupations continuously evolving (Cortes & Salvatori, 2019). Currently, there are over a thousand different identified occupations worldwide (National Center for O*NET Development, 2023). An occupation is henceforth referred to as "*a group of work roles spanning multiple organizations that share a similar set of work requirements (e.g., tasks and responsibilities), methodologies, objectives, or worker requirements (e.g., knowledge, skills, abilities)*" (Morgeson et al., 2010, p. 352). Most of these occupations are embedded within organizations where interactions with leaders significantly influence employee performance, motivation, well-being, and turnover (Hiller et al., 2011).

Nevertheless, despite being a critical contextual factor, follower's occupation is still poorly understood as a contextual dimension in leadership research (Abbott, 1993; S. Johnson et al., 2005). This is problematic as occupational contexts significantly shape leadership effectiveness, and encompass distinct cultural dynamics, professional norms, expertise demands, and workplace stressors (Ashforth et al., 2007). Each occupation fosters unique subcultures defined by shared belief systems, values, customs, jargon, and status markers, all of which influence employees' responses to leadership practices (Barley, 1996; Dierdorff, 2019).

Traditionally, occupations are categorized more broadly: *White-collar* work involves non-manual, cognitive-intensive jobs like office, clerical, and administrative roles, usually paid with a fixed wage (Cappelli, 2008; OECD, 2002). *Blue-collar work* refers to manual, labor-intensive jobs such as fabrication, assembly, and transport, often paid hourly (Gibson & Papa, 2000; OECD, 2002). *Pink-collar* work includes service-related and healthcare jobs like nursing, teaching, and social work, characterized by moderate

physical activity and high interpersonal interaction (Barnes et al., 2021). Such occupational distinctions underscore the need for tailored leadership approaches recognizing variability in job characteristics, communication styles, norms, and professional cultures.

Despite the recognition of occupational diversity, insights into how occupational context impacts research on leadership behaviors and follower outcomes remain elusive. More specifically, so far, the literature has mainly included occupation as a background variable. In addition, contemporary research on leadership disproportionally focuses on white-collar occupations (Bergman & Jean, 2016). This imbalance creates a significant practical and theoretical problem: the dominance of white-collar samples potentially undermines the external validity and generalizability of leadership theories to other occupational contexts, thereby limiting the applicability of established or forthcoming leadership practices (Griggs et al., 2016; Landers & Behrend, 2015; Sliter et al., 2016). Besides, while previous research has advocated sector-specific approaches to study leadership in context (Johns, 2024), such methods often aggregate distinct occupations, thus limiting the exploration of inter-occupational differences. Consequently, there is a lack of insights into the impact occupational contexts have on how and to what extent leadership practices translate into follower outcomes. Addressing this problem is important because occupational nuances may perpetuate more effective or appropriate leadership practices in diverse occupational settings, with more tailored implications for employee well-being and organizational effectiveness. Therefore, in this study we aim to explore a) how occupational context is considered in research on leadership behaviors and follower outcomes, b) how occupational context associates with specific leadership behaviors, and c) explore the moderating role of occupations in the association between leadership behaviors and follower outcomes.

In the last few decades, the majority of leadership research has focused on leadership behaviors (T. Fischer & Sitkin, 2022; Hiller et al., 2011; Yukl et al., 2019). Recognizing the central role occupational context plays in organizations (Barley, 1983; Dierdorff, 2019; Trice, 1993), it is imperative to clarify how occupation is integrated into the study of leadership. Based on a scoping review, we identify and synthesize empirical research to assess how occupations have been represented in the existing leadership literature, highlighting critical patterns and potential areas of omission. Further, we perform an exploratory meta-analysis examining occupation as a moderator

in the relationship between leadership behaviors and follower outcomes, providing a first exploration of its influence in this relationship.

With this study, we make several contributions to the literature in this domain. First, by conducting a scoping literature review examining how occupation-as-context is considered in studies on leadership behaviors and follower outcomes, we respond to earlier calls to shed more light on the role of context in leadership research (Johns, 2018, 2024), and on the role of occupational context specifically (Dierdorff, 2019). Second, by examining the moderating influence of occupation through an exploratory meta-analysis, we highlight the importance of contingency factors that shape leadership effectiveness (Day & Antonakis, 2012; Liden & Antonakis, 2009; Osborn et al., 2002). Ultimately, by focusing explicitly on occupation, our research provides insights necessary for developing more nuanced, occupation-sensitive leadership theories and practical guidance that is tailored specifically to the unique demands of diverse occupational groups (e.g., Tomova Shakur et al., 2024).

Theoretical framework

Follower's occupation-as-

Organizational psychologists defined occupations as "the collections of work roles with similar goals that require the performance of distinctive activities as well as the application of specialized skills or knowledge to accomplish these goals" (Dierdorff, 2019, p. 399). According to role theory, occupations are social roles within broader society and organizations, shaping behaviors and interactions based on role expectations and responsibilities (Biddle, 1986; Parsons & Shils, 1959). Different occupations are delineated by cognitive, affective, and technical requirements, influencing societal perceptions and workplace interactions (Imer et al., 2014; Koenig & Eagly, 2014). The norms and structures surrounding occupations evolve through socialization, impacting individual attitudes, performance, and behaviors at work (Ashforth et al., 2007; Dierdorff, 2019; Frese, 1982; Moreland & Levine, 2002). This process tends to categorize individual variances more prominently based on occupation rather than on the organization an individual works for (King et al., 2017; Landy, 1972).

The perspectives from organizational psychology and role theory on occupations share one common denominator: Occupations form an important

contextual dimension for determining individual's behaviors, attitudes, and cognitions. This can be explained by five mechanisms: Occupations 1) shape meaning, 2) dictate salience, 3) reveal antecedents, 4) reciprocate change, and 5) impinge relationships (Dierdorff, 2019). First, and most strongly connected to leaders in organizations, occupations either intensify or diminish the crucial connections that link individual positions and organizations (Bhave & Glomb, 2016; Bouville et al., 2018; Eschleman et al., 2014; Fila et al., 2017; Sluss & Ashforth, 2008). This implies that the nature of one's occupation not only influences individual roles within an organization, but also intricately shapes interpersonal dynamics within the workplace. In other words, occupations impinge relationships.

Second, occupations serve as a framework by guiding individuals in the process of perceiving, interpreting, and attributing significance to their roles within the workplace and their respective organizations (Kossek & Perrigino, 2016; Sy et al., 2010). As such, occupation is a lens through which 'sensemaking' unfolds (Sluss & Ashforth, 2008; Weick, 1995). Taking an occupational perspective, employees actively shape the meaning, significance, and importance of their jobs, and herewith their careers. For instance, truck drivers may have a different meaning of what a career implies compared to academics (Hennequin, 2007).

Third, occupations establish foundational benchmarks for phenomena related to work, and they also confine behaviors, attitudes and emotions in a comparative context (Dierdorff et al., 2009; Jahncke et al., 2017). This implies that one's occupation not only sets expectations for work-related phenomena but also influences how individuals express themselves and respond to their roles in comparison to established occupational norms. For example, it is expected of teachers to be deeply committed to the academic and personal development of their students and express themselves through their teaching style.

Fourth, occupations serve as influential dimensions that precede and influence individual outcomes, including requirements for specific individual attributes, social environments, and vocational interests (Dierdorff & Ellington, 2008; Grzywacz et al., 2016; Innstrand, 2016). In essence, the nature of one's occupation acts as a precursor, influencing various facets of an individual's on-the-job experience, such as the skills and qualities they cultivate, the social context within which they operate (including interactions with peers, clients, supervisors, and subordinates), and the potential avenues for career mobility.

Finally, occupations exert an influence on the development and evolution of individual attitudes, behaviors, traits as well as on work-related outcomes (i.e., in-role and extra-role performance) (Jackson et al., 2012; King et al., 2017; Wille & De Fruyt, 2014). Basically, the context and demands of a particular occupation contribute significantly to the professionalization and development of individuals, herewith emphasizing the interplay between work environments and individual development (DeFillippi & Arthur, 1996; Vroom, 1964).

Leadership behaviors in the context of follower's occupations

As illustrated by the five mechanisms above, follower occupation-as-context encapsulates several contextual dimensions in relation to both follower outcomes and the orientations of leadership behaviors that could facilitate these outcomes. Leadership behaviors are framed as the behaviors of the leader that affect other individuals or groups, and that are intended to facilitate efforts to accomplish shared objectives (Yukl, 2012). Over the past decades, there have been several taxonomies to categorize leadership behaviors. For example, Yukl (2012) proposed four categories of leadership behaviors that have different orientations or goals with respect to follower behaviors: Task-oriented, relations-oriented, change-oriented, and external leadership behaviors. Building on Yukl's taxonomy, Behrendt and colleagues (2017) focused on the categories of task- and relations-oriented leadership behaviors in their integrative model of leadership behaviors, where task-oriented behaviors aim to "directly support the process of accomplishing shared objectives (p. 234)", while relation-oriented behaviors refer to behaviors that "influences other individuals such that they invest their efforts in the process of accomplishing objectives (p. 236)". Considering the specific tasks, norms, interpersonal dynamics, and sensemaking associated with occupations, being confident of which leader's behaviors directly or indirectly support the process of complying with the different orientations or goals with respect to follower behaviors is quite complex. For example, what could be effective leadership behaviors in supporting the process of accomplishing shared objectives for nurses does not necessarily work for manufacturing workers.

Moreover, the aforementioned mechanisms behind occupational variations in behaviors, attitudes, and cognitions may also inform leader prototypes and thus leader schemas (Hogg & Terry, 2000; Van Knippenberg & Hogg, 2003; Van Quaquebeke et al., 2014). What is viewed as an ideal leader could be different for accountants than for police officers. Put simply, in order to be able

to wield an influence over their followers, follower's occupation-as-context and the desired behaviors, attitudes and cognitions associated with a specific occupation may inform leader's perceptions and, very likely, their behaviors towards followers (Ajzen, 1991). Hence, it can be expected that next to different behaviors, attitudes, and cognitions associated with an occupational group, leadership behaviors also differ per occupational group.

Therefore, we aim to review how follower occupation-as-context may affect leaders' behaviors as it constitutes the basis for how leaders enact influence on follower outcomes including their behavior, attitudes, and cognitions. For doing so, we review the literature on leadership behaviors and follower outcomes to understand how occupations have been considered as a contextual factor in the literature so far, being guided by our first set of research questions:

RQ1) How has follower's occupation-as-context been included in previous research on leadership behaviors and follower outcomes?

RQ2) What leadership behaviors have been studied across follower occupational groups?

Exploring leadership outcomes within follower's occupation-as-

In previous decades, several leadership theories have contextualized the effectiveness of different types of leadership behaviors: Contingency theory (Fiedler, 1967, 1971), path-goal theory (House, 1971, 1996), life cycle theory (Hersey & Blanchard, 1982), cognitive resource theory (Fiedler & Garcia, 1987), and decision process theory (Vroom & Yetton, 1975). These theories often emphasized a leader-centric view, suggesting that leadership effectiveness relies on a leader's adaptability to different situations. While this leader-centric focus has dominated discussions on leadership effectiveness so far, the equally vital follower-centric view has been largely overlooked (Oc et al., 2023).

More recently, leadership research has adopted a follower-centric lens (e.g., Epitropaki et al., 2017; Khan et al., 2020), highlighting the follower's occupation as a critical contextual factor in the relationship between leadership behaviors and follower outcomes. This perspective poses that leaders function within a context that is intricately intertwined with the dynamics of their followers. Specifically, using servant leadership for a team of marketing specialists working in an office could be effective, but is it also effective leading a group of construction workers facing challenging whether-related circumstances?

By way of Social Identity Theory (Tajfel & Turner, 1979; Van Knippenberg & Hogg, 2003), it can be argued that occupations are salient groups which inform one's work-related identity (Berg et al., 2010; Welbourne & Paterson, 2017). Then, occupation as an identity shapes interactions with others through a process of group socialization which, in turn, shapes individual attitudes, performance, and behaviors (Levine & Moreland, 1994). Organizational members undergo a process of socialization and draw from past interactions with leaders, hereby constructing cognitive frameworks known as ILTs (Eden & Leviatan, 1975). These ILTs, functioning as prototypes or comprehensive structures, serve as the basis for categorizing various leadership attributes. The longer a member is in a certain group, the stronger a certain prototype will become as is shown by Steffens et al. (2021). When individuals utilize these frameworks to identify their leaders, subsequent cognitive processing relies on the general structure and information stored in their (semantic) memory, herewith streamlining the evaluation process by eliminating the need to recall and assess specific behaviors (Lord et al., 2020). Individuals utilize ILTs as cognitive frameworks to interpret the behaviors of others and to shape their own actions. This phenomenon is underscored by the insights from Rush and Russel (1988), who revealed that individuals sharing similar prototypes are inclined to assess leaders in a comparable fashion, even when they have not directly interacted with the same leader. Expanding on this view, Lord et al. (2020) conducted a comprehensive review of empirical studies, establishing that ILTs exert an indirect influence on followers' attitudes and job performance through their impact on various leadership variables. All in all, we posit that context plays a key role in interpreting and acting on different leadership styles, determining how effective leaders are in specific occupational domains, providing potential nuances in regard to what extent leadership behaviors relate to follower outcomes. Therefore, in this study we also intend to explore to what extent followers' occupation significantly influences the effectiveness of leadership behaviors, leading to our third research question (see Figure 1):

RQ3: To what extent does occupation moderate the relationship between leadership behaviors and follower outcomes?

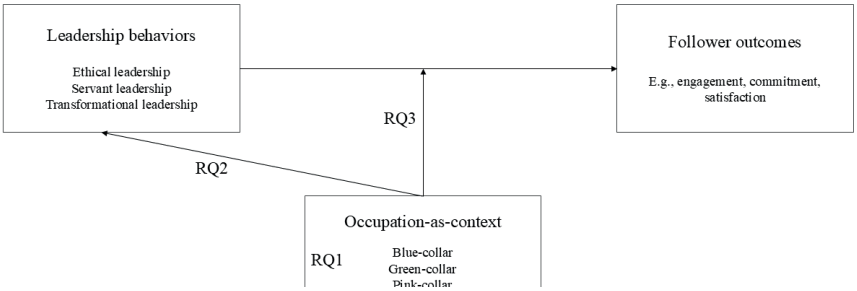

Figure 2.1 Conceptual model for the scoping review

Methods

Literature search strategy

We conducted a scoping review of the sample sections in empirical studies on leadership behaviors and follower outcomes. This method allowed us to systematically map how followers' occupation is considered across leadership studies. This approach allowed us to identify patterns, gaps, and trends across a broad body of literature. We followed the PRISMA-ScR guidelines for our scoping review (Tricco et al., 2018). Two elaborate bibliographic databases (Web of Science and Business Source Complete) were used for our search query (see Table 2.1)[1]. This generated a total of 9,341 articles after de-duplication. To facilitate title and abstract screening, we utilized ASReview (Version 0.18): An open-source machine learning tool designed to enhance efficiency and accuracy in systematic reviews (Van de Schoot et al., 2021)[2]. As suggested by simulation data, we implemented a pre-defined stopping rule to screen 33% of the entire dataset (n = 3,083) to ensure a balanced inclusion of relevant papers (Van de Schoot et al., 2021). Review selection and characterization were conducted independently by the first two authors of this article, following the pretested inclusion criteria.

1. The query draws partly from previous reviews of the literature and the frequent mention of 'employee outcomes in various leadership studies.
2. ASReview utilizes a naïve Bayes approach for effective text classification and has recently been successfully adopted by management scholars for review processes (Dores Cruz et al., 2021; Robledo et al., 2021)

Table 2.1 Concepts of the search query

#1 Core Concept	AND	#2 Core Concept	AND	#3 Core Concept
Lead*		Employee*		Outcome*
OR		**OR**		**OR**
Forem*n		Subordinate*		Response*
OR		**OR**		**OR**
Manager*		Follower*		Reaction*
OR				
Supervis*				
OR				
Boss*				

Compete query = (lead* OR manager* OR supervis* OR boss* OR forem*n) AND ((employee* OR subordinate* OR follower* OR worker* OR labo*rer*) AND (outcome* OR response* OR reaction*OR behavio*r*))

Inclusion criteria

In this review, we focused specifically on positive leadership behaviors such as transformational, ethical, servant, and authentic leadership. Hereby, we explicitly excluded concepts such as destructive leadership behaviors. We excluded concepts such as Leader-Member Exchange (LMX), self-leadership, and shared leadership, as these concepts do not directly reflect the behavioral actions displayed by leaders. We also enhanced validity of our work by including only studies which incorporated dyadic data on leadership behaviors and follower outcomes (Krasikova & LeBreton, 2012). Finally, we excluded studies with (full-time) student samples to focus on actual occupational settings.

Our review covered research from January 2010 to April 2024, hereby selecting the most comprehensive subset of empirical research on leadership behaviors and their relationships with follower outcomes since research on leadership behaviors began (Samul, 2020).

In the first screening round, the first and second authors independently reviewed the titles and abstracts of 100 publications, reducing the dataset to 1,212 publications. We excluded 93 pre-2010 publications, and after full-text review, found that 36 did not meet our inclusion criteria. For Research Question 1, we initially assessed 1,083 publications. To ensure consistency, the first two authors cross-checked a random sample of 75, evaluating how occupations were mentioned in the full text. Through this process, the selection was refined to 244 publications, which were used to address Research Question 2 (see Figure 2 for an overview).

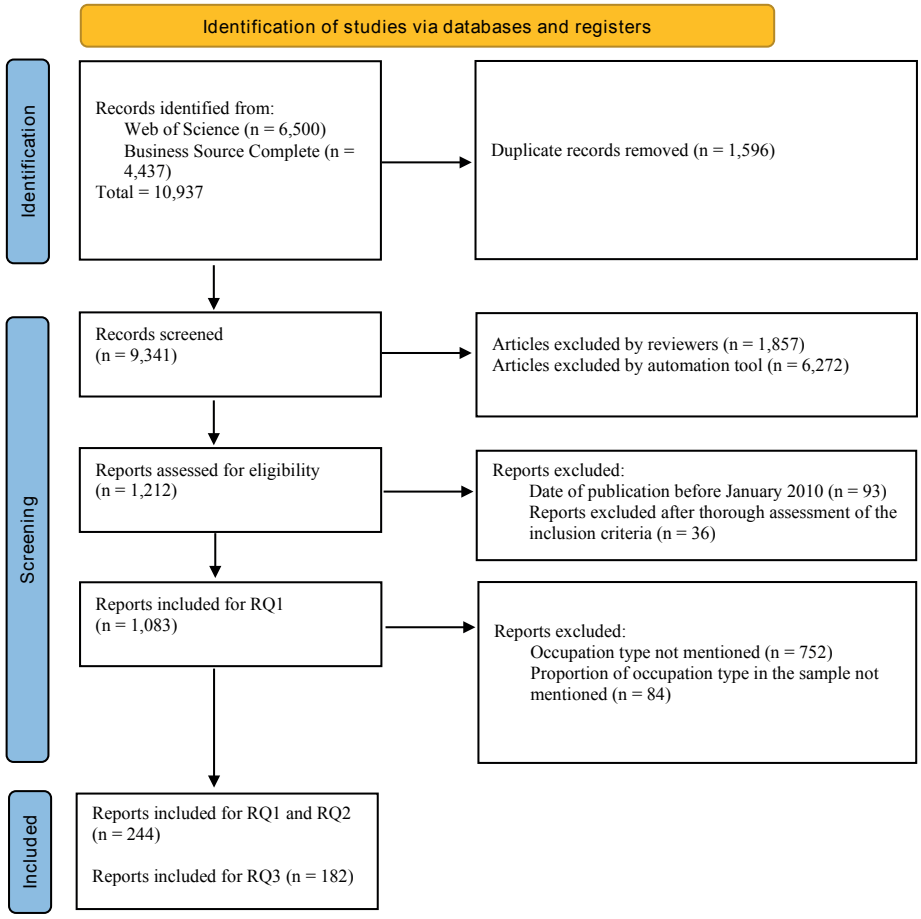

Figure 2.2 PRISMA diagram for the scoping review

Categorization of blue-, white-, pink-, and green-collar occupations

To objectively code occupations into 'collar' categories, we used the ISCO-08 classification system (International Labour Organization, 2012). This system distinguishes ten major groups: White-collar workers include managers (1), professionals (2), clerical support workers (4), and services and sales workers (5) (EurWORK, 2023). The category of blue-collar workers, who perform mainly physical or manual tasks, include skilled agricultural, forestry, and fishery workers (6), craft and related trades workers (7), plant and machine operators and assemblers (8), and those in elementary occupations (9). Pink-collar workers, being the third category of workers, are associated with healthcare or service roles, and include health professionals, health associate professionals, personal service workers, personal care workers,

cleaners, and helpers, and street and related sales and service workers, mainly falling under technicians and associate professionals (3) (Barnes et al., 2021). Military personnel, classified as armed forces (10) in ISCO-08, are considered Green-collar workers, comprising the fourth overarching category of workers.

Meta-analytic procedure

To answer RQ3, we conducted an exploratory meta-analysis. In the process of study selection and clustering, we formed 7 cluster pairs[3] (leadership styles - follower outcomes). Each cluster pair was examined across a minimum of five independent samples, spanning at least two occupational groups, but only those cluster pairs with a homogeneous sample from a single occupational category (blue-, white-, pink-, or green-collar) were analyzed ($k = 50$). Contact was made with the authors of studies that did not include the data that is required for effect size calculations in their publication[4]. Effect sizes were computed as Fisher's z-transformed correlation coefficients, based on reported correlation coefficients and corresponding sample sizes. This transformation was applied to stabilize variance and to normalize the distribution of correlation coefficients. Fisher's z-transformed correlation (z) coefficients were used to represent standardized relationships across occupational groups (Meng et al., 1992; Silver & Dunlap, 1987).

The "metafor" package in R was used (Viechtbauer, 2010, Version 4.8) to calculate meta-analytic estimates and to perform moderator analyses. Aligning with our research question and following best practice, we adopted a hierarchical subgroup moderator meta-analysis (Schmidt, 2017). A random effects meta-analysis model was then fitted using the Restricted Maximum Likelihood (REML) estimation method which assumes that effects being estimated in different studies are not identical, because they represent a random sample of all possible effect sizes (Borenstein et al., 2010). To assess homogeneity of effect sizes across the included studies, we computed 80% credibility intervals showing the range in which 80% of the population correlations fell. To obtain more accurate standard errors and confidence intervals for the estimated average effect, the Knapp-Hartung adjustment was applied (Knapp & Hartung, 2003). Moreover, the I^2 and τ^2 test-statistic were examined and Cochran's Q-test was executed

3. These cluster pairs were formed by the first and second author of this article based on the conceptual clustering as proposed by Hiller et al. (2011).
4. The first author obtained two usable datasets in response to this request.

(Cochran, 1950)[5]. We examined 'occupational group' as a categorical (i.e., subgroup) moderator via meta regression and subgroup analyses. Subgroup moderator analyses can be performed even when *k* is small or when there is low variability in moderator levels (Schmidt, 2017).

Publication bias

To assess potential publication bias in our meta-analysis, Egger's and Begg's tests, being recognized methods for detecting asymmetry in funnel plots (Kepes et al., 2012), were conducted for each leadership behavior and follower outcome cluster separately. Egger's test revealed a significant result for Servant leadership – Satisfaction outcomes ($p < .05$), indicating a possible publication bias for these relationships. Begg's test, being a rank correlation test, did not yield a significant result. This indicates a significant relationship between the standardized effect estimate and the standard error for servant leadership with satisfaction outcomes, but not for the variance. Other clusters did not exhibit a significant risk of publication bias according to both Egger's and Begg's tests.

Results

The description of occupational context

In this section, we address Research Question 1: How has occupation as a context been included in previous research on leadership behaviors and their outcomes? We explored four distinct approaches to examine the inclusion of occupational context: (1) describing occupational context, (2) controlling for occupational context, (3) modelling occupational context as a variable, and (4) utilizing occupational proxies (see Table 2.2 for an overview).

1) *Occupational context as description (n = 244):* To evaluate whether sample sections in leadership research account for occupational context, we analyzed 1,083 relevant studies. Of these studies, 835 (77%) did not provide information about the specific occupation types sampled. For instance, Breevaart et al. (2016) examined the association between transformational leadership and job performance, but did not specify respondents' occupations, even

5. The heterogeneity tests (I^2 and Cochran's Q) showed significant variance in several relationships: ethical leadership with motivational outcomes, servant leadership with both motivational and satisfaction outcomes, and transformational leadership with both job performance and motivational outcomes. This suggests that residual heterogeneity, possibly due to confounding variables or sampling error, may indicate other unaccounted factors influencing these outcomes across different contexts and studies.

though they reported other demographic data. Similarly, Tepper et al. (2018) investigated follower responses to transformational leadership, but did not mention the job types of the included MBA students and university employees. Even when authors mentioned occupation types, they often omitted the ratio between them, as seen in Van Dierendonck's (2014) work on servant and transformational leadership. This led to the exclusion of 84 studies. Hence, we concluded that 244 studies did report information on the occupational context.

2) Occupational context as control (n = 17): In our review, we noticed that many studies asked respondents to indicate their employment sector, which can influence leadership behaviors and their effects on followers (e.g., Braun & Nieberle, 2017; Darren et al., 2022). Interestingly, controlling for occupational sector did not typically yield significant differences in follower outcomes (Oc, 2018). However, some studies suggested that controlling for occupation might be more relevant. For example, Nikolova et al. (2019) examined engaging leadership's and its relationship with employee engagement while controlling for occupation, but found no significant effect, likely due to the homogeneous sample. Similarly, Zeng and Xu (2020) controlled for professional titles when studying ethical leadership's relationship with work engagement among university teachers, finding no significant correlations either, which may also be due to the homogeneity of their faculty staff sample.

3) Occupational context as modelled variable (n = 3): Previous leadership studies have rarely included occupation-as-context as a modelled variable. Most studies examining the relationship of leadership behaviors with follower outcomes used quantitative designs, which could incorporate the occupational context as a moderator, mediator, or predictor of leadership behaviors. An exception to this trend is the study by Tourangeau et al. (2010) who gathered a diverse sample spanning various job categories (e.g., blue-collar, white-collar, and pink-collar occupations). In this case, the authors investigated differences in perceived leadership practices (cognitive, behavioral, and supportive practices), turnover intention, job satisfaction, and their antecedents, across different occupations. While perceived leadership practices showed no differences across occupations, variations in follower outcomes (e.g., turnover intention and job satisfaction) emerged between allied professionals and non-professionals, herewith suggesting occupational-related distinctions in work attitudes.

4) Occupational proxies (n = 28): In leadership research, occupational context is most often represented through occupational proxies, which we can consider

as discrete-level contextual variables. These proxies include job characteristics that differentiate across various occupations, such as emotional labor, social support, job autonomy, role clarity, and job formalization. These characteristics are frequently used as mediating, moderating or control variables to explain how leadership behaviors relate to follower outcomes. For instance, Zheng et al. (2020) demonstrated that emotional labor mediates the effect of benevolent leadership on teacher commitment. Similarly, Nikolova et al. (2019) found that engaging leadership's relationship with employee engagement is mediated by social support and job autonomy. In Ma et al.'s (2020) study, the possible role of occupational proxies as moderators was observed. Specifically, their study found that job formalization acted as a moderator, influencing the relationship of transformational leadership with employee creative performance.

Table 2.2 Overview of the inclusion and frequency of follower's occupation-as-context in research on the linkage between leadership behaviors and follower outcomes

Follower's occupation-as-context approach	**N**
1) Follower's occupational context description	244
2) Follower's occupational context control	17
3) Follower's occupational context as modelled variable	3
4) Follower's occupational proxies	28
Troop type	1
Safety concern	3
Extreme events	1
Industry characteristics	2
Department	4
Job formalization/control	2
Perceived safety obligations	1
Job demands / job resources	7
Service role identity	1
Hazard exposure	1
Computer-mediated immediate behaviors	1
Job content	1
Emotional labor	1
Occupational stress symptoms	1
Relational coordination	1

Overseeing the trend in the literature, our findings indicate that occupational context was not consistently reported, with 77% of relevant publications (N = 844 out of the 1,083) in our dataset not reporting this information. While occupational

context, or a proxy thereof, is sometimes included as a control variable, in most samples its association remains unclear due to homogeneous sampling. Moreover, occupation is rarely used as a direct variable in quantitative models; instead, researchers often rely on occupational proxies–variables closely linked to job characteristics–which serve as mediators or moderators to better capture the effects of these characteristics. In summary, up until now, there is limited attention for the role of follower's occupation-as-context in leadership research.

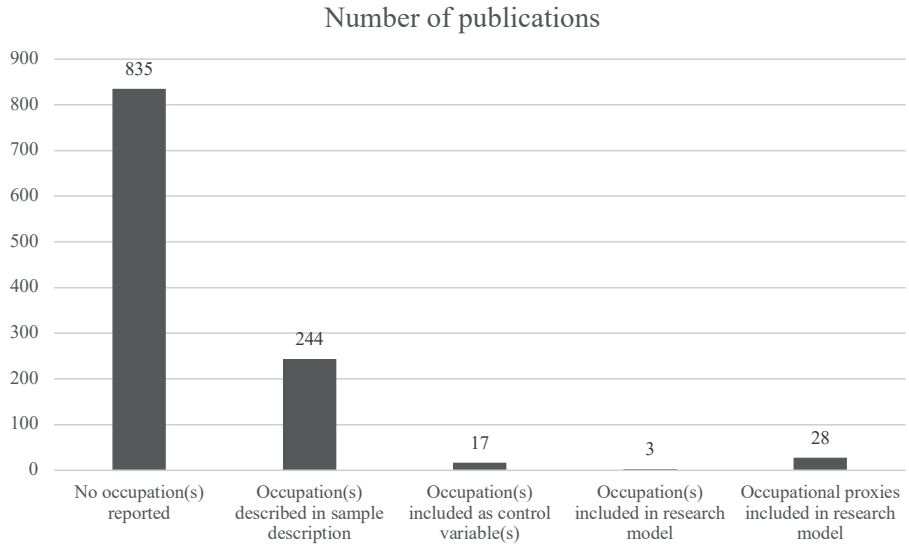

Figure 2.3 A bar chart of the amount of publications that included occupation-as-context

The emerging patterns of leadership behaviors across occupations

In this section, we report our outcomes on the variation of leadership behaviors across occupational groups (RQ2). Based on 244 publications, we summarize patterns for the four overarching categories distinguished earlier in this article: blue-collar, white-collar, pink-collar, and green-collar occupations. Transformational, servant, and ethical leadership have been extensively studied in white- and pink-collar contexts but rarely in blue- or green-collar settings. For example, despite the popularity of servant leadership, its effects are seldomly explored among blue-collar workers, with some exceptions. The research by Harju et al. (2018), who studied the effect of servant leadership on job boredom and job crafting in a heterogeneous sample with blue-, white-, and pink-collar occupations, is an example in this regard. Task- and relationship-oriented as well as empowering leadership behaviors have also been neglected in empirical work on blue-collar samples so far. In contrast,

specific leadership behaviors, such as health- and safety-specific leadership, appear to have dominated the scholarly research on blue-collar workers. Green-collar occupations remain underrepresented, with a limited focus on transformational, ethical, and narcissistic leadership.

In sum, our review of 244 publications revealed considerable disparities in specific approaches in leadership research across occupational groups. Transformational, servant, and ethical leadership styles have been frequently studied in white- and pink-collar occupations but rarely examined in blue- and green-collar contexts. Furthermore, task-, relationship-oriented, and empowering leadership behaviors remain largely unexplored among blue-collar occupations. Moreover, direct comparisons between occupational groups are limited, hereby highlighting a clear need for more inclusive and comparative research in this scholarly domain.

Leadership behaviors and follower outcomes' relationships across occupations

To facilitate meaningful comparisons of occupations in exploring RQ3, we included studies with homogeneous worker groups and ensured that each leadership style-follower outcome relationship was represented by at least two occupational categories. This resulted in the selection of 182 out of 244 publications.

Our comparative analysis revealed distinct patterns across occupational groups. Research on blue-collar workers prominently focused on leadership styles like safety-specific transformational leadership and safety-related outcomes, although innovation, commitment, and job satisfaction were also addressed. In contrast, empirical work on white-collar workers emphasized transformational leadership, linking it broadly to creative performance, organizational commitment, and turnover intentions, but rarely addressing safety.

The outcomes related to pink-collar samples closely resembled the white-collar patterns, highlighting transformational leadership's relationship with engagement, burnout, well-being, and trust. The findings for green-collar studies emphasized psychological outcomes, resilience, and work engagement, frequently exploring the relationship of transformational leadership alongside ethical and narcissistic leadership. Altogether, our findings highlight distinct occupational priorities and underline the importance of context-specific leadership research.

Table 2.3 Conceptualizations of the leadership styles used in the meta-analysis

Leadership style	Conceptualization
Ethical leadership	Ethical leadership is the practice of influencing others through principled and moral behavior that promotes trust, fairness, and respect. Ethical leaders prioritize the welfare of their employees, organizations, and broader society by fostering a culture of integrity, accountability, and ethical decision-making. Additionally, the concept includes dimensions of being a moral person and a moral manager, which involves leaders being honest, trustworthy, fair, and concerned for others while also using their position to promote ethics through role modelling, setting standards, and ensuring accountability (Brown & Treviño, 2006; Den Hartog, 2015)
Servant leadership	Servant leadership is centered on the personal development and well-being of followers. Servant leaders prioritize the needs of their subordinates over their own needs, fostering growth and success through genuine concern and ethical behavior. The core premise is that leaders serve followers by understanding their unique abilities, needs, and goals, thereby building their self-confidence and providing necessary resources and support. This leadership style emphasizes building long-term relationships, personal integrity, and serving multiple stakeholders, including the community and society at large (Greenleaf, 1977; Liden et al., 2008; Van Dierendonck, 2011).
Transformational leadership	Transformational leadership is a leadership style that inspires and motivates followers to exceed expectations by fostering an environment of innovation, intellectual stimulation, and personal development. This leadership style is characterized by articulating a compelling vision, using inspirational communication to build motivation and confidence, intellectually stimulating followers to think creatively, providing individualized support and recognition, and fostering a positive organizational climate (Bass & Riggio, 2005; Rafferty & Griffin, 2004)

Meta-analysis: Follower's occupation-as-context as a moderator in leadership behaviors and follower outcomes' relationships

To further explore the contextual role of occupation, we employed an explorative meta-analytical approach, examining the three most prevalent leadership styles in our dataset: ethical leadership, servant leadership, and transformational leadership (see Table 2.3 for the conceptualization of these styles). Hoch et al. (2018) indicated that ethical leadership and transformational leadership are highly intercorrelated; however, the aim of our meta-analysis was not to evaluate the strength of relationships between specific types of leadership behaviors and follower outcomes, but rather to explore potential variations of patterns across occupational categories. Given that each leadership style has previously been examined in relation to various follower outcomes across distinct occupational groups (blue-, white-, pink-, and green-collar), we were able to explore the variability of these relationships across occupational categories in our meta-analytic approach. We first examined the pooled relationships between

leadership styles and follower outcomes to establish a baseline understanding of the average strength and direction of these associations. Establishing this baseline allowed us to clearly identify the general patterns underlying these relationships before examining how occupational categories might moderate or introduce variability into these associations (see Table 2.4). Thereafter, we explored 'occupational group' as a categorical moderator to examine potential variations in the relationship of leadership behaviors with follower outcomes. This approach allowed us to examine differences in effect sizes across various occupational categories (see Table 2.5).

Table 2.4 Meta-analysis results for the clusters: leadership behaviors and follower outcomes

											80% CV		95% CI	
Leadership style	**Follower outcome**	**k**	**N**	**ρ**	**SE_ρ**	**r**	**SEr**	**Qb**	**τ^2**	**I^2**	**Lower**	**Upper**	**Lower**	**Upper**
Ethical leadership	Motivational outcomes	5	1519	.42**	.06	.39	.06	23.97**	.014	79.68%	.33	.45	.25	.52
Servant leadership	Job performance	6	2264	.40**	.09	.38	.10	83.29**	.052	94.58%	.27	.48	.15	.57
Servant leadership	Motivational outcomes	8	2528	.46**	.10	.43	.10	181.81**	.079	96.08%	.32	.53	.22	.61
Servant leadership	Satisfaction outcomes	5	2229	.63*	.14	.56	.14	121.18**	.096	97.61%	.43	.67	.24	.77
Transformational leadership	Job performance	12	3791	.37***	.06	.35	.06	102.06**	.041	90.66%	.28	.42	.22	.47
Transformational leadership	Commitment outcomes	6	2437	.32*	.11	.31	.09	86.01**	.046	94.80%	.20	.41	.08	.50
Transformational leadership	Motivational outcomes	8	2431	.33**	.09	.32	.09	149.41**	.059	94.27%	.21	.41	.12	.49

Notes: k = the number of samples in each analysis; N = sample size; r = mean correlation; SEr = standard error of the mean correlation; ρ = pooled effect size; SEρ = standard error of the pooled effect size ; Qb = Cochran's Q statistic; τ^2 = square root of estimated tau; I^2 = residual heterogeneity; CV = credibility interval; CI = confidence interval.

** = sign < .001 * = sign < .05 † = sign < .10

Table 2.5 Summary of meta-analytic regression analysis for occupational groups

Cluster	Occupational group	k	N	r	SEr
Ethical leadership & Motivational outcomes	Pink-collar	2	657	.31	.07
	White-collar	3	862	.17	.09
Servant leadership & Job performance	Blue-collar	1	148	0.27	0.11
	Pink-collar	2	1036	0.38	0.12
	White-collar	3	1080	-0.02	0.12
Servant leadership & Motivation outcomes	Blue-collar	1	277	0.48	0.31
	Pink-collar	2	712	0.06	0.38
	White-collar	5	1539	-0.11	0.34
Servant Leadership & Satisfaction outcomes	Pink-collar	1	299	0.55	0.35
	White-collar	4	1930	0.02	0.39
Transformational leadership & Job performance	Blue-collar	4	796	0.37	0.12
	Green-collar	2	361	0.11	0.21
	Pink-collar	3	795	-0.14	0.18
	White-collar	3	968	-0.01	0.18
Transformational leadership & Commitment outcomes	Blue-collar	2	636	0.30	0.01
	Pink-collar	1	316	-0.40	0.02
	White-collar	3	1485	0.15	0.02
Transformational leadership & Motivational outcomes	Green-collar	1	57	0.38	0.30
	Pink-collar	6	1818	-0.08	0.32
	White-collar	1	556	-0.07	0.40

Notes: k = the number of samples in each analysis; N = sample size; r = mean correlation; SDr = standard error of the mean correlation; CV = credibility interval; CI = confidence interval; F = test statistic of the omnibus of moderator test; Qb = Cochran's Q statistic; τ^2 = square root of estimated tau; I^2 = residual heterogeneity

** = sign < 0.001 * = sign < 0.05 † = sign < 0.10

80% CV		95% CI					
Lower	**Upper**	**Lower**	**Upper**	**F**	**Qb**	**τ^2**	**I^2**
.22	.39	.08	.49	3.14	8.591*	.007	65.65%
.05	.28	.13	.44				
.14	.39	-.06	.55	14.58*	7.811†	.005	62.27%
.24	.50	.01	.66				
-.17	.13	-.38	.35				
.11	.73	-.03	.88	.24	172.313***	.101	96.93%
-.42	.52	-.74	.79				
-.52	.42	-.77	.66				
.15	.80	-.50	.95	.00	119.056***	0.130	98.34%
-.46	.50	-.86	.87				
.23	.49	.11	.58	.44	85.659***	.0503	91.62%
-.16	.36	-.36	.53				
-.35	.09	-.50	.27				
-.24	.22	-.39	.38				
.28	.32	.26	.34	355.35*	.2414	.000	0.00%
-.42	-.37	-.45	-.34				
.13	.17	.10	.20				
.00	.66	-.38	.83	.03	143.742***	.080	95.68%
-.47	.33	-.73	.65				
-.54	.44	-.82	.77				

Ethical leadership and follower outcome relationships

Ethical leadership displayed a positive relationship with motivational outcomes, with significant heterogeneity across studies. The outcomes of the moderator test showed that the distinguished occupational groups were not significantly responsible for this variation ($df^1 = 1$, $df^2 = 3$, $F = 3.141$, $p = .17$).

Servant leadership and follower outcomes' relationships

The outcomes of the analysis regarding servant leadership demonstrated a positive relationship with job performance, with significant heterogeneity across studies. When incorporating occupational group as a moderating variable, the residual heterogeneity test yielded non-significant results under alpha ($\alpha = .05$). The moderator test showed significant differences across the blue-, pink-, and white-collar occupational categories ($df^1 = 2$, $df^2 = 3$, $F = 14.579$, $p = .03$). Specifically, the pink-collar group showed a stronger relationship between servant leadership and job performance, compared to the blue-collar, and white-collar groups. The other clusters of servant leadership (motivational and satisfaction outcomes) showed a positive relationship, with significant heterogeneity across studies. However, the moderation tests for servant leadership – motivational outcomes ($df^1 = 2$, $df^2 = 5$, $F = .243$, $p = .79$), and servant leadership – satisfaction outcomes ($df^1 = 1$, $df^2 = 3$, $F = .003$, $p = .96$) showed no significant heterogeneity explained by occupational category.

Transformational leadership and follower outcomes' relationships

The results of our analysis showed a positive relationship between transformational leadership and job performance, with significant heterogeneity across studies. Occupational group did not significantly moderate this relationship ($df^1 = 3$, $df^2 = 8$, $F = .44$, $p = .73$), and residual heterogeneity remained significant. Similarly, transformational leadership positively predicted motivational outcomes, with considerable heterogeneity as well. Again, occupational group did not significantly moderate this relationship ($df^1 = 2$, $df^2 = 5$, $F = .03$, $p = .97$).

Transformational leadership was again positively associated with commitment outcomes, with significant heterogeneity across studies. Yet, only for this cluster, moderation by occupational group explained significant heterogeneity ($df^1 = 2$, $df^2 = 2$, $F = 355.355$, $p < .01$), with the pink-collar group showing a negative relationship, and the blue- and white-collar groups showing positive relationships.

Discussion and research agenda

In this study, we set out to explore the role of occupations within the field of leadership, specifically examining how follower's occupation-as-context has been incorporated into research on the relationship of leadership behaviors and follower outcomes to date. Further, we conducted an exploratory meta-analysis to investigate the moderating role of follower's occupation-as-context in the relationship between leadership behaviors and follower outcomes. This study showed that, despite the relevant variance in work contexts that characterize occupations (Barley, 1983; Dierdorff, 2019; Trice, 1993), empirical work on leadership behaviors currently pays little attention to the role of follower's occupation-as-context. This is evident from our finding that only 23% of the papers in our dataset (N = 244) report about occupations at all, and that the vast majority (80%) of these papers (N = 196) use occupation as a background variable rather than a discrete variable in their models. This limited attention for follower's occupation-as-context is in line with the general context deficiency trend in leadership research (Johns, 2024; Oc, 2018; Oc & Carpini, 2024). While leadership behaviors like ethical, servant, and transformational leadership have been widely studied, our research reveals that there are occupation-specific patterns depicting differences in prevalence of including the different styles in empirical work so far.

Specifically, according to the outcomes of our scoping literature review, these three types of leadership styles have been well-represented in white- and pink-collar studies but underrepresented in blue- and green-collar ones. In white-collar settings, a variety of leadership styles have been examined, whereas pink-collar research focused mainly on transformational and servant leadership. Blue-collar studies rather emphasized health- and safety-specific leadership, while green-collar research rarely addressed the latter, instead focusing on transformational, ethical, and narcissistic leadership. This suggests that in white- and pink-collar professions a greater exploration of different leadership behaviors has been conducted compared to blue- and green-collar ones.

The exploratory meta-analysis on ethical, servant, and transformational leadership that we have employed as well, demonstrated significant relationships between leadership styles and follower outcomes, however, for some occupational groups the character of the relationships varied significantly according to the distinguished outcomes. In particular, we found that pink-collar workers' job performance could particularly benefit from

servant leadership. Moreover, while transformational leadership positively associated with job performance and motivational outcomes across all groups, its relationship with commitment outcomes was negative only for pink-collar workers. However, due to the limited availability of empirical studies on certain occupational categories, particularly the absence of blue- and green-collar groups, our research cannot conclude convincingly that certain leadership behaviors are ineffective. In other words, the distinguished leadership behaviors have not been studied frequently enough across occupational contexts to draw robust conclusions, hereby underscoring the exploratory nature of this meta-analysis.

Our work highlights the limitations in scholarly attention for the linkage between leadership behaviors and follower outcomes across occupational contexts. Given that most studies focused on white-collar professions, there may be a replication issue, implying that positive relationships between certain leadership behaviors and follower outcomes are assumed, yet not empirically tested across other occupational groups. This raises concerns about the generalizability of earlier findings across occupational groups, underscoring the need for more inclusive research across diverse work contexts to draw more robust conclusions about the relationship of leadership behaviors with follower outcomes.

Future research agenda

Through a scoping literature review and an exploratory meta-analysis on the relationships between leadership behaviors and follower outcomes across occupations, we provide an overview of how occupation is included in this scholarly field. Our findings revealed that occupational context plays a significant role in leader-follower dynamics, underscoring the need for more nuanced approaches in future work distinguishing between different leadership styles, follower outcomes, and between occupational categories. Consequently, we offer methodological and theoretical recommendations for future research (see Table 6 for a summary).

Methodological recommendations

First and foremost, we recommend future studies on leadership behaviors to include occupation-as-context in their research designs. To ensure comparability across studies, it is also crucial to standardize such an approach. We suggest using the ISCO-08 occupational classification system (International Labour Organization, 2012) to clearly define occupational categories. In our

current study, we initially distinguished between nine different occupational groups based on the ISCO-09-classification. However, studies were so unevenly distributed across the different occupations, that no meaningful conclusions could be drawn from this analysis, urging us to aggregate the occupations into broader classifications. When dealing with samples containing more than three distinct occupations, it is currently advisable to aggregate them into broader classifications to maintain statistical power (Morris, 2023). While typologies like blue-, white-, pink-, and green-collar occupations offer valuable insights, exploring alternative categorizations could deepen our understanding of occupational contexts. For example, differentiating between cognitive, relational, and manual occupations, as suggested by van Veen et al. (2023), could provide a new perspective on how occupational context influences leadership dynamics. This approach acknowledges that the nature of the work–whether cognitive, relational, or manual–can significantly impact the effectiveness of leadership behaviors.

Second, when sample data includes occupational information, it allows for incorporating occupation as a variable in quantitative research, either as an independent variable or antecedent. For example, a future research question might be: To what extent does transformational leadership relate to job performance across different occupations? To enable meaningful comparisons, future scholarly work should aim to include a broader range of occupational diversity. This diversity represents functional diversity, being a key contextual factor in effective team leadership within organizations (Bunderson & Sutcliffe, 2002; Homan et al., 2020). While white-collar samples are easily accessible through surveys, which dominate previous leadership studies, it remains crucial to use alternative sampling methods to reach other occupational groups as well (e.g., field-based data collection). Special effort should be made to include less-explored categories like blue- and green-collar workers in future work in this domain (Zickar & Keith, 2023).

Theoretical recommendations

Drawing on ILTs (Eden & Leviatan, 1975) and Social Identity Theory (Tajfel & Turner, 1979; Van Knippenberg & Hogg, 2003), we propose that leadership behaviors' effectiveness is influenced by follower's occupation-as-context. Our research indeed reveals that occupation, as a contextual variable, may impact ILTs, prompting further investigation into the ways in which contextual factors contribute to the development of ILTs (Lord et al., 2020). Notably, our review indicates a prevalence of studies on safety-specific transformational

leadership amongst blue-collar workers. This raises another compelling question of whether the enactment of transformational leadership, being a widely recognized leadership theory, differs between occupational groups. Furthermore, our analysis highlights that our understanding of how leaders overseeing diverse occupations navigate and tailor their leadership behaviors is limited. Therefore, the following research questions might inspire colleagues to continue working in this field: Which criteria guide leaders in determining the most effective leadership behaviors for specific types of occupations? To what extent can occupation-specific leadership behaviors be applied to multiple occupations? How does follower's occupation construct leadership behaviors? The inherent complexity of these questions calls for adopting more qualitative and comparative designs in future research on the effectiveness of leadership behaviors.

Table 2.6 Overview of future research suggestions and guiding questions

Nature of recommendation	Questions for future research
Methodological	Which standardized occupational classification is most suitable for distinguishing occupation-as-context in leadership research?
	What follower typologies can be identified based on their occupations to use in research designs?
	What alternative sampling methods can be employed to obtain data from less-represented occupations?
Theoretical	How do leaders exhibit transformational leadership across various occupations?
	Which criteria guide leaders in determining the most effective leadership behaviors for specific types of occupations?
	To what extent can occupation-specific leadership behaviors be applied to multiple occupations?
	How does follower's occupation construct leadership behaviors?

Practical implications

This study has implications for leaders, organizational practitioners, including HR professionals, learning and development (L&D) experts, and MBA coordinators, as well as representatives of academic institutions. It emphasizes the significance of follower's occupation-as-context in the leadership process. This insight may assist HR and L&D experts to design occupation-specific leadership programs, tailoring development efforts to meet distinct occupational category requirements. It also aids HR teams in making informed leadership selection decisions, by aligning leadership styles with the follower's

occupation-as-context. Academic institutions, especially MBA coordinators, can integrate these findings into curricula, hereby enriching students' understanding of leadership in diverse contexts. Our findings highlight the need for practitioners and educators to tailor leadership approaches, diversify curricula, and through these practices enhance leadership effectiveness across occupations.

Limitations

The reporting of sample details in the existing literature has significantly impacted our study's selection and analysis. The coupling of leader and follower's occupations complicates isolating the leader's occupation, limiting our focus to the follower's occupation. Another limitation is the broad categorization of occupational groups (blue-, white-, pink-, and green-collar), which lacks precise delineation. For example, white-collar workers like engineers may occasionally perform blue-collar tasks, hereby blurring distinctions. Both pink- and blue-collar occupational categories could potentially be confounded by gender, a factor for which we did not explicitly control. However, we had no theoretical or empirical reason to expect that gender would significantly influence the leadership style–follower outcome relationships examined in this study (Bernerth et al., 2018). Even though in leadership studies as a field, numerous empirical studies have been published, the number of studies that could be used in the meta-analysis was severely limited because of the above-mentioned issues. However, examining general work-related differences has provided valuable insights into the field.

As regards the meta-analysis, our approach involved a subjective clustering procedure for follower outcomes, by aggregating measures of different, yet theoretically and conceptually similar, constructs, like grouping career satisfaction and job satisfaction under a common cluster of satisfaction outcomes. To enhance objectivity in future research, exploring alternative, more objective clustering methods would be a good strategy.

As the recent criticism regarding the causal illusions that have been developed in earlier research, as previously noted, we acknowledge decades of leadership research (T. Fischer et al., 2024; T. Fischer & Sitkin, 2022). Consequently, given the potential flaws in measuring leadership behaviors and follower outcomes, it naturally affects our ability to confidently rely on the validity of the effect sizes identified in our meta-analysis, ensuring they are not significantly influenced by endogeneity and are indeed accurate.

Our meta-analysis faced some publication bias, as indicated by Egger's test for servant leadership and satisfaction outcomes, and there was a scarcity of studies on blue- and green-collar groups. These limitations, reflecting an uneven study distribution, require cautious interpretation of our findings. However, the meta-analysis that we have conducted allows for more precise comparisons of correlations between leadership behaviors and follower outcomes than individual studies, guiding researchers toward less explored areas and helping to identify meaningful directions for future research across diverse occupational groups (Schmidt & Hunter, 2004).

Conclusion

The current research highlights the critical importance of considering occupation as a contextual dimension in leadership studies. The limited detailed exploration of the role of follower's occupation-as-context in the linkage between leadership behaviors and follower outcomes signals a significant limitation of the existing literature. To address this, future research should strive for a more comprehensive understanding of leadership and follower dynamics across occupations. The suggested adoption of a standardized occupational classification system, the incorporation of follower's occupation-as-context in research designs, and the use of alternative sampling, are crucial steps toward achieving this goal. The practical implications of this study extend to organizational practitioners and educators, empowering them to tailor leadership approaches, and, through these, to enhance leadership effectiveness across a variety of occupations, allowing leaders to be true 'jacks of all trades'.

Chapter 3: How truck drivers and transport companies co-shape career sustainability: A comparative case study in the Netherlands

This chapter is under review at an international peer-reviewed transportation journal as: Van Zwol, W. G. A., De Jong, J. P., Rusman, E., & Van der Heijden, B. I. J. M. (2025). How truck drivers and transport companies co-shape career sustainability: A comparative case study in the Netherlands. [Under revision, second round].

Abstract

This study examines how truck drivers interpret and exercise agency in the context of career sustainability, within an occupation marked by spatial constraints, limited upward mobility, and strong job autonomy. Using a comparative case study design, we analyzed seven cases through 31 interviews with truck drivers, their direct supervisors, HR managers, and directors. Our aim was to understand how agency plays out across organizational and occupational social spaces, and how these dynamics shape sustainable career trajectories in a stigmatized and marginalized profession. Findings reveal an *agency paradox*: while drivers report a strong sense of agency—expressed through ownership and individuality in their job, this perceived agency is identity-driven and constrained within existing structural boundaries. Supervisors and other organizational actors often expect drivers to demonstrate long-term, life course agency, yet rarely offer the necessary support or resources. As a result, career development remains limited, reinforcing a culture of "good enough" satisfaction and static occupational roles. It also highlights the critical role of social context in shaping how agency is interpreted and enacted. Practically, our findings call for interventions that foster *actual* rather than perceived agency, including clearer supervisory roles, attention to health-related job demands, and efforts to challenge occupational stigma. These changes are essential to foster sustainable careers of truck drivers.

Introduction

Over the years, it has become apparent that truck drivers are now seeing their tasks simplified and autonomy constrained by advanced monitoring and more efficient scheduling, while (semi-)autonomous vehicles further threaten to automate their profession (Gittleman & Monaco, 2020; Hötte et al., 2023). This has led to concerns among truck drivers about how technology may transform the design of jobs (Van Fossen et al., 2023; S. Wang et al., 2023), about their well-being (Boyce, 2016; Staats et al., 2017), and their job satisfaction (LeMay & Keller, 2019; Wijngaards et al., 2019). At the same time, western labor markets are currently experiencing serious worker shortages, especially with regards to truck drivers (Ji-Hyland & Allen, 2022), raising concerns about how to retain these crucial workers who contribute to the continuity and advancement of transportation companies. Taken together, these developments create a paradoxical situation for the sustainability of careers of truck drivers. On one hand, drivers need support to build sustainable careers amid rapid technological change; on the other hand, labor shortages drive an immediate need for performance and implementation of new technologies (Schuster et al., 2023). This raises the question of how companies, especially those in road haulage and truck drivers, can best navigate these conflicting demands.

In this study, we explore this question using the lens of sustainable careers. Sustainable careers are defined as "the sequence of an individual's different career experiences, reflected through a variety of patterns of continuity over time, crossing several social spaces, and characterized by individual agency, herewith providing meaning to the individual" (Van der Heijden & De Vos, 2015, p. 7). This definition highlights two critical aspects of sustainable careers that are shaped by both employers and truck drivers: individual agency and social spaces. *Individual agency* is the capacity to actively shape one's life, experiences, development, and career (Bandura, 2001; Chen, 2006). However, previous research also suggests that structural or systemic factors may outweigh individual agency in shaping careers (Bal et al., 2021; Delva et al., 2021; Forrier et al., 2018). Indeed, earlier theoretical work already highlighted how access to opportunities and resources is often constrained by systemic inequalities, impacting individuals' ability to exercise control over their work and career trajectories (Blustein et al., 2019; Duffy et al., 2016). For instance, truck drivers may face external factors that limit their agency. Pragmatic issues arise from being physically distant from their employers, such as truck drivers who spend most of their workday autonomously on the road, while

broader social factors include class-based milieu, labor market segmentation, and bureaucratic barriers between occupations (Nissim & Simon, 2021; Thomas, 1989). Second, the definition highlights the role of social spaces[6]; the surrounding contexts such as employers and the broader occupation within which sustainable careers unfold (Van der Heijden, 2005; Van der Heijden & De Vos, 2015). For example, truck drivers have an interdependent relationship with their employers when shaping their careers, but their career choices are also influenced by occupational norms. Together, these factors create a sustainable career ecosystem (Donald et al., 2024), in which interdependent actors, such as employers and colleagues, collaborate to achieve sustainable outcomes for both individuals and organizations.

We argue that supervisors in formal leadership roles serve as organizational gatekeepers, as they develop interdependent relationships with truck drivers by providing access to resources and advancement opportunities (Baruch & Rousseau, 2019; Fugate et al., 2021; Van der Heijden & De Vos, 2015). Hence, we posit that supervisors, embedded within truck drivers' organizational social space, play a crucial role in enabling drivers to exercise their agency. By adopting a sustainable career perspective, we aim to explore how supervisors and truck drivers interdependently navigate the individual agency of truck drivers for developing sustainable careers, and how this is shaped in different social spaces. Accordingly, our central research question is: *How do supervisors and truck drivers interdependently navigate the facilitation of sustainable careers of truck drivers?* To answer this research question, we conduct a comparative case study of various road transport companies in the Netherlands.

This research makes three important contributions to literature. First, our study aims to contribute to the increasing body of literature on how employers can cope with shortages and retention of truck drivers (e.g., Schuster et al., 2023; Staats et al., 2017; Wijngaards et al., 2019). By gaining insights into how truck drivers and their employers co-shape sustainable careers of truck drivers, we better understand the conditions for sustaining healthy, happy, and productive (i.e., the three indicators of sustainable careers: Van der Heijden, 2005) truck drivers. Second, by adopting an occupation-specific approach to career sustainability among truck drivers (Dierdorff, 2019), we address calls

6. Here, the notion of social space is not to be confused with the Bourdieuan conceptualization of 'social space': The structured system of positions individuals occupy within society (Bourdieu, 1985, 1989).

for deeper insights into blue-collar workers' careers (e.g., Baruch et al., 2016; Koekemoer et al., 2019; Thomas, 1989). Examining how supervisors and drivers facilitate career sustainability sheds light on the boundaries of agency and the role of social spaces. For instance, given truck drivers' high autonomy and isolation during work (Van der Beek, 2012), we investigate how drivers exercise agency and how this influences supervisors' ability to provide skill development opportunities. Third, we extend the sustainable careers literature by unraveling the complexity of truck drivers' agency and systemic (i.e., contextual) influences from their social spaces, particularly how individual agency is shaped by social context. By including perspectives from supervisors and truck drivers across different companies, we explore how both groups manage conflicting interests between short-term performance demands and career sustainability.

Theoretical framework

Career sustainability

Career sustainability refers to a form of human sustainability, which is "the capacity to create, test, and maintain one's adaptive capability" (De Vos et al., 2020, p. 1). The sustainability of one's career is characterized by three core indicators: happiness, health (i.e., reflecting the employee perspective of well-being), and productivity (i.e., reflecting the employer perspective of performance) (Van der Heijden, 2005). *Happiness* encompasses engagement, life satisfaction, and career satisfaction, focusing on alignment with one's personal values, goals, and work-life balance, which may shift across career stages. *Health* reflects the alignment of career demands with an individual's capacity to sustain long-term physical and mental well-being. *Productivity* pertains to job performance and employability, highlighting the importance of skill development and adaptability for sustained career success.

These three interconnected indicators evolve dynamically over time, influenced by personal and contextual factors (De Vos et al., 2020). The conceptualization of a sustainable career emphasizes an idiosyncratic perspective recognizing that each career is unique to the individual (Van der Heijden & De Vos, 2015). According to the sustainable careers framework, the individual is the owner and thus the primary agent of their career, whom can significantly influence its sustainability through proactive or reactive adaptation actions (e.g., Akkermans & Tims, 2017; Hirschi et al., 2015), such as making career choices

aligned with their interests, negotiating promotions, or seeking further training (De Vos et al., 2020; Donald et al., 2024; Van der Heijden & De Vos, 2015). In the next section, we will further outline the role of agency in career sustainability.

The role of individual agency in shaping sustainable careers

Agency highlights the role of the individual's capacity to engage in career behaviors over time (De Vos et al., 2020; Van der Heijden & De Vos, 2015). According to Hitlin and Elder (2007), individual agency comes in a variety of forms depending on the temporal horizon one possesses towards the future: existential, identity, pragmatic, and life course agency. Existential agency refers to the fundamental human capacity for self-initiated action, even when operating within social constraints. This relates strongly to its social dimensions, and consequences such as self-efficacy –the belief in one's ability to act effectively in line with one's values within the social world (Bandura, 1982). Pragmatic agency, by contrast, manifests specifically in novel situations where habitual or routine behaviors are insufficient. It emphasizes an individual's capacity for innovation and immediate decision-making, which enables consistent yet adaptable responses to new conditions (Dewey, 1922; Heise, 1987). Identity agency pertains to intentional action aligned with socially prescribed roles and expectations, thereby reflecting efforts to internalize and adhere to social norms. This type of agency underscores the active maintenance and assertion of social identities (Tajfel & Turner, 1979). Identity control theory demonstrates how social feedback on one's behavior motivates alignment with claimed identities, thus illustrating identity agency as an intentional pursuit of social consistency and validation (Burke, 1991). Lastly, life course agency encompasses intentional efforts directed towards shaping one's long-term biographical trajectory. It involves both the practical capability to enact decisions with lasting implications and a self-reflective belief in one's potential to achieve long-term goals, aligning closely with concepts such as 'personal control' and 'planful competence.' In their conceptualization, Hitlin and Elder provide the notion of 'possible selves', which represent cognitive representations of future identities, provides a useful framework for understanding the motivational dimensions that drive life course agency (Hitlin & Elder, 2007).

Life course agency, specifically, can play a key role in forming a sustainable career by enabling individuals to intentionally shape their long-term professional trajectories. It involves both the practical capacity to make decisions with enduring impact and the self-reflective belief in one's potential

to achieve future goals. A sustainable career therefore requires a forward-looking orientation, one that balances adaptability, purpose, and well-being over time. Central to this is the concept of *possible selves*: cognitive representations of who individuals hope or fear to become. These future-oriented identities serve as motivational guides, helping people to align current choices with envisioned long-term roles, such as becoming a respected expert or a balanced parent-professional. Life course agency fuels this process by fostering the ability to plan strategically, navigate uncertainty, and to maintain a sense of control over career development. In doing so, it supports not just career continuity, but also personal fulfillment and resilience across changing life stages and labor market conditions.

This interplay between long-term intentionality and self-concept raises important questions about how the expression of agency is shaped by the structural and cultural conditions of work. How, then, do truck drivers interpret and exercise their agency in pursuit of sustainable careers? (*Sub-question 1*). To further unpack how individual agency in career sustainability is shaped, we now zoom in on the influence of social spaces.

Social spaces in sustainable careers

Both individual agency and sustainable careers theorizing highlight the considerable influence of social contexts—including the roles of family, colleagues, and employers—in shaping outcomes through individual agency. Hence, individuals do not shape their careers in isolation; instead, they are embedded in and influenced by broader systems of relationships, norms, and resources (Delva et al., 2021; Forrier et al., 2018; Thomsen et al., 2022). The social spaces (i.e., the broader, interconnected environment) that individuals encounter across their lifespan play a significant role in how career-related decisions unfold (De Vos et al., 2020). Social spaces encompass the multiple, layered contexts that both shape and are shaped by an individual's career trajectory (Van der Heijden & De Vos, 2015). When navigating these social spaces, individual agents interact with various stakeholders, including family, peers, supervisors, employers, educational institutions, and broader societal structures (e.g., class, gender, race). Each of these interactions directly influences the scope and exercise of individual agency, thereby shaping an individual's career sustainability. For instance, people deciding to start a family might face increased caregiving responsibilities, which directly leads them to reduce their work hours or limit participation in career-development opportunities. This reduction in professional engagement can subsequently

narrow their future career options and potential outcomes. Conversely, individuals actively using their agency, such as negotiating flexible work arrangements or advocating for institutional support, can also reshape these social spaces. Thus, the relationship between social spaces and individual agency is reciprocal and dynamic, critically influencing the individual's ability to build and maintain a sustainable career.

The organizational social space

Organizations as a social space play a crucial role in shaping employees' agency over their career sustainability by offering opportunities and imposing constraints (De Vos et al., 2020; Donald et al., 2024). Organizations can impact an individual's agency through organizational policies, and HR strategies. By facilitating open communication, shared learning, and the exchange of social capital, organizational social spaces may help employees to identify career goals, access resources, and build sound reciprocal relationships. These reciprocal relationships are at the core of developing sustainable careers (Fugate et al., 2021). Given the environmental conditions such as technological advancements and labor market shortages, both employers and employees have an interest in developing career sustainability. Theoretically, this could motivate both parties to foster social exchange processes through which both parties invest in sustainable careers. Through social exchange processes, employers shape career norms and act as gatekeepers to career resources by providing the context within which individual workers can exercise their agency (Delva et al., 2021). As such, through the organizational social space, organizations can empower or constrain individuals to exercise agency over their career sustainability.

In particular, supervisors can play a critical role in individual agency towards shaping a (sustainable) career, acting as gatekeepers to essential resources and opportunities for career advancement or sustainability (Baruch & Rousseau, 2019; Delva et al., 2021; Fugate et al., 2021; Van der Heijden & De Vos, 2015). Embedded within the truck drivers' social space of their working organization, leaders possess the power to either enable or limit their followers' individual agency (Conger & Kanungo, 1988; Haslam et al., 2023), hereby directly influencing their ability to shape the sustainability of their career.

Earlier research suggested that leaders can shape follower outcomes through social-cognitive mechanisms such as self-efficacy. In particular, by

boosting followers' confidence in their ability to complete tasks, leaders can reinforce their sense of agency (Bandura, 1982) and enhance their well-being (Nielsen & Munir, 2009). Besides, previous empirical work also showed that supervisors can foster proactive, agentic behaviors (Lent et al., 2024; Yang et al., 2018), yet, so far, it remains unclear how supervisors within organizations affects the agency of certain workers, herewith urging for more scholarly work on the interplay between individual agency and social spaces. This can be especially challenging for supervisors of truck drivers, who spend most of their time on the road and have highly autonomous roles. Therefore, the second sub-question is: In what ways do supervisors, as representatives of an organization's social space, limit or enable truck drivers' agency, and how do these interdependent relationships influence the sustainability of truck drivers' careers? (*Sub-question 2*)

The occupational social space

According to the sustainable careers framework, an occupation is a social space in its own right (De Vos et al., 2020; Van der Heijden & De Vos, 2015). It is important to first establish what is meant by 'occupations. Here, we consider 'occupations' as "the collections of work roles with similar goals that require the performance of distinctive activities as well as the application of specialized skills or knowledge to accomplish these goals" (Dierdorff, 2019, p. 399). To understand the occupation as a social space, we turn to Bourdieu's concept of 'vocational habitus', since this explains why individuals in the same occupation often share similar mindsets and practices (Bourdieu, 1977, 1984, 1990). Vocational habitus highlights how occupational rules, values, and attitudes are socially shaped, internalized, and ultimately guide action. These occupational rules, values, and attitudes develop through in-group socialization processes (Ashforth et al., 2007; Dierdorff, 2019; Frese, 1982; Moreland & Levine, 2002). In turn, these socialization processes contribute to identity formation, which impacts career development processes (Ashforth et al., 2014; Blustein et al., 1989). Taken together, several factors play a role in creating a distinct occupational social context, which this study refers to as the *occupational social space* for truck drivers.

There are several ways that differentiate occupational social spaces from each other. For instance, white-collar occupations, by design, are generally characterized by a higher level of job autonomy in comparison with blue-collar occupations (Lips-Wiersma et al., 2016). Moreover, blue collar workers (BCWs) perceive individual job aspects differently than white-collar workers

(WCWs). For example, WCWs use a multitude of criteria to rank their co-workers (i.e., ratings of competence, and likeability) whereas blue-collar workers mainly assess their co-workers based on their competences (Hu et al., 2010). Often, blue-collar workers are vocationally educated, while most WCWs have college degrees (Law-DelRosso, 2020). An individual's educational background largely determines the occupations for which they are qualified, and some occupations have more barriers than others (Ashforth & Kreiner, 1999). It is often believed that BCWs, due to factors like their vocational education, face fewer opportunities compared to WCWs. However, today's labor market shows that BCWs have plenty of opportunities, however, access to professional development (e.g., re-skilling, and upskilling) remains difficult (European Labour Authority, 2024a, 2024b).

The fact that truck drivers' occupational social space differentiates from that of WCWs, for instance, tells us that there are aspects of their specific occupational context that should be taken into consideration. By way of illustration, Peterson et al. (2009) found that BCWs have a lower career orientation, but this does not imply that they do not have a career (Barley, 1983; Hirschi, 2018). Analogously, as early as the 1980s, Thomas noted that BCWs' careers must be understood and valued on their own terms (1989). Indeed, later research also showed that BCWs often define and evaluate career success differently than their white-collar[7] counterparts (Hennequin, 2007; Lucas, 2011). Specifically, BCWs prioritize material, psychological, and social aspects of their work, rather than focusing on upward mobility, power, or salary increases (Hennequin, 2007).

Career research has historically focused on university-educated, white-collar professionals (Arthur, 1994; Hall, 1996). While earlier models, such as the protean and boundaryless career frameworks provide insights into career development, they often overlook the unique challenges faced by BCWs. Given the distinct social spaces BCWs navigate through, it is crucial to conduct empirical research on their career sustainability. Therefore, we ask ourselves the following question: How does the occupational social space of truck drivers impact the individual agency and relationship with their organization in navigating sustainable careers? (*Sub-question 3*)

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7. *White-collar* work involves non-manual, cognitive-intensive jobs like office, clerical, and administrative roles, usually paid with a fixed wage (Cappelli, 2008; OECD, 2002)

Methods

Ethical considerations

Our research adheres to APA's ethical guidelines, ensuring the confidentiality and anonymity of participants in qualitative research (Fisher & Vacanti-Shova, 2012). Informed consent was obtained from all interviewees, and any potentially sensitive information was handled with utmost care. The data is stored according to European GDPR legislation.

Sample description

To contextualize this study, we highlight the unique aspects of truck driving. Truck drivers play a vital role in road haulage, handling tasks such as vehicle safety inspections, record-keeping, basic maintenance, route navigation, cargo security, and compliance with hazardous material regulations. Their work primarily involves long hours on the road, whilst regularly facing challenging weather and traffic conditions (O*NET OnLine, 2024). Truck drivers' job roles can vary significantly depending on the organizational context, such as freight type and the division of customers' location. Previous scholarly work on truck drivers found that individuals in this particular occupation have a low desire for variability of mental and physical tasks (Jahncke et al., 2017). Overall, while the cognitive demands of their role are generally low, the physical demands can be high, due to tasks such as loading and unloading, as well as the extended periods spent driving (Van der Beek, 2012). Truck drivers typically have limited interaction with others, contributing to their perception of the occupation as being solitary. Furthermore, prolonged periods on the road often may result in truck drivers experiencing heightened levels of work-family conflicts (Zvonkovic et al., 2005). Compared to workers in other occupations, who, for example, have the ability to work from home, a truck driver is less flexible regarding work arrangements (Sousa & Ramos, 2018). In summary, the intricacies of this occupation merit consideration when we are trying to understand the social spaces in which truck drivers navigate their career.

Research design

This study adopted a qualitative comparative case study design to enable the comparison of the social spaces within and across organizations, and their influence via its interplay with individual agency on truck drivers' career sustainability. Such a design integrates the depth of case analysis, that is essential for investigating the social spaces in which supervisors and subordinates operate, with the rigor of empirical analysis that is needed

to identify the role of context in the enactment of individual agency and supervision that influence career sustainability (George & Bennett, 2005). Moreover, by comparing multiple cases (i.e., working organizations), this approach enables the identification of patterns, similarities, and differences in the interplay between a truck driver's individual agency and supervision.

Specifically, truck drivers operate in a work environment where job autonomy (e.g., autonomy over routes, schedules, and decision-making), being an important characteristic of individual agency, and the influential factors inherent to their surrounding social spaces, such as the role of supervision (e.g., communication, support, and monitoring), interplay with each other. Specifically, both autonomy and supervisory influence play crucial roles in their daily professional lives (Stadin et al., 2024). A comparative case study design is ideal for capturing variations in autonomy and the influence of social spaces across companies, regions, or assignments, offering deeper insights into how organizational contexts shape the interplay between individual agency and supervision.

We used purposive sampling to select road haulage organizations located in the Netherlands representing diverse sector characteristics, including size, freight type, and geographical location. Larger organizations typically have fewer supervisors per employee, which affects the level of individual attention employees receive from their leaders (Indik, 1964; Rubin et al., 2005). We conducted interviews with truck drivers at various stages of their careers, so that we could take account of the interaction with other potential relevant individual variables (e.g., job tenure, and age). Additionally, we interviewed their direct supervisors, HR managers, and directors to map the social spaces in which truck drivers navigate their career.

Data collection

Data collection occurred from January 2022 to May 2023 and involved semi-structured interviews and supplementary documents (e.g., organizational webpages, annual reports) across seven organizations. In total, we conducted 31 interviews with stakeholders including truck drivers, supervisors, HR managers, and directors to comprehensively understand the interplay between drivers' individual agency and organizational social spaces. Higher-level management insights clarified supervisory structures and related policies, enhancing our understanding of drivers' work contexts. This multi-stakeholder approach facilitated methodological triangulation, validating our qualitative findings (Carter et al., 2014).

Our participants were all of Dutch nationality in order to minimize cultural influences on perceptions of agency, leadership, and career sustainability (Gerstner & Day, 1994; Lonati & Van Vugt, 2023; Miller et al., 2017). The average length of the interviews was one hour. The interviews with the participants took place on their worksite or online. The interview guide examined the factors affecting truck drivers' happiness, health, and productivity (being the three indicators of sustainable careers; Van der Heijden, 2005), including how their colleagues, personal life, and supervisors influenced these three sustainable career indicators. The interview guides are enclosed in Appendix A. We conducted interviews with supervisors, HR managers, and directors (see Table 3.1) to identify patterns and compare responses within and across cases. Our goal was to understand the impact of the interplay of individual agency and social spaces on truck drivers' happiness, health, and productivity across organizations. The first author and three trained research assistants conducted the interviews, thereby following a standardized protocol after a 3-hour training session. The semi-structured format ensured both focus and flexibility to explore emergent themes. All interviews were recorded and transcribed verbatim.

Data analysis

The data analysis began with a detailed examination of each of the seven cases using semi-structured interviews and supplementary documents. A thematic analysis (V. Braun & Clarke, 2012), supported by direct quotations, revealed critical insights and differences among stakeholders at various organizational levels. Methodological triangulation, incorporating perspectives from truck drivers, supervisors, HR representatives, and directors, enhanced reliability and provided a nuanced understanding of drivers' agency and stakeholder interactions. Descriptive coding identified key experiences related to how social spaces influenced drivers' agency toward happiness, health, and productivity. Subsequently, interpretative coding generated broader, abstract themes (Patton, 2015), clarifying how social spaces impacted drivers' well-being (happiness and health) and performance (productivity), aligning with employee and employer perspectives respectively.

To increase objectivity and reliability in the analysis, a research assistant coded 20% of the interviews (6 interviews) together with the first author in several meetings to cross-validate the codes and themes, and to reach agreement in cases of doubt of fitting the quotes with the coding frame (O'Connor & Joffe, 2020). After analyzing each case individually, we conducted a cross-case

Table 3.1 Overview of the cases and the interviews

Case information	Company A	Company B	Company C
Number of employees by approximation	150 (10.000 in total in the Benelux)	130	140
Region of the branch (in The Netherlands)	East	North-West	North-West
Type of freight	Parcels	Vegetables and fruit	Road-construction
International/national transport	National	90% national, 10% international	National
Physical demands	Low-medium	Low	Low
Supervisory structure	Dispatchers that function as supervisors	Operational manager and dispatchers	Dispatchers and mentor driver
Interviewees			
Job roles			
HR manager	1	-	-
CEO	-	1	-
Operational manager	1	1	1
Truck driver	3	7	1
Truck drivers' demographics			
Average age	59	49	27
Average tenure in organization	15	14	1
Average tenure in occupation	22	19	3
Sex (% M/F)	100% M	75% M, 25% F	100% M
National/ international drivers	Nationally	Nationally	Nationally
Family life (partner and children)	100% partner, 75% children	70% partner and children	Partner, no children

Company D	Company E	Company F	Company G
85	250	120	1200
North-West	South-West	South-East	South-East
Agriculture and retail	Sealed freight containers	Automotive	Retail
70% nationally, 30% internationally	National and international	National and international	90% National, 10% International
Medium-high	Low	Medium-high	Medium-high
CEOs and operational manager	Operational manager	Operational manager and dispatchers	Operational manager
-	1	-	1
1	-	-	-
1	1	1	1
3	2	2	1
48	54	42	48
13	17	7	2
19	24	21	2
100% M	100% M	100% M	100% M
70% nationally, 30% internationally	National	National	National
100% partner and children	50% partner, 50% children	100% partner, 50% children	100% partner and children

analysis to identify commonalities and differences in drivers' agency and interactions with stakeholders, and their impact on career sustainability. This comparative analysis revealed shared patterns and context-specific factors across the seven cases, providing a comprehensive perspective. Our iterative approach involved continuous engagement with the data, reflecting qualitative coding best practices (Locke et al., 2022).

Researcher positionality

We acknowledge that our backgrounds in HR, organizational psychology, and educational sciences may have influenced our interpretations. While all authors are trained in qualitative research, we maintained reflexivity to mitigate potential biases. By using methodological triangulation and a multiple-stakeholder approach, we aimed to present a balanced view of truck drivers' experiences, enhancing the study's credibility by respecting both follower and leader perspectives (Creswell & Poth, 2018).

Results

Description of the cases

Company A employs 150 workers at this site (10,000 in total across the Benelux) and specializes in national parcel transport. **Company B** has 130 employees, focusing primarily on vegetable transport within the country and occasional international routes. **Company C** employs 140 people for road construction transport, entirely at the national level. **Company D** has 85 employees and serves agricultural and retail sectors both nationally and internationally. **Company E** employs 250 workers, specializing in container transport with mainly national and some international routes; the interviewed drivers operate mostly in the Netherlands, occasionally Belgium. **Company F** has 120 employees focusing on automotive transport, with over half of its operations abroad. **Company G**, the largest in this study at 1,200 employees, primarily transports retail goods nationally, with some trips to Belgium (Table 3.1).

Coherent social spaces shaping exchanges

After analyzing how individuals and organizations co-shape the career sustainability of truck drivers, our data revealed findings that span organizational boundaries. We found few organization-specific dynamics shaping these exchanges; instead, we observed general patterns across all organizations. Specifically, perceptions regarding individual agency, career

sustainability, and the structural factors influencing these exchanges differ between the organizational and occupational social spaces, constraining the very processes intended to support truck drivers' career sustainability. As such, truck drivers have developed a collective image about their own agency, career sustainability and the role of the organization and supervisors, while the supervisors also developed collective images about the agency and career sustainability of truck drivers, as well as their role in co-shaping the latter.

RQ1: The individual agency of truck drivers in pursuit of sustainable careers

We first explore the accounts of truck drivers with respect to their career sustainability. The truck driving occupation is often characterized as being unhealthy. Amongst other things, truck drivers have a high degree of physical demands (e.g., loading and unloading, extensive periods of time on the road, frequently eating on the road) and a low degree of cognitive demands (Van der Beek, 2012). The recognition of 'truck driving' as a physical straining occupation is a pattern that we have indeed observed in our data, across case organizations and different interviewees. A truck driver working in road construction expressed this in the following perspective:

> *(...) Physically, that is quite difficult with this work anyway, because you go from A to B, and you generally get off for five minutes and that's it so to speak. (...) I can't really say of this work: you really stay healthy in that way. (TD1, Company C)*

There are a number of aspects that reinforce the adverse impact of the occupation for truck drivers' health[8]. First, working overtime has become the norm in this sector, with truck drivers often working 12-15 hours a day, hereby leaving little time for private activities such as sports. This is driven by low base salaries and thus incentives for overtime pay. Second, many drivers also work irregular shifts, disrupting their sleep cycles. Both long hours and irregular schedules have been shown to negatively impact their health over time (Van der Beek, 2012). Third, the 'remote' aspect of their job affects truck drivers' work-life balance as well. Unlike office workers, truck drivers cannot easily leave their physical workspace to attend to personal responsibilities, such as picking up their children from daycare or doing household chores

8. Although the text in this article does not include direct quotations for these statements, our general findings are based on the thematic analysis of the data. A more detailed overview of these results can be found in Table 3.2.

during breaks. This underscores the obstacles they face in taking individual agency to achieve work–life balance and building a sustainable career. The boundaries and constraints that limit truck drivers' ability to exercise agency over their career sustainability primarily impact their health.

Experienced agency of truck drivers towards achieving career sustainability

To further examine the role of perceived individual agency in their career sustainability, drivers were asked targeted questions, including: *"How can you stay happy, healthy, and productive in your work?"* In addition, the potential influence of factors within their broader social contexts, such as interactions with colleagues and relationships in the personal domain, was explored to assess the extent to which external conditions shape their career sustainability. In these interviews, drivers expressed satisfaction with aspects like controlling large vehicles, taking responsibility, and the experience of travel (Table 3.2, TD2 Company F). Moreover, within the occupational context of truck driving, autonomy is strongly associated with a cultural emphasis on independence and self-reliance. The nature of the work does afford drivers considerable control in managing their daily tasks, reinforcing a sense of individual responsibility. This perception is further substantiated by the drivers' emphasis on self-directedness when reflecting on factors that contribute to their happiness, health, and productivity. For instance, one driver noted: *"And if you leave in the morning, you're your own boss. You don't have anyone around you, so basically you have to do it all yourself anyway"* (TD5, Company B). Another emphasized, *"Yes, you know, health mostly starts with yourself anyway"* (TD3, Company A). These responses illustrate a prevailing view among drivers that *ownership*, rather than external influences, is central to their career sustainability. Thus, the findings suggest that drivers primarily demonstrate individual agency through short-term, action-oriented behaviors. For instance, by ensuring that they obtain sufficient sleep. This emerged as a prevalent topic among drivers, exemplified by the following quotation by a driver:

> *(...) And it is expected that yes, as a driver you can have as much of a private life as someone who is a carpenter or has an office job and is then expected to go along at night to friends and parties when as a driver you just really need to get your rest. (TD6, Company B)*

Taken together, these findings suggest that truck drivers perceive themselves as the primary agents responsible for their own career trajectories. Their

sense of ownership and autonomy in their profession rather highlights a form of identity agency than other types of agency (Hitlin & Elder, 2007).

RQ2: The role of supervisors in shaping truck drivers' career sustainability

In our sample, it becomes apparent that drivers do not engage in life course agency in relation to protecting and further enhancing the happiness component of their career sustainability. On top of this, the management of the participating organizations are not always aware of how happy their truck drivers actually are. For instance, a CEO from Company D indicated that he does not know if they fill in satisfaction surveys:

> *We tried to do some research on that once, just a satisfaction survey, but I don't always know if they actually fill it in.... That they think of it as: if I end up with an average of a seven, I'll be fine. But I don't know if that's a six or if it's an eight. I think in general they are satisfied but let me say that it's not all eights. I think it's rather between six and seven. (CEO1, Company D)*

According to organizational actors, such as HR representatives, drivers' self-reflection on happiness is often lacking. A HR manager emphasized that supervisors should facilitate these discussions, and to highlight the role of individual agency for truck drivers with regard to their career sustainability:

> *(...) In a conversation with his driver, a supervisor should at least make that a subject of discussion: The concept 'happiness.' The average driver is not concerned with their happiness in relation to their career at all, because it doesn't resonate with them. (...) And I think the role of the manager should be to at least make that relevant. (HR1, Company G)*

Organizational actors are unaware but assume that truck drivers lack initiative to reflect on their careers, with HR managers suggesting that external support is needed to activate this. Drivers' life course agency is thus seen as dormant, requiring managerial intervention.

To better understand how truck drivers and supervisors jointly shape career sustainability, we examined supervisors' roles within organizational social spaces. First, we asked drivers whom they considered their supervisors and about the tasks these supervisors performed. Particularly in larger

organizations, like Company A, drivers reported to have multiple supervisors (e.g., an operational manager and a dispatcher). Drivers from other organizations were also unsure about their primary supervisor. One driver (TD2, Company A) illustrates this: *"Yes, we have three supervisors walking around here and I assume all three are my supervisor."* Drivers who maintained regular contact with their supervisors were more confident identifying them, as became apparent in the interviews. However, supervisors' roles often overlapped, with both operational managers and dispatchers viewed as supervisors, creating a cluttered structure. Operational managers typically communicated weekly, as daily contact was impractical due to them supervising over 100 drivers. Dispatchers handled daily communication via phone or onboard computers and were frequently seen as supervisors due to their direct involvement in instructions and problem-solving. This ambiguity limited supervisors' ability to effectively support drivers' individual agency toward career sustainability and complicated strategic career discussions.

When asked about the role of their supervisors, truck drivers across the participating organizations acknowledged several ways in which supervisory influence interact with truck drivers' individual agency towards their career sustainability. First, for truck drivers' health, being the first indicator of career sustainability, these influences can be categorized into three main areas: *respecting driving and rest times, providing adequate equipment and tools,* and *supporting work-life balance.*

In more detail, supervisors appeared to play a role in ensuring that drivers adhere to regulations regarding working hours and rest periods[9]. One driver from Company B noted that their supervisor keeps weekly hours under 48, ensuring that drivers stay within 12-hour shifts for sufficient rest. Supervisors also appeared to secure proper resources—such as modern lorries and ergonomic tools (e.g., electric pump trolleys)—to reduce physical strain. Drivers indicated that these measures foster a healthy work environment, and one driver observed that ergonomic lorries enable a longer, more 'comfortable' career. A supervisor from Company F underscored the need to protect personal time, emphasizing the risks of persistently long hours. Although the supervisor encourages drivers to avoid long shifts, they noted a challenge in

9. Driving and resting times are legally determined by the European Union and have to be registered with (electronic) tachographs. When companies do not abide by these laws and regulations, they can receive a hefty fine (Regulation (EC) No 561/2006 of the European Parliament and of the Council, 2006)

the scheduling process, where drivers are often planned for extended hours despite warnings. This tension between planning and health considerations suggests that although supervisors recognize the importance of work-life balance, there are structural constraints within the company that may limit the extent to which this advice can be acted upon in daily work practices.

Second, supervisory practices such as *providing opportunities for horizontal career development, and work process involvement*, offer opportunities for individual agency to enhance drivers' happiness. Truck drivers often praised their profession for the sense of freedom it provides, which positively affects their overall happiness. Consequently, many preferred not to transition into office roles, even though their management views those positions as a promotion or 'success.' While driving may appear uniform, it can be tailored to suit drivers' individual preferences, needs, and abilities. For instance, older drivers may avoid lengthy trips or strenuous tasks but still want to remain on the road. These findings, again, indicate that truck drivers experience and appreciate their identity agency. Besides, our analysis indicates that the interaction between supervisors and truck drivers regarding career sustainability primarily facilitates identity agency, rather than other forms of agency. Third, truck drivers' individual agency is not only indicative of focusing on the happiness and health components of their career sustainability but also directly influences their productivity. Our data indicate that drivers who maintained or achieved good physical health performed their tasks more efficiently and consistently. This is prototypical for BCWs, since their work is characterized by high physical demands (Azevedo et al., 2021; Schreuder et al., 2008). Hence, when supervisors can foster their truck drivers' agency aimed at fostering their health and happiness, these drivers are also able to attain or maintain productivity.

Based on these findings, supervisors, when identified by truck drivers, play a role in their career sustainability by implementing several practices targeted at truck drivers' health, happiness, and productivity. However, their influence primarily seems to revolve around maintaining a baseline of happiness, health, and productivity—ensuring that drivers remain "happy and healthy enough" to continue performing for the organization. Some of the supervisors' efforts involved granting their drivers enhanced agency to shape their own career sustainability, for instance by offering horizontal growth opportunities. Other efforts focused on upholding and enforcing existing laws and regulations, such as ensuring compliance with driving and rest times. At the same time, our

Table 3.2 Overview of the thematic analysis

Overarching theme (1)	**Images of the occupational social space for truck drivers**
Interpretative code	*Physical straining occupation*
Exemplary quote	"(…) Physically, that is quite difficult with this work anyway, because you go from A to B and you generally get off for five minutes and that's it so to speak. (…) I can't really say of this work: you really stay healthy in that way." (TD1, Company C)

Overarching theme (2)	**Experienced agency of truck drivers towards achieving a sustainable career**
Interpretative code	*Ownership*
Exemplary quote	"And if you leave in the morning, you're your own boss. You don't have anyone around you, so basically you have to do it all yourself anyway." (TD5, Company B) "Yes, you know health mostly starts with yourself anyway" (TD3, Company A)

Overarching theme (3)	**Attributed agency from the organization towards truck drivers' ability to achieve career sustainability**		
	Management's unawareness	*Health constraints*	*Dormancy towards happiness*
	"We tried to do some research on that once, just a satisfaction survey, but I don't always know if they actually fill it in.... That they think of it as: if I end up with an average of a seven, I'll be fine. But I don't know if that's a six or if it's an eight. I think in general they are satisfied, but let me say that it's not all eights. I think it's rather between six and seven." (CEO1, Company D)	"(…) Overweight people, you do see that a lot among drivers I must say. It always makes me laugh a bit because those are certain types or so. They have sedentary jobs, of course. What [supervisor] himself always says: We have lazy truck drivers. They drive from A to B and from B back to A, so they don't have to do much physical work, so they sit all day. Most of them are also overweight. That's typical of a truck driver, I must say." (HR1, Company E)	"(…) In a conversation with his driver, a supervisor should at least make that a subject of discussion: The concept 'happiness.' The average driver is not concerned with their happiness in relation to their career at all, because it doesn't resonate with them. (…) And I think the role of the manager should be to at least make that live." (HR1, Company G)

	Meaningfulness	
	"(...) And it is expected that yes, as a driver you can have as much of a private life as someone who is a carpenter or has an office job and is then expected to go along at night to friends and parties when as a driver you just really need to get your rest." (TD3, Company B)	"It's not just ordinally driving, truck driving, because you have a real machine under your where you have to have a lot of control over the machine, knowledge you have to have, you have to know for example with how much weight you can transport, and you have to be really aware of that it's not a passenger car, because it's not, it can really, if you're not careful it can turn out very badly. As I say, I just find that exciting. That's actually also every time I have a trip where, to an unknown country, when I drove internationally, to a city or so, I find it exciting. (...)" (TD2, Company F)
	Solitary work	
	"I always say: I am my own supervisor. Yes, my point of contact, you can say, is [supervisor]." (TD2, Company F) "(...) And then you see a lot of things also along the way, new, yes mostly on the road of course, but yes, you are travelling a lot. Alone, you also have to be able to handle that, to be alone. As I say, it's also kind of in the family, I've always had yes interest in trucks, or cars, or driving, travelling, what do you call it? I'm very happy with the job myself."(TD2, Company F)	
	Productivity	
	"(...) Returns in transport are so marginal that they do have to put in the hours to eventually make money. That is perhaps the biggest hurdle. The driver can't say during the day of: I put my truck aside for an hour. I started this morning at five o'clock, I put my truck aside for an hour and I'm going to take a nap for three quarters of an hour first and then have a nice dinner and then I'll continue. That time is just not there" (CEO1, Company D)	

Table 3.2 Continued

Overarching theme (4)	**Identifying truck driver's supervisors**		
Interpretative code	*Multiple supervisors*	*Appraisal interview*	*Dispatching department*
Exemplary quote	"Yes, we have three supervisors walking around here and I assume all three are my supervisor." (TD2, Company A)	"That was a performance interview of, well, I'll tell you how it went: 'How long have you been working here?' Well, it was about five years then. 'And do you have your own car? 'No. Oh, why not?' "Yes, no driver left." Okay, that was the performance review. I will never forget that." (TD8, Company B)	"Yes, ultimately, they [the dispatchers] lead us to the work we have to do daily, they determine there, they decide there, they make the routes, so sure they do."(TD2, Company F)
Overarching theme (5)	**Supervisor's influence on agency towards happiness, health, and productivity**		
Interpretative code	*Horizontal career development*	*Work process involvement*	*Respecting driving and rest times*
Exemplary quote	"And yes, sometimes truck driver is quite a vocation too I think. You just have to like it. And if you enjoy driving a big truck, yes, that makes people happy and they do radiate that." (Operational manager, Company A)	"A lot of people like variety in this work, so to speak. Look, there are people who love asphalting, but then again, they end up somewhere else very often. So yes, what keeps it fun? Yes, what I say: just the variety." (TD1, Company C)	"Well, [supervisor] (...) he tries, say, to keep the working week under 48 hours anyway. That is, so that you don't work more than 12 hours a day or you just have a bit of rest. And in that sense... I like that, just not every driver likes that. It's very divided. Most drivers just want to make hours. And me yes, I happen not to be one of them." (TD1, Company B)
	"Well, we just had that conversation. I will become a mentor driver from this month. So that's another step up. Yes, sometimes you have to wait patiently for your goal and things will work out. But he does listen to what you want." (TD1, Company G)	"So indeed, that you are asked beforehand of: gee, what are your specialties? What are you good at? What are you bad at? What makes you happy? And also indeed those assignments... that you also get those while working." (TD2, Company E)	

Frequency of contact with supervisor	
"(...) I won't say that I am in touch with everyone daily or weekly, because I have actually, 90 per cent of the drivers are doing their job and you don't hear anything from them. And you always have 10 per cent who need a lot of attention and then you talk to them the most." (OM1, Company G)	

Adequate tools & equipment	*Work-life balance*	*Health & productivity*	*Happiness & productivity*
"The cars are modern, new, they are fully equipped. So with our employer right now, you can just get old with the work we do" (TD8, Company B)	"(...) You really need to keep your private life too. Look, I don't schedule those guys otherwise. That's the problem. I can say to them, you shouldn't make long days, but the dispatcher, he schedules them. But I, yes, I stand by, really those very long days every day is just not healthy." (OM1, Company F)	"Well, indeed health is of course a thing then, because if you are less healthy then it all slows down. So staying healthy and just, yes just keep working." (TD2, Company A)	"Yes make sure it stays fun. If you work with a bit of fun. Yes, then your productivity also goes up. If you think it's going to be a shitty day yes then you also go to work reluctantly. Yes, then it's already not a good basis for getting to work." (TD7, Company B)
"Well, I think over the years the equipment has improved quite a bit. You used to have hand-pump trucks, so you had to pull. Now you have electric pump trucks, you have hand trucks, the cars are all equipped with navigation nowadays. You used to have a map and figure it out. It's much more digitized it's so easier in the sense of physically less work, less heavy that just saves a whole lot." (TD1, Company A)			"That's kind of the same answer, isn't it? When you are happy and happy in your skin, that productivity runs better than when you are struggling with something." (TD3, Company A)

Table 3.2 Continued

Interpretative code	*Horizontal career development*	*Work process involvement*	*Respecting driving and rest times*
		"By listening carefully to them, which is important anyway. But also including them in changes. Seeing if they have ideas, doing something with that." (OM1, Company A)	
Overarching theme (6)	**Marginalization and stigmatization of truck drivers**		
Interpretative code	*Attitude towards truck drivers*		
Exemplary quote	"For example, during COVID-19, (...) you were not allowed to go in, you were not allowed to go out, you were not allowed to do anything, and then it's like: 'Yes, you're just a driver'. (...) That's the downside of the job, that you're treated like that everywhere: 'You're just a driver.' That thought that people have is still there and is experienced by many drivers as a downside." (TD2, Company F)	"If you come in as a truck driver, you also retire as a truck driver. So little is said [by the supervisor] of, 'Couldn't you do this? Or would you want to do this? Or would you want to do that?' No. That's not for us." (TD2, Company B)	"That we as drivers are sometimes dulled by receivers at companies, forklift drivers or people on the road." (TD3, Company D)

	Adequate tools & equipment	*Work-life balance*	*Health & productivity*	*Happiness & productivity*

data shows examples of situations wherein supervisors equate career success with vertical mobility, herewith creating a situation wherein drivers' agency is steered towards enhanced performance while ignoring the protection of the well-being components of their career sustainability. The next section explores the occupational social space of truck drivers more in-depth.

RQ3: The interplay between individual agency and occupational social space

In this section, we explore the occupational social space that shapes truck drivers' individual agency, highlighting how it can impact its role on their career sustainability. Here, we highlight another, less obvious hindrance that impacts their individual agency towards influencing career sustainability: the attitudes from customers, colleagues, and sometimes even from their own supervisors towards truck drivers. In developing our interview protocol, we did not include any direct questions related to stigmas attached to truck drivers (or similar topics). However, this theme emerged in several interviews across cases. One truck driver vividly described how he has experienced the attitudes of others towards truck drivers throughout his career:

> *For example, during COVID-19, (...) you were not allowed to go in, you were not allowed to go out, you were not allowed to do anything, and then it's like: 'Yes, you're just a driver'. (...) That's the downside of the job, that you're treated like that everywhere: 'You're just a driver.' That thought that people have is still there, and is experienced by many drivers as a downside. (TD2, Company F)*

This attitude is a prime example of the social attitude towards a stigmatized occupation (i.e., truck drivers) (Ashforth & Kreiner, 1999; Goffman, 1963). A stigma is "an attribute [or activity] that is deeply discrediting," which reduced the actor "from a whole and usual [actor] to a tainted, discounted one" (Goffman, 1963, p. 3). Such stigmas can lead to social exclusion, public criticism, and the diminished value of one's identity (Toubiana & Ruebottom, 2022). The phrase "You're just a driver" even exemplifies a form of marginalization (Douglass, 2023).

First, it diminishes the individual's worth by reducing their identity to a single function. Next, it subtly excludes them from broader discussions or decisions, implying that their contribution is not valuable. Finally, it alienates them from the group by suggesting that their role is inherently less significant or respected. A key driver of this marginalization may stem from the stigmatized nature of

the occupation itself, which leads to unequal access to career resources and opportunities (Ashforth & Kreiner, 1999; Douglass, 2023). Consequently, stigma or marginalization may erode drivers' sense of individual agency over their career sustainability, thereby creating self-fulfilling prophecies that shape how they respond to professional challenges (Merton, 1948; Spencer et al., 2016).

In summary, both the organizational and occupational social space for truck drivers appear to create boundaries, in terms of the extent to which they can exercise individual agency in pursuing a sustainable career. Essentially, actors are emphasizing the agency associated with the profession of truck drivers, reinforcing their identity agency, acting according to socially prescribed expectations attached to their occupation. Moreover, the marginalization of this occupational group contributes to restricting perceived control over their careers, thereby leaving them confined to the temporal horizon of identity agency (Hitlin & Elder, 2007). At first glance, our findings might suggest a rather bleak outlook for drivers' agency in this regard. However, truck drivers themselves seem to experience more individual agency than what they are ascribed to. In other words, there is no alignment between the type of agency outsiders assume truck drivers have, and how much agency these drivers personally feel they can exercise over their work and career. We will unravel this in more detail in the next paragraph.

The disconnect between the perceptions about truck drivers' individual agency

Our findings also suggest that truck drivers navigate their careers within two distinct social spaces: An *organizational social space*—shaped by management's structures and expectations, and an *occupational social space*—shaped by drivers' professional norms and networks. These two realms do not seem to share much overlap, as representatives from different spaces appear to have diverging perceptions about what individual agency steering career sustainability for truck drivers entails. Truck drivers primarily operate within a framework of identity agency; they take short-term actions aligned with the social norms and expectations of their profession. In contrast, supervisors expect drivers to demonstrate life course agency, making decisions that support their career sustainability. However, organizational structures and supervisory practices often undermine this expectation. Instead of fostering life course agency, the surrounding stakeholders of truck drivers, such as management tend to constrain it by emphasizing procedural compliance and performance maintenance, thereby limiting the drivers' capacity to shape their

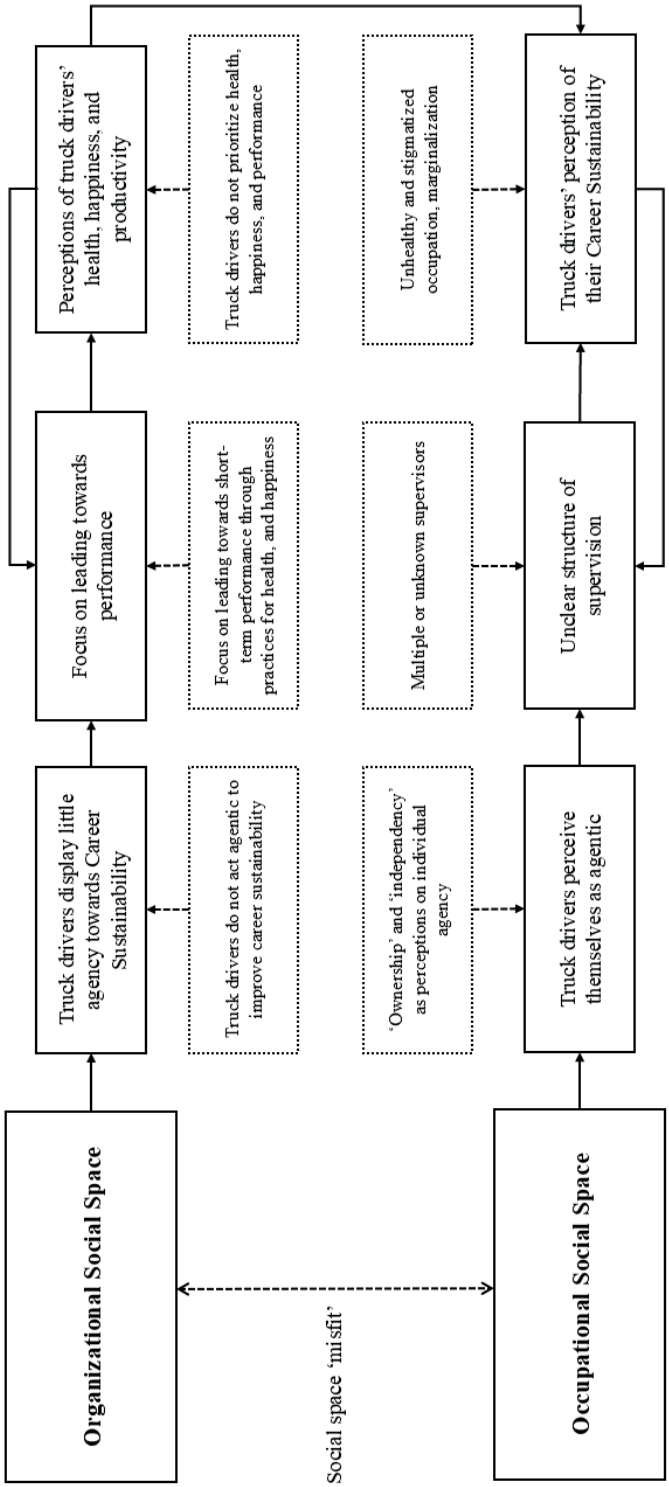

Figure 3.1 The interplay of disconnected social spaces and their relationship with drivers' career agency

careers in the long term. Because of this disconnect, drivers may struggle to shape their careers in ways that satisfy both sets of standards, namely the ones posed by their organization and the ones posed by their profession. In other words, the management layer and truck drivers operate within separate, collective perceptions that remain largely isolated from one another. These parallel perspectives reinforce distinct assumptions about what drivers can and cannot do, creating a "black box" effect that leads to two divergent outcomes. Rather than fostering a shared vision of agency for career sustainability, these outcomes continue to circulate within their respective social spaces, further entrenching the divide between management and drivers.

In previous sections, we explored how social spaces interact with truck drivers' individual agency. Supervisors, when identified by drivers, play a role in fostering their career sustainability by maintaining a baseline where drivers can exercise enough agency to ensure their happiness, health, and productivity—creating a "happy and healthy enough" workforce with a stronger focus on performance. Stakeholders within organizations often turn to industry-standard benchmarks when evaluating and responding to drivers' well-being issues. These benchmarks, which are relatively low compared to broader workforce norms in the transport sector, can make modest levels of health, happiness, or productivity to become acceptable (e.g., Van der Beek, 2012). As a result, career sustainability issues may go unrecognized, as the perceived status quo is deemed "good enough." This reliance on low standards discourages a deeper examination of individual drivers' needs and perpetuates ambiguity over who is responsible for implementing improvements, thereby making it harder to define agency for ensuring career sustainability.

Interestingly, truck drivers themselves perceive more individual agency than is typically assumed by actors in the organizational social space, partly due to their strong sense of identification with their work. Consequently, despite organizational and occupational constraints, they often report considerable control over shaping their career sustainability. A plausible explanation is that, in the face of marginalization and stigmatization, truck drivers engage in the development of truck drivers' norms guided by shared understandings of what they can realistically achieve in terms of career sustainability. This is graphically illustrated by a quote from a driver:

> *If you come in as a truck drivers, you also retire as a truck drivers. So little is said [by the supervisor] of, 'Couldn't you do this? Or*

> *would you want to do this? Or would you want to do that?' No. That's not for us. (TD2, Company B)*

Observations of engagement in collective perceptions within this occupational social space support the notion that stigmatized groups adopt shared strategies to maintain a positive self-image (Ashforth & Kreiner, 1999). Yet one driver alone cannot meaningfully alter the broader occupational social space, indicating that its structural characteristics may continue to reinforce identity agency rather than life course agency in building a sustainable career.

Discussion

This study explored how truck drivers interpret and exercise agency in the pursuit of sustainable careers within an occupational context, and how supervisors, as representatives of the organizational context, co-shape the sustainable careers of truck drivers. Despite operating in a profession marked by physical isolation, and limited upward mobility, truck drivers report a strong sense of individual agency. This agency, however, is not aligned with long-term career development or mobility, but with what Hitlin and Elder (2007) refer to as *identity agency*—short-term decisions and behaviors that align with the norms and values of the occupational group. Drivers often take pride in their autonomy on the road, their role in the supply chain, and their capacity to navigate the daily demands of their job with competence and self-reliance. However, our data also reveal a clear disconnect between how agency is perceived by drivers and how organizational actors ascribe it. Amidst the profession's limitations—such as physical isolation, long hours, limited career mobility, and perceived low status—drivers report a significant degree of control and autonomy within their occupational boundaries. At the same time, the structural boundaries within both their organizational and occupational surrounding social spaces can restrict efforts toward meaningful, long-term change. This tension reflects what we describe as the 'agency paradox': drivers perceive themselves as autonomous and capable, yet this perceived agency remains largely constrained by external conditions (Stohl & Cheney, 2001).

The agency paradox is reinforced by supervisors, who, as representatives of the organizational social space, expect drivers to show life course agency (i.e., planning and career development) yet rarely provide the support needed to realize it (Batson et al., 2023). The supervisory focus remains on compliance

and performance, leaving little room for career dialogue (Bangali & Guichard, 2012). This fosters a "happy and healthy enough" mentality, where minimal satisfaction is accepted based on low industry benchmarks (Van der Beek, 2012). At the same time, the occupational social space is shaped by strong identity norms and a shared narrative of marginalization, reinforcing a static view of career growth—captured in the sentiment, "If you come in as a truck driver, you also retire as one." This sustains identity agency while limiting broader career possibilities. Ultimately, organizational and occupational spaces operate in isolation, shaped by divergent assumptions about agency and sustainability, leading to persistent misalignment.

Theoretical implications

Our findings have important implications for the theorizing on individual agency, supervisory influence, and occupation-specific in relation to the phenomenon of career sustainability. We extend existing scholarship in three ways. First, while career literature has long emphasized the role of individual agency in shaping careers (Arthur, 1994; Fugate et al., 2021; Hall, 1996), and more recently in shaping career sustainability (De Vos et al., 2020; Donald et al., 2024; Van der Heijden & De Vos, 2015), our study questions the 'unimodality' of individual agency towards career sustainability (Bal et al., 2021; Bal & Alhnaity, 2024). By empirically uncovering an 'agency paradox', we challenge dominant assumptions that agency can uniformly be enacted across careers. Specifically, our findings suggest that agency is contextually embedded, and may take on different modes (e.g., identity agency vs. life course agency) depending on structural conditions and social norms. This aligns with Delva et al.'s (2021) proposition that workers' employability perceptions are shaped within a space of "possibles and impossibles". In the case of truck drivers, these impossibles are formed not only by the spatial and structural constraints of the job, but also by occupational stigma (Ashforth & Kreiner, 1999; Goffman, 1963) and ambiguous organizational support.

Second, while prior research in the domains of organizational psychology and careers often focused on dyadic relationships between supervisors and subordinates (e.g., Fugate et al., 2021), we argue that supervisors play a more structural role in road haulage organizations. As representatives of the organizational social space, supervisors not only shape one-on-one relationships but also the broader relational and emotional field in which career agency is enacted (Lawler, 2001). We suggest that positive relational experiences can enhance perceived control and agency, while negative or absent

engagement can diminish it. The absence of career dialogue or development initiatives, for instance, reinforces the idea that career sustainability lies outside the scope of the parties involved in the truck driving occupation.

Third, this study contributes to an occupation-specific understanding of career agency, particularly among BCWs. While past work has grouped BCWs under broad labels (Lucas, 2011; Lucas & Buzzanell, 2004), our focus on truck drivers provides a more nuanced view of how individual agency is experienced and negotiated within a specific occupational identity. By centering this occupational lens, we extend Dierdorff's (2019) call to take the occupational context into account when theorizing in the domains of organizational psychology and careers. In doing so, we highlight how occupational norms, group identity can both sustain agency and constrain it.

Future research

Building on our findings, several avenues for future research emerge. First, as our study challenges the assumption of unimodality in individual agency, future work could explore how different forms of agency—such as identity agency, life course agency, or existential agency—manifest across various occupational groups, particularly in constrained or stigmatized work contexts. Comparative studies across occupational settings could help to illuminate how context shapes the dominant 'mode' of individual agency. Second, longitudinal research is needed to examine how agency perceptions and enactments evolve over time, especially in response to career shocks (Akkermans et al., 2021). Third, intervention-based research could test whether participatory practices—such as constructive career dialogues or supervisor training—can align perceived and actual agency and support a more sustainable career development (Batson et al., 2022). Fourth, the role of supervisors deserves further attention, beyond attention for dyadic interactions with their subordinates, focusing on how they shape the broader emotional and relational environment in which agency is constructed. Finally, future research could advance theoretical development in the domain under study by building a multi-modal framework of agency that accounts for the occupational and structural factors influencing how agency is experienced and expressed across different work contexts.

Practical implications

Given our finding that unclear supervisory structures limit truck drivers' ability to exercise individual agency, organizations should prioritize clearer communication and regular check-ins. This would offer much-needed

guidance and feedback, helping to align truck drivers' perceived autonomy with organizational realities. To address the physical demands of their role, reducing loading and unloading tasks and investing in ergonomic equipment could help protect truck drivers' health, being a key factor of the well-being component in career sustainability. Additionally, countering stigma through narratives that highlight the societal value of truck driving can strengthen drivers' sense of dignity, and thus foster self-efficacy towards one's career (Gronholm et al., 2017). At the policy level, industry-wide collaboration, and stricter enforcement of regulations around working hours and rest breaks are essential to creating safe, sustainable conditions. Public education campaigns and stronger incentives for regulatory compliance would further support this effort. Together, these interventions target the structural and cultural barriers identified in our study, enabling more realistic and empowering career paths for drivers.

Limitations

This study has several limitations. First, our sample consists primarily of truck drivers within a narrow segment of the broader blue-collar workforce, thereby limiting occupational diversity, and as a result the generalizability of our outcomes. Second, all participating organizations were actively engaged in initiatives to support sustainable employability, which may have introduced bias by excluding less proactive employers and encouraging socially desirable responses. Third, key themes such as individual agency, stigmatization, and marginalization emerged inductively and were not explicitly explored in the research design. Finally, the sample was mostly composed of Dutch, nationally operating drivers; the experiences of non-Dutch or long-haul international drivers—who likely have even less organizational contact—may differ significantly. These factors warrant caution when generalizing the findings.

Conclusion

In sum, this study reveals an agency paradox among truck drivers: despite feeling autonomous, their actual agency is constrained by ambiguous supervision, occupational demands, and stigma. These findings challenge assumptions of unimodal agency and underscore the critical role of the organizational and occupational social spaces in career sustainability. Future research should examine the 'agency paradox' across occupations and test interventions that enhance agency among blue-collar workers. Practically, improving supervisory structures, reducing health risks, and addressing stigma are key steps. Finally, we conclude that supporting actual—not just perceived—agency is essential to fostering truly sustainable careers in blue-collar work.

Appendix A – Interview protocol for truck drivers

Interview guide (in advance)

- Welcome the participant, introduce yourself and offer something to drink (coffee, tea, water).
- Inform the participant about the background and importance of the research and about the sound recording (this should have been discussed in advance or indicated via email).
- Ask the participant to sign a consent form to participate in the study (if interviewed by phone: clearly explain how the data will be handled and whether the participant consents to this). Explain in advance that the data ultimately cannot be traced back to a particular participant.
- Ask if everything is clear, if there are any questions and answer any remaining questions.

Start recording audio

- Help the participant feel comfortable by emphasizing that there are no right or wrong answers and showing that you are interested in his/her experiences.
- Always encourage the participant to elaborate on an answer.

Personal Information

Tell me about yourself:

1. Where are you from?
2. What is your nationality?
3. What year were you born?
4. What is your current marital status? (married, single etc.)
5. Do you have children?
6. How many and how old are they?
7. What education did you do?
8. Which organization(s) do you work for?
9. How long have you been working there?
10. Can you briefly describe the organization? (number of employees, atmosphere, type of cargo, (inter)national, ...)
11. How long have you been a truck driver?
12. Where have you worked before?

Career sustainability

1. What do you think of your work?
2. What makes you happy in your work? Give an example.
    a. How could you stay happy in your work? Give an example.
    b. What makes you less happy in your work? Give an example.
    c. How is your happiness in your work influenced by your private situation? Give an example.
    d. How is your happiness in your work influenced by your colleagues? Give an example.

3. What ensures that you can perform your work in a healthy way? Give an example.
    a. How could you continue to do your work in a healthy way? Give an example.
    b. What makes you less able to perform your work healthily? Give an example.
    c. To what extent does your private situation influence that you can perform your work healthily? Give an example.
    d. To what extent do your colleagues influence that you can perform your work healthily? Give an example.

4. What makes you productive in your work? Give an example.
    a. How could you stay productive in your work? Give an example.
    b. What makes you less productive in your work? Give an example.
    c. To what extent is your productivity in your work influenced by your private situation? Give an example.
    d. To what extent is your productivity in your work influenced by your colleagues? Give an example.

Influence of leadership on career sustainability

For the following questions, keep the framework below in mind to ask further questions and come up with examples, but do not explicitly name the meta-categories and/or behaviors:

- *Task-oriented behavior:* planning, clarifying, operationally monitoring, solving problems.
- *Relationship-oriented behavior*: supporting, developing, acknowledging, enabling.
- *Change-oriented behavior:* proposing changes, foreseeing changes, encouraging innovation, facilitating collective learning.
- *Externally-oriented behavior:* networking, external monitoring, representation

5. Who is your manager?
    a. How often do you have contact with your manager?
    b. How do you have contact with your manager? (e.g., by telephone, on-board computer, conversation at the office)
    c. What do you have contact with your manager about? Give an example.
    d. What do you know about your manager? Give an example.
    e. What does your manager know about you? Give an example.
    f. What does your manager do for you in your daily work? Give an example.
    g. How would you describe the relationship with your manager today?
    h. What else does he/she do in the company? Give an example.

6. What influence does your manager have on you so that you can carry out your everyday work? Give an example.
    a. How does your manager make you happy? Give an example.
    b. What could your manager improve to ensure that you are happy in your work?
    c. How does your manager ensure that you are healthy? Give an example.
    d. What could your manager improve to ensure that you can perform your work in a healthy way?
    e. How does your manager ensure that you are productive? Give an example
    f. What could your manager improve to ensure that you can perform your work productively?

7. How do you see your profession as a truck driver in 10 years?
    a. How do you see the influence of technological developments on your work? For example: autonomous driving.

8. To what extent are you supported by your manager to develop yourself?
    a. To what extent does your manager support your profession-specific development? (example: Code 95 or safety course)
    b. To what extent does your manager support your personal development? (example: computer skills course or language course)

9. To what extent does your manager ensure that you can continue to do your work in the future?
    a. How does your manager do that?
    b. What would your ideal manager do?
    c. What do you miss from your manager?
    d. How could your manager support you even better in this?
    e. Is there anything your manager should (still) learn?

End the interview

- Thank you, the participant, for participating in the interview.
- The research data is stored so that it can no longer be traced back to the person with whom the interview was conducted. We do this in accordance with the rules for the management of research data of Radboud University and the Open University of the Netherlands and the General Data Protection Regulation. The researchers involved in this research will use the research data for academic publications and presentations. Participants in this study cannot be identified from the published study data. In order to ensure research integrity, the research data will be accessible to the academic community for a period of at least ten years.
- Ask the participant if he/she would like to receive the results of the survey in the future and write down contact details (name and e-mail address).

Appendix B – Interview guide for truck drivers' supervisors

Interview guide (in advance)

- Welcome the participant, introduce yourself and offer something to drink (coffee, tea, water)
- Inform the participant about the background and importance of the research and about the sound recording (this should have been discussed in advance or indicated via email).
- Ask the participant to sign a consent form to participate in the study (if interviewed by phone: clearly explain how the data will be handled and whether the participant consents to this). Explain in advance that the data ultimately cannot be traced back to a particular participant.
- Ask if everything is clear, if there are any questions and answer any remaining questions.

Start recording audio

- Help the participant feel comfortable by emphasizing that there are no right or wrong answers and showing that you are interested in his/her experiences.
- Always encourage the participant to elaborate on an answer.

Personal Information

Tell me about yourself:

- Where are you from?
- What is your nationality?
- Which organization(s) do you work for?
- How long have you been working there?
- Can you briefly describe the organization? (number of employees, atmosphere, type of cargo, (inter)national, ...)
- How long have you been managing truck drivers?
- What are your previous experiences in the field of leadership?
- What did you do prior to your current position?

Leadership

1. What does your work entail?
2. What tasks do you currently perform in the organization?
3. Who are you currently leading?
4. Who else do you think is in charge of these employee(s)?

5. Which people do you think are the leaders in your organization?
6. How often do you interact with your employees?
7. What do you have contact about with your employees? Name one or more examples.
8. How do you have contact with your employees (e.g. by telephone, on-board computer, conversation at the office)
9. What do you do for your employees in your daily work? Give one or more examples.
10. How would you describe the relationship with your employees today?
11. How would you describe yourself as a manager?
12. How do you think your employees would describe you?

Leadership & Career sustainability

13. How do you see the profession of truck drivers in 10 years?
    a. How do you see the influence of technological developments on your work as a manager? Give an example.
    b. What does this mean for learning in your profession as a manager?
    c. How do you see the influence of technological developments on the work of truck drivers? Give an example.
    d. What does this mean for learning in the profession of truck drivers?

14. What does happiness in your work mean to you?
    a. To what extent are the truck drivers you now manage happy?
    b. How do you ensure that your employees remain happy in their profession for the next 10 years?
    c. What would you like to improve yourself so that your employees can be happier in their work?
    d. What obstacles are you currently experiencing in your role as a manager?

15. What does health in your work mean to you?
    a. To what extent are the truck drivers you now manage healthy?
    b. How do you ensure that your employees remain healthy in their profession over the next 10 years?
    c. What would you like to improve yourself so that your employees can be healthier in their work?
    d. What obstacles are you currently experiencing in your role as a manager?

16. What does productivity in your work mean to you?
    a. To what extent are the truck drivers you now manage productive?
    b. How do you ensure that your employees remain productive in their profession in the next 10 years?
    c. What would you like to improve yourself so that your employees can be more productive in their work?
    d. What obstacles are you currently experiencing in your role as a manager?

End the interview

- Thank the participant for participating in the interview.
- The research data is stored in such a way that it can no longer be traced back to the person with whom the interview was conducted. We do this in accordance with the rules for the management of research data of Radboud University and the Open University of the Netherlands and the General Data Protection Regulation. The researchers involved in this research will use the research data for academic publications and presentations. Participants in this study cannot be identified from the published study data. In order to ensure research integrity, the research data will be accessible to the academic community for a period of at least ten years.
- Ask the participant if he/she would like to receive the results of the survey in the future and write down contact details (name and e-mail address).

Appendix C – Interview guide for HR, senior management and CEOs

Interview guide (in advance)

- Welcome the participant, introduce yourself and offer something to drink (coffee, tea, water) in the event of a physical interview.
- Inform the participant about the background and importance of the research and about the sound recording (this should have been discussed in advance or indicated via email).
- Ask the participant to sign a consent form to participate in the study (if interviewed by phone: clearly explain how the data will be handled and whether the participant consents to this). Explain in advance that the data ultimately cannot be traced back to a particular participant.
- Ask if everything is clear, if there are any questions and answer any remaining questions.

Start recording audio

- Help the participant feel comfortable by emphasizing that there are no right or wrong answers and showing that you are interested in his/her experiences.
- Always encourage the participant to elaborate on an answer.

Personal Information

Tell me about yourself:

- Where are you from?
- What is your nationality?
- Which organization(s) do you work for?
- Can you briefly describe the organization? (number of employees, atmosphere, type of cargo, international/national).
- What is your position at this organization?
- What are the tasks you perform in this position?

Leadership

1. Who manages your truck drivers?
    a. Who else do you think leads the truck drivers?
2. Which people do you think are the leaders in the organization?
3. How much contact do the managers have with the truck drivers?
4. To what extent are performance reviews held in your organization with the truck drivers?
    a. Who conducts these performance reviews?

5. What do the managers do for the truck drivers in their daily work?

Leadership & Career sustainability

6. What does happiness in your work mean to you?
    a. To what extent are your truck drivers happy?
    b. What is the role of the manager in this?

7. What does health in your work mean to you?
    a. To what extent are your truck drivers healthy?
    b. What is the role of the manager in this?

8. What does productivity in your work mean to you?
    a. To what extent are your truck drivers productive?
    b. What is the role of the manager in this?

9. How do you see the profession of truck drivers in 10 years?
    a. What is the influence of technological developments on the work of the managers of the drivers?
    b. What does this mean for the profession of managers?
    c. How do you see the influence of technological developments on the work of truck drivers?
    d. To what extent do truck drivers need to develop themselves professionally in the next 10 years?

Leadership development

10. To what extent are managers supported in developing themselves?
    a. What do you think a good leader in the transport industry should be able to do?
    b. What else could managers at your organization learn to lead better?

End the interview

- Thank you, the participant, for participating in the interview.
- The research data is stored in such a way that it can no longer be traced back to the person with whom the interview was conducted. We do this in accordance with the rules for the management of research data of Radboud University and the Open University of the Netherlands and the General Data Protection Regulation. The researchers involved in this research will use the research data for academic publications and presentations. Participants in this study cannot be identified from the published study data. In order

to ensure research integrity, the research data will be accessible to the academic community for a period of at least ten years.

- Ask the participant if he/she would like to receive the results of the survey in the future and write down contact details (name and e-mail address).

Chapter 4: Professionalization of frontline leaders in the road transport sector: Theory-informed design and evaluation of a Learning Community

This chapter is based on a manuscript co-authored with E. Rusman, J.P. De Jong, and B.I.J.M. Van der Heijden, which is currently in preparation for submission.

Abstract

This study examines how frontline leaders in the Dutch road transport sector experienced a theory- and practice-informed Learning Community (LC) as a form of professional development, and which LC design elements they perceived as effective under specific contextual conditions. Using the CIMO-logic (Context–Intervention–Mechanism–Outcome) framework as an analytical lens, we evaluated the LEADER-LC through an explanatory sequential mixed-methods design. Quantitative data were collected during the sixth meeting via a descriptive survey administered in Wooclap amongst the LC's participants (N = 7; 6-point Likert scale), complemented by qualitative data from open-ended questionnaire responses (N = 7) and an audio-recorded group reflection during the final meeting. Integrating quantitative and qualitative findings, we propose recalibrated LC design elements that preserve face-to-face interaction, small-scale peer learning, and process-oriented facilitation, while strengthening explicit expectations about participation and improving the practical integration of digital communication to support continuity of LC interaction between meetings.

Introduction

The untapped leadership potential in the road transport sector

Leader development is considered a strategic priority within HR policies worldwide; organizations invest substantial financial resources in programs to develop today's and tomorrow's leaders (Vongswasdi et al., 2024). However, this is not so obvious in every sector. For example, in the road transport sector, it appears that professional development of leaders is rarely strategically embedded or prioritized due to an emphasis on operational efficiency combined with a lack of urgency among employers (Van der Meulen et al., 2020). In this sector in particular, it appears that, despite the available training opportunities, relatively little use is made of them by employees (Maslowski, 2019). This seems to indicate a broader, structural pattern in which learning and development are insufficiently embedded in the work culture. Where professional development does occur, it is mostly prompted by mandatory certification and takes on a formal character. However, such formal educational pathways regularly lead to limited transfer to practice (Day et al., 2014; Kauffeld et al., 2025; McCauley & Palus, 2021; McClellan, 2022). The combination of low training uptake and highly formal training formats limits learning transfer to practice. This constrains leaders' professional development and may produce trickle-down effects on the work floor, as leaders may lack the practical tools to address the numerous issues truck drivers face, such as workload pressures, health and safety concerns (De Winter et al., 2024; Sectorinstituut Transport en Logistiek, 2025). To cope with workload, and health and safety concerns in the sector, it is important that leaders continue to expand and refine their professional toolbox. This can be done in many ways, for example through courses, workshops, seminars and specialized programs (Conger & Xin, 2000; Day et al., 2014). Unfortunately, often course offerings in such programs do not sufficiently match the specific learning needs of leaders in 'blue collar' professions, where limited resources mean that training is rarely tailor-made and, in addition, what is learned proves difficult to apply in practice indicative for transfer problems (Bachkirova & Jackson, 2024; Decius et al., 2021; Woudstra et al., 2025). Against this background, there is a growing interest in more context-specific and practice-based forms of learning, such as non-formal and informal collective social learning in the workplace.

From untapped to realized potential: Learning Communities as a non-formal professionalization tool for frontline leaders

Non-formal learning is characterized as a learning process that combines elements of both formal and informal learning: organized and goal-oriented activities that take place outside the regular education system, but that are intentionally set up and followed to support achieving learning outcomes. Learning activities are not part of formal accreditation or standardized assessment practices. They are connected to the participant's intrinsic motivation and learning context (M. Johnson & Majewska, 2022). Previous research has shown that learning that occurs through the exchange of practical experiences better suits individual learning needs in many cases (Eraut, 2004; Manuti et al., 2015; Marsick et al., 2009). Especially for complex and context-specific issues (e.g., workload pressures and drivers' health and safety concerns) non-formal or informal learning methods are preferable, as they align more closely with the realities of the work environment (Tannenbaum et al., 2010). For example, informal learning takes place outside the formal education system and happens 'spontaneously' and unintentionally from everyday experiences and interactions at work, from actively exchanging experiences with each other in, for example, the community (family, friends, knowledge circles, etc.) (Eraut, 2004). Participating in a Learning Community (LC) resembles this type of informal learning in and from experiences and (work)practices, although it is seen as a non-formal learning format as it intentionally aims to create structured opportunities for professionals to reflect together on situations encountered in practice, give each other feedback and develop new practice repertoires (Alzayed & Alabdulkareem, 2021; Smith et al., 2019).

We draw on Wenger's (1998) conceptualization of Communities of Practice (CoP) to describe the collective learning dynamics that can occur within an LC. According to Wenger, a CoP is characterized by three dimensions: a shared domain of concern, mutual engagement among members, and a shared repertoire of tools, routines, and ways of working that develop over time. An LC reflects these social learning principles as participants share a common domain of practice, engage in joint inquiry, and gradually build a repertoire of insights and approaches drawn from their everyday work. However, an LC is not the same as a CoP. Whereas CoPs typically emerge organically and self-organize around ongoing practice, an LC is an intentionally designed, time-bound learning arrangement with explicit developmental aims. LCs rely on structured and facilitated interaction in which practitioners work with real problems from their practice and learn from one another in a deliberate way (Emanuel et

al., 2022; Schipper et al., 2023; Van Rees et al., 2025). Within the Dutch Top Sectors, LCs are seen as an important means to stimulate non-formal learning and cross-sector innovation (Schipper et al., 2022). The dynamics created by collaboration between organizations can strengthen the learning culture both within and between organizations involved (Nicolini et al., 2022). However, leveraging these dynamics within an LC requires a tailored approach, as the organizational form (inter-, intra-, or public-private) and context-specific dynamics introduce complex challenges with regard to the design of an LC (Emanuel et al., 2022). Although LCs can fit well with the work context of professionals, there is much variation between the intended design and the perception of participants (Van Rees et al., 2025). Design-oriented insights are therefore needed: what works, for whom, and under what circumstances? Lave and Wenger (Lave & Wenger, 1991) emphasized that the design of an LC depends heavily on contextual factors. A generic design approach often clashes with the unique characteristics of a specific work environment. These characteristics include power relations, psychological safety, learning objectives, sectoral norms, available resources and previous learning experiences. These factors may shape how people interact and learn together (Emanuel et al., 2022). Consequently, aligning participants' backgrounds, identities, learning goals, and preferred forms of social interaction is critical for effective knowledge sharing (Schilling & Phelps, 2007; Xie et al., 2016). For leaders in the road transport sector, as for other professionals, this implies that the value of an LC hinges on whether its theory- and practice-informed design resonates with their occupational context and supports the sharing of practice-based knowledge and experiences.

Against this background, the aim of this article is to examine how frontline leaders in the road transport sector experienced a theory-and practice informed design of an LC as a means of professional development. Drawing on participants' evaluation of the design choices underpinning the LC, we derive a set of recalibrated design elements to inform the design and implementation of future LCs for frontline leaders in the road transport sector.

Designing a Learning Community

In this paper, we adopt the CIMO-logic framework as an analytical lens for the design of our LC (Denyer et al., 2008). The CIMO-logic framework allows for a systematic analysis of how specific contextual conditions (C), intervention components (I), generative mechanisms (M) and outcomes (O) of a design or intervention are related.

The LC itself was designed as a multi-session professional learning intervention and consists of a set of theory- and practice informed design elements, such as the structure and sequencing of meetings, the composition of peer groups, and the facilitation format. These design elements were derived from prior literature on workplace learning and learning communities and were specified prior to implementation as integral components of the LC design.

Following Denyer et al. (2008), we conceptualize design elements as distinct components of an intervention that can be analytically distinguished and examined for how, in a given context, they activate specific learning or behavioral mechanisms and contribute to particular outcomes. Using CIMO-logic, we analyzed how the design elements of the LC intervention functioned, as perceived by the LC participants within the specific context under study, rather than treating the LC as a monolithic intervention.

As outlined in the preceding section, the CIMO logic framework comprises four interrelated components (i.e., Context, Intervention, Mechanism, and Outcome) which are briefly elaborated below. **Context (C)**: the situation, or environment in which the intervention takes place, such as sector, target group, power relations, or organizational culture and financial resources; **Intervention (I)**: the specific design elements of the intervention, such as the frequency and sequencing of meetings, the composition of stable peer groups, the use of structured reflection and feedback protocols, and the role of the facilitator in guiding interaction; **Mechanism (M)**: The underlying learning or behavioral processes whose aim the intervention is to initiate, such as knowledge-sharing, engagement, reflection, psychological safety, feedback, ownership, and motivation; and **Outcome (O)**: the (perceived) outcomes of the intervention, such as knowledge sharing, behavioral change or professional growth. By analyzing these elements in conjunction, the research question shifts from "Does it work?" to "What works, for whom, in what context, and why?". The CIMO logic approach fits well with design and practice-based research, which focuses on context-dependent knowledge and learning processes.

Following the CIMO logic framework (Denyer et al., 2008), this study examines how Learning Community design elements (I) operate within contextual conditions (C) to activate learning mechanisms (M) that lead to professional development outcomes (O), as perceived by frontline leaders. This leads to the following question: *Which Learning Community design elements (I) do*

frontline leaders perceive as effective, in what contextual conditions (C), through which learning mechanisms (M), and with what professional development outcomes (O)?

Research questions

To address the central research question, we formulated a set of sub-questions. SQ1 and SQ2 examine the C–I–M–O relationships underlying frontline leaders' learning experiences within the LC, while SQ3 synthesizes these relationships into a set of recalibrated design elements:

1. In what contextual conditions (C) do specific structural design elements (I) contribute to activating knowledge-sharing mechanisms (M) within a Learning Community (LC) for frontline leaders in the road transport sector, and what outcomes (O) do they produce?
2. Within the context of a Learning Community (LC) in the road transport sector (C), how do the original design elements (I) influence the mechanisms of engagement and active participation (M) of frontline leaders, and what are their intended outcomes (O)?
3. What recalibrated LC design elements can be derived from participating frontline leaders' evaluation of the relationship between Context, Intervention, Mechanisms and Outcomes (C-I-M-O) for the effectiveness of an LC as a means for their professional development?

Methods

Research design

This study used a mixed-methods design to evaluate the design elements of the LEADER-LC. We adopted an explanatory sequential approach (Creswell, 2011). First, quantitative data were collected to evaluate the intervention at group level. Next, qualitative data were collected to explain and deepen the quantitative findings by exploring participants' experiences and perceived working mechanisms at the individual level.

Analytical approach: CIMO-logic

To structure the evaluation of the LEADER-LC's design elements, we used the CIMO-logic framework (Denyer et al., 2008). This framework links Context (C), Intervention (I), Mechanisms (M) and Outcomes (O) and helps to clarify how specific design elements are expected to work for particular participants in a particular setting.

Phase 1: Retrospective reconstruction of intended design

In the first phase, we retrospectively reconstructed the theory- and practice-informed design choices underlying each design element and formulated these as initial C–I–M–O design propositions. The intended interventions (I) and assumed mechanisms (M) were derived from (a) literature on learning in Learning Communities and Communities of Practice (Wenger, 1998; Woudstra et al., 2022) and (b) existing program materials (e.g., assignments, and program documentation).

Phase 2: Evaluation of mechanisms and outcomes through participants' perspectives

In the evaluation phase, participant data were used to evaluate whether the enacted interventions activated the intended mechanisms and which outcomes were reported by participants. Quantitative measures provided an overall evaluation at group level, while qualitative data were used to further elucidate the underlying experiences and mechanisms from the perspective of individual participants.

Specification of CIMO elements

Multiple data sources were used to inform the CIMO elements. The context (C) was specified using participants' background characteristics and learning objectives, complemented with sector literature. This contextual reconstruction focused on challenges in leadership development related to fostering the sustainable employability of truck drivers.

Qualitative data collection and data analysis

The qualitative part of our study consisted of open-ended questions in the Wooclap with participants ($N = 7$) during the sixth LC meeting via a questionnaire (individual-level) and an audio recording of the last meeting (group-level). Open-ended questions were used to explore how participants experienced the digital communication platform, what went well within the LC and what could be improved for future LCs. During the last meeting, these results were discussed, and a structured group reflection took place. The collected data were analyzed thematically for similarities and differences between the evaluations of participants on an individual level (V. Braun & Clarke, 2012)

Quantitative data collection and data analysis

Quantitative data were collected through a survey of LC participants during the sixth meeting ($N = 7$). Due to the limited sample size, the survey results should

be interpreted as context-specific and indicative rather than generalizable. Accordingly, the survey data were treated as secondary data, complementing the in-depth qualitative analyses by offering an aggregated overview of participants' evaluations of the LC design elements. The questionnaire was administered through the software program 'Wooclap' and informed by an instrument focused on effectiveness of 'Communities of Practice' (Verburg & Andriessen, 2006). The questionnaire (see Appendix A) consisted of statements on a 6-point Likert scale; 1 = totally disagree, 6 = totally agree. A sample item reads, "Within this Learning Community, topics relevant to me for strengthening sustainable employability within my organization are addressed."

In addition, learning and interaction processes such as identification, formulation of shared goals and reflection were questioned (see Appendix A). For example, "To what extent did you experience identification (own vs. group identity) within this LC?" Participants answered the questions individually via their mobile phones, after which anonymized results were shared after each item with the entire group. This was done as this data collection was simultaneously part of a feedback session for the LC. The descriptive analysis focused on obtaining an overall picture of mean scores and variation in responses on a group-level, without hypothesis testing or causal inferences. We describe how the scores are distributed, where averages lie, how much variation there is, and whether any patterns stand out. It gives a factual overview of the data before moving to interpretive or explanatory steps.

Integration of quantitative and qualitative results

The results of the quantitative and qualitative instruments were combined to form a holistic picture of the Learning Community 'Outcomes'. The quantitative results indicated overall patterns of change, while the qualitative material clarified how and why these patterns emerged. This triangulation (Denzin, 2012) allowed us to verify whether the observed quantitative trends reflected participants' lived experiences and to identify mechanisms that were not visible in the quantitative data alone. The qualitative insights also showed which design elements supported or hindered these changes, which enabled us to recalibrate the original LC design.

Following the integration of the quantitative and qualitative results, the CIMO framework again acted as an analytical framework: the Outcomes were interpreted in relation to the previously assumed relationship between Context, Intervention and Mechanism. By checking for each theory- and

practice informed design element whether and how the intended mechanism was activated in the given context, it was possible to identify which design elements were found to be positive in relation to the intended leader development outcomes of the LC and where adjustment was needed.

Ethical considerations

This study did not require ethics committee review according to the guidelines of the research institute, because it involved non-invasive social-scientific research with adult participants, posed no more than minimal risk, and did not include vulnerable populations, deception, or interventions affecting participants' physical or psychological integrity. All participants took part voluntarily and provided informed consent, and the data were collected and processed anonymously.

Results

The design context for the LEADER-LC (CIMO: Context)

In this section, we describe the context (C) of the LEADER-LC, developed within the Leadership Development in Road transport (LEADER) project, funded by the Netherlands Organization for Scientific Research (NWO).

Sixteen frontline leaders from 11 companies volunteered for this LC. They were active within various sub-markets of the road transport sector, such as waste processing, parcel delivery, automotive, international transport and shop distribution, mainly in the Southeast Netherlands. The participants held operational, transport or process management positions and were formally in charge of drivers and/or planners.

The group of participants was diverse in terms of organizational size, professional background and experience. Some had worked in the sector for a long time, others were relatively new or came from other sectors, such as hospitality or family businesses. The main motivation for participation lay in addressing the challenge of promoting sustainable employability in a sector with structurally high absenteeism, and how they could develop their competencies as frontline leaders. Participants had diverse learning needs: social and communication skills, effective leadership, team building and change management, as well as practical insights for coaching drivers. There was also a strong need for cross-organizational interaction and inspiration through an exchange with fellow frontline leaders (see Table 4.1).

Table 4.1 An overview of the individual learning objectives of the LEADER Learning Community retrieved during the first meeting

Individual learning objectives
Participant A: Social skills and effective leadership.
Participant B: Developing in the area of leadership and sustainable employability.
Participant C: Learning to supervise drivers better, learning from another.
Participant D: Exchange experiences, see things from a different perspective.
Participant E: Working more time-efficiently (overtime).
Participant F: Learning from each other, helping each other.
Participant G: From group to team, knowing what people need.
Participant H: Knowledge transition, old/new style change process, learning to translate sustainable employability into practice.
Participant I: Getting to know the intangible value of logistics.
Participant J: Recognizing bottlenecks and creating solutions.
Participant K: Further developing social skills.
Participant L: Applying changes in a company. Implementing policies.
Participant M: Gain insight into how others deal with drivers, learn ways of leading.
Participant N: No particular goal but interested in others' experiences.

Design and implementation of the Learning Community (CIMO: Interventions & Mechanisms)

Within the CIMO framework, the "I" of Intervention refers to methods, techniques or strategies deployed to solve a specific problem within a given context (Denyer et al., 2008). According to this framework, the effectiveness of an intervention depends on how well it fits the context and whether it activates the desired mechanisms. Therefore, we consider the original, context-specific design elements of the LEADER-LC as interventions. Below, we briefly explain these elements (see Table 4.2). The LEADER LC was designed building on social constructivist and experiential learning principles, with learning through interaction, reflection and participation at its core (Wenger, 1998; Woudstra et al., 2022).

First, the LEADER LC consisted of six physical meetings facilitated over time. These meetings formed the structural backbone of the LC and were designed to enable sustained interaction and continuity in learning. A facilitator guided the sessions by encouraging focused reflection rather than delivering content, with the aim of strengthening participants' self-direction and reflective capacity (Hadar & Brody, 2021).

The LC was composed of a fixed cohort (max. 20 participants) and used breakout subgroups (≤ 5) for discussion. This design element was informed by evidence that smaller groups (3-6 persons) tend to be more effective than larger groups for knowledge sharing (Wheelan, 2009). Because psychological safety supports speaking up, learning behaviors, and feedback exchange in teams, we expected the small-subgroup format to facilitate openness and mutual feedback (Edmondson & Lei, 2014). To anchor learning in everyday work practice, the content of the LC meetings was structured around real-life examples and critical incidents brought in by participants themselves. These practice-based cases served as starting points for collective reflection and dialogue, enabling participants to examine concrete leadership situations rather than abstract scenarios (Bott & Tourish, 2016; Flanagan, 1954).

A further design element concerned participant ownership. Ownership was operationalized through participants taking turns in hosting sessions, jointly formulating shared learning goals, and collectively defining social rules for interaction. These elements were intended to support engagement and commitment to the learning process by positioning participants as co-owners of the LC rather than passive recipients (Deci & Ryan, 2001; Wenger, 1998; Woudstra et al., 2022).

In addition, the LC followed a blended learning approach, combining physical meetings with the use of digital communication platforms to support interaction and reflection between sessions (Vaughan et al., 2023). To stimulate systems thinking and the development of shared understanding, Group Model Building (GMB) was used as a structured method for jointly exploring interdependencies and dynamics within participants' leadership contexts (Rouwette & Vennix, 2009).

Table 4.2 An overview of the theory-and practice-informed design elements of the LEADER-LC and their intended learning mechanisms

#	Design elements (I)	Context (C)	Assumed mechanisms (M)		Observed outcome (O)	Recalibrated design elements (C-I-M-O)
			Wenger (1998)	**Woudstra et al. (2022)**		
1	Six physical meetings	Leaders work in an industry with high workload, limited learning culture and structural absenteeism, limiting opportunities for continuous or digitally mediated learning activities.	*Community building* - Regular interaction strengthens social cohesion and identity formation.	*Facilities for engagement (participation/ reification)* - Connecting background knowledge with practice.	Physical presence proved important for engagement and deepening conversations; digital alternative perceived as insufficient. *Data source: qualitative evaluation*	Maintain and strengthen; physical meetings are essential for initial formation of interpersonal trust and to facilitate the learning process.
2	Facilitator guided meetings	Leaders do not always have the right knowledge, skills, and abilities for reflection and discussion about sustainable employability.	*Legitimate Peripheral Participation (LPP)* - Guidance supports the transition towards learning in an LC.	*Facilities for alignment (Designed/emergent)* - Developing appreciation for new information.	Facilitator contributed to structure, reflection, safety, and atmosphere. *Data source: qualitative and quantitative evaluation*	Retained; role is crucial, attention to competence and background of facilitator.
3	Maximum 20 participants	Leaders work in teams with little opportunity for peer review or learning exchange.	*Bounded Community* - Small groups strengthen engagement and knowledge sharing.	*Facilities for engagement (Local/ global)* - Translate insights into local practice.	Participants valued group atmosphere. *Data source: qualitative and quantitative evaluation*	Retained; group size can affect perceived group atmosphere.
4	Critical incidents in peer review sessions	Leadership practice in the transport sector has many ad hoc situations and unclear options for action.	*Knowledge sharing through storytelling* - Learning by analyzing practical experiences.	*Facilities for reflection (Designed/emergent)* - Alternative perspectives on experiences.	Cases discussed offered recognition and new insights. *Data source: qualitative and quantitative evaluation*	Retained; peer feedback effective, attention to time management and structure.

Table 4.2 Continued

#	Design elements (I)	Context (C)	Assumed mechanisms (M)		Observed outcome (O)	Recalibrated design elements (C-I-M-O)
			Wenger (1998)	**Woudstra et al. (2022)**		
5	Hosted by participants	Because (formal) learning and development in organizations is often top-down, shared ownership in an LC does not arise automatically.	*Ownership of learning* - Participants take responsibility for the learning environment.	*Facilities for engagement (Identification/ Negotiability)* - Taking responsibility for interactions.	Commitment varied widely between participants; some wanted more explicit agreements. *Data source: qualitative and quantitative evaluation*	Recalibrate: discuss clear expectations and reciprocity beforehand.
6	Flexible content based on group needs	Participants vary widely in experience, learning needs and organizational context.	*Negotiation of meaning* - Learning occurs through shared meaning construction.	*Facilities for imagination (Designed/emergent)* - Recognizing and exploiting new learning experiences.	Themes were perceived as relevant. *Data source: qualitative and quantitative evaluation*	Retained; link content to learning objectives and continue to align iteratively.
7	Microsoft Teams & WhatsApp for knowledge sharing	Digital communication platforms are used in the work process.	*Situated learning* - Learning goes beyond physical and formally organized sessions.	*Facilities for engagement (Participation/ reification)* - Continuity in knowledge exchange.	Teams was assessed positively but the way it was implemented is not sufficiently embedded in daily routines. *Data source: qualitative evaluation*	Reviewed: integrate different platforms with better notifications and division of roles and embed in daily routines.
8	First meeting with informal group activity	Participants often did not know each other beforehand and came from different organizations.	*Mutual engagement* and *Shared* interest- Joint activity with shared interest strengthens connectedness.	*Facilities for imagination (Local/global)* - Understanding context and backgrounds.	Participants valued group atmosphere and engaged in sharing knowledge. *Data source: qualitative and quantitative evaluation*	Retained; recommendation for future LCs as start-up intervention.

Table 4.2 Continued

#	Design elements (I)	Context (C)	Assumed mechanisms (M)		Observed outcome (O)	Recalibrated design elements (C-I-M-O)
			Wenger (1998)	**Woudstra et al. (2022)**		
9	Familiarization exercise	Participants often did not know each other beforehand and came from different organizations.	*Identity formation* - Contributes to the formation of a common identity.	*Facilities for alignment (Participation/ reification)* - Learning through landmarks.	Participants valued group atmosphere. *Data source: qualitative and quantitative evaluation*	Retained; embedded as standard element in the first meeting.
10	Learning objectives on post-its, clustering themes	Participants have different expectations and starting levels.	*Joint enterprise* - The group constructs the learning process together.	*Facilities for engagement (Designed/emergent)* - Challenging and developing competences.	Structure and direction created through shared goals. *Data source: qualitative and quantitative evaluation*	Retained; repeated over time to support dynamic learning environment.
11	Form subgroups themselves based on learning themes	Leaders struggle with lack of time and seek focus on themes relevant to them.	*Affinity groups* - Learning in subgroups promotes knowledge building.	*Facilities for engagement (Local/ global)* - Relating information to practice.	Participants valued group atmosphere. (*Data source: qualitative and quantitative evaluation)*	Maintain and expand; align subgroup formation with shared practice needs.
12	Group identity based on recognition point	There is a need for mutual recognition and commonality among leaders.	*Reification of identity* - Symbols help form a shared culture.	*Facilities for imagination (Local/ global)* - Bringing background and contexts into focus.	Recognizability stimulated mutual exchange. *Data source: qualitative and quantitative evaluation*	Maintain and expand; could potentially further strengthen commitment to the group.
13	Participants set social ground rules and policies themselves	Leaders are used to hierarchical contexts where there is little room for shared norms setting.	*Co-created norms* - Engagement increases when participants set rules.	*Facilities for deliberation (Identification/ Negotiability)* - Discuss legitimacy of group norms.	Participants valued group atmosphere. *Data source: qualitative and quantitative evaluation*	Retained; introduction and repetition in beginning and middle stages may be helpful.

Table 4.2 Continued

#	Design elements (I)	Context (C)	Assumed mechanisms (M)		Observed outcome (O)	Recalibrated design elements (C-I-M-O)
			Wenger (1998)	**Woudstra et al. (2022)**		
14	Group Model Building activity	Seeing through complex, system-driven work processes is often difficult for individual leaders.	*Community sense-making* - Joint model building strengthens understanding.	*Facilities for alignment (Local/global)* - Recognizing connections and patterns.	Encouraged common language and understanding of the common challenges. *Data source: qualitative and quantitative evaluation*	Maintain and expand; valuable group learning intervention.
15	Evaluation of individual and joint processes in the learning community	Reflection on own learning process happens little systematically in regular work.	*Reflective practice* - Communities learn and evolve through reflection.	*Facilities for transformation (Identification/Negotiability)* - Encouraging change and innovation.	Structure and direction created through shared goals. *Data source: qualitative and quantitative evaluation*	Retained; consider incorporating more frequent mid-term reviews.

Finally, the use of the critical incidents approach (Bott & Tourish, 2016; Flanagan, 1954) supported systematic reflection across participants by creating a shared structure for discussing experiences, questioning assumptions, and comparing perspectives within the group (Wenger, 1998; Woudstra et al., 2022).

Qualitative analysis (CIMO: Outcomes)

Use of MS Teams as a communication tool

Microsoft Teams was deployed within the LC as a digital platform for communication and document sharing. Reactions about its use were predominantly positive: five participants indicated that the platform offered added value. One participant highlighted the potential: *"Should be used more actively",* suggesting that Teams was not yet used to its full potential, but was seen as relevant. Another praised the user-friendliness: *"Easy to access. View shared documents. Good for sharing information."*

At the same time, two participants criticized the limited integration of Teams within the daily work process: *"Unfamiliarity of system. No push notifications. Really have to look for it. Email is used much more by me",* and *"Yes, valuable. Have to look at it manually though. Don't get notifications from it unfortunately."* During the final reflection, one participant stated:

> *"I think at work I work with a different Teams function than this one. Then I have to click a different link every time and end up in a different version." (Participant 1)*

These comments are related to the fact that the Teams environment was used outside their own organizational structure, so participants had to log in via an external account. In summary, the outcomes of the qualitative analysis showed that Teams certainly has potential as an online support platform, provided that it is better embedded in daily routines, including clear reporting structures and accessibility. Only then can it contribute optimally to knowledge sharing and cooperation within an LC.

Deployment of physical meetings among participants

The draft decision to organize physical meetings at locations of the participating organizations, starting at a neutral location that matched the shared working context, was unanimously welcomed. Seven responses showed that these meetings were crucial to the success of the LC, with two central functions: as

a precondition for engagement and as a source of inspiration and networking. Physical presence proved essential for active participation. One participant stated: *"Without these physical meetings, nothing would have come of it"*, underlining the importance of face-to-face contact as a stimulus for reflection and action. This suggests that digital tools such as Teams are not enough to achieve the same depth and connection.

In addition, the meetings provided space for broadening perspectives and mutual connection. For example, one participant commented: *"Very inspiring and enlarges the network"*, and another: *"Very interesting to see other people's line of work."*. The value of mutual exchange also emerged as for instance reflected in the following statements: *"Nice to hear all the different stories. The differences in issues, but also the similarities."*

In short, the physical meetings were seen as an important pillar for the success of the LC by the participants. They contributed to the intended mechanisms such as social cohesion and active participation (see Table 4.2).

Positives of the LC

The evaluation of the LC showed that participants were predominantly positive about various aspects. Their feedback could be summarized in four central themes, which corresponded to the theoretically intended mechanisms behind our design elements (see Table 4.2): (1) group dynamics and atmosphere, (2) exchange and mutual learning, (3) content relevance, and (4) practical organization.

Group dynamics and atmosphere

The atmosphere between participants was felt to be warm and supportive. One participant described it in the survey as: a *"Nice group of people"*, while another characterized the atmosphere with: *"The physical sessions had a pleasant dynamic."* This positive dynamic was reinforced by a sense of shared understanding of jargon and repertoire: *"Unity. Recognizing each other's stories/examples. Speaking the same jargon."* The LC thus offered not only depth of content, but also a socially safe climate in which participants felt recognized and connected.

Exchange and learning from each other

The value of feedback and peer exchange emerged strongly from the survey responses. Participants explicitly mentioned the importance of *"Discussions"* and *"Exchanging experiences. Working on goals from here."* Sharing

"great examples" made learning concrete and applicable, illustrating how storytelling around practical experiences provided a starting point for further professional development.

Content relevance

The topics of the LC were also viewed positively. For instance, throughout the LC, HR managers from the hosting organizations were invited to give short presentations on how their organizations addressed sustainable employability. In the qualitative analysis, the topics discussed were described as *"Fun topics"* and the method of presentation was appreciated: *"Giving the presentation in a fun way."* This indicates a good fit on a content level with the participants' perceptions and needs.

Practical organization and set-up

Finally, organizational aspects were also frequently mentioned and rated as positive. There was appreciation for the space available for interaction during the (physical) meetings (*"Space for input was very good"*, *"Time management"*), as well as for visiting inspiring contexts (*"Beautiful companies seen"*, *"Visiting different organizations"*). The informal side provided during the prior lunch of each meeting was not forgotten, as evidenced by the breezy remark in the survey: *"Sandwiches :-)"*.

In summary, the analysis showed that the strength of the design of the LC for this leader development approach in road-transport lay in the combination of content, social connection and practical implementation. Participants appreciated the space for interaction and flexibility, the recognition of each other's stories, and the opportunities for joint reflection and learning.

Areas for improvement of the LC

While participants were mostly positive about the design and implementation of the LC, several reflections were shared about areas for improvement. Two related central themes emerged here: (1) commitment and responsibility, and (2) the structure and clear agreements.

Commitment and responsibility

Several participants argued in their survey responses for greater commitment and responsibility within the group. One participant summed it up pithily with the word *"Commitment"*, while another one explained further: *"Presence of the participants. More responsibility among the participants."* These comments

suggest that the success of the LC partly depends on responsibility of participants translated to active participation. The importance of setting and agreeing on shared expectations from the beginning was emphasized in this regard: *"Setting expectations about input and attendance."* The low attendance during the last session was also discussed. According to one participant, this was because of the open-ended nature:

> *"If there are no deadlines or accountability, you put things off. That's just the standard cliché." (Participant 2)*

> *"It costs time and money, even for the attendees. If half are not there, the other half don't get what they need." (Participant 2)*

They stressed that absence hurts the group's learning experience. Participants stressed that recurrent absence undermined the continuity of group learning. This implies that there is a need for explicit agreements on attendance to clarify mutual expectations and stabilize participation in the context of irregular availability.

Structure and clear agreements

The need for more clarity and direction was also mentioned. One participant formulated it in the survey as follows: *"Provide a structured program. Not open-ended but committed."* A participant reflected on a broader lesson, namely that the idea of collective contribution - *"The idea that you have to 'bring' as an entire group is strong"* - is valuable but also requires a significant effort. The role of participants requires forward thinking and initiative, which fits well with the self-directed nature of an LC:

> *"Leaders often have to take initiative themselves. That self-directedness fits well with this form of learning just right." (Participant 2).*

This shows that balancing responsibility and structure is an essential focus for setting up an LC, as not all participants are used to this form of learning and collaboration.

Descriptive quantitative analysis

Firstly, the survey results showed that participants were predominantly very positive about the Learning Community. In particular, items such as "Within this learning community, topics relevant to me are addressed" (M = 4.86,

SD = 0.64) and "Important for own work" (*M* = 4.85, *SD* = 0.83) scored high with little deviation. "Good connectedness" was rated lowest and had the highest standard deviation (*M* = 4.42, *SD* = 1.05). Figure 4.1 and Table 4.3 present a visual overview of the items, their average scores, and the degree of variability across participants.

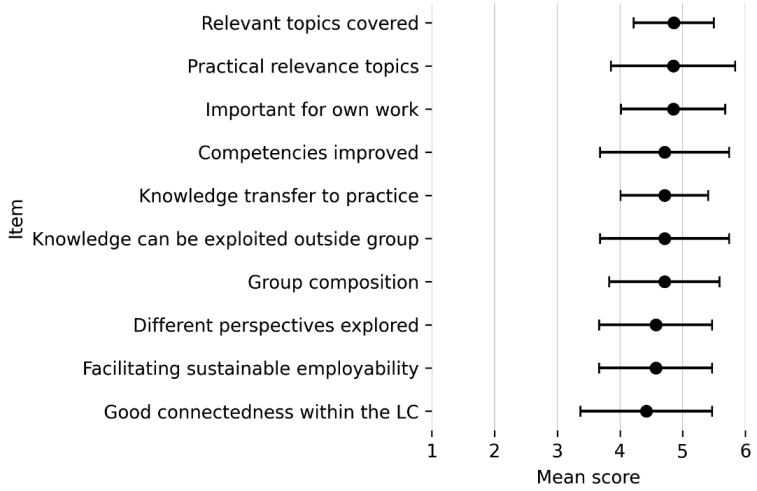

Figure 4.1 A visualization of the mean scores and standard deviation of questions for the LC evaluation questionnaire

Table 4.3: Descriptive statistics for the LC evaluation questionnaire

Question	Item	M	SD	Min	Max	Range	N
V1	Relevant topics covered	4.86	0.64	4	6	2	7
V7	Practical relevance topics	4.85	0.99	3	6	2	7
V9	Important for own work	4.85	0.83	4	6	1	7
V3	Competencies improved	4.71	1.03	3	6	3	7
V5	Knowledge transfer to practice	4.71	0.70	4	6	4	7
V6	Knowledge can be exploited outside group	4.71	1.03	3	6	4	7
V10	Group composition	4.71	0.88	4	6	2	7
V2	Different perspectives explored	4.57	0.90	3	6	4	7
V8	Facilitating sustainable employability	4.57	0.90	3	6	4	7
V4	Good connectedness within the LC	4.42	1.05	3	6	4	7

M = Mean; SD = Standard deviation; N = Number of participants

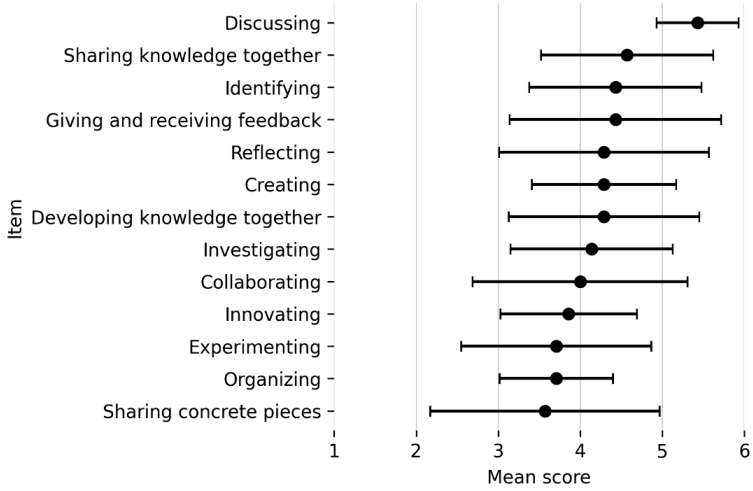

Figure 4.2: A visualization of the mean scores and standard deviation for the evaluation of the learning processes in the LC

Secondly, participants rated various activities in the survey. "Discussing" was rated highest (*M* = 5.43, *SD* = 0.50). "Identifying" - recognizing similarities in each other's work situations or challenges (*M* = 4.43, *SD* = 1.05), "Sharing practical knowledge together" (*M* = 4.57, *SD* = 1.05) and "Giving and receiving feedback" (*M* = 4.43, *SD* = 1.29) also scored relatively high, but had a wider spread, indicating diverse experiences among participants. At the same time, some activities were rated lower and had more variation. "Experimenting" (*M* = 3.71, *SD* = 1.16) and "Sharing concrete pieces" (*M* = 3.57, *SD* = 1.40), referring to sharing documents and information, scored relatively low, with high dispersion, suggesting that these were experienced less frequently or to a lesser extent by participants. Figure 4.2 and Table 4.4 provide a visual overview of the items, including their mean scores and associated variability.

Table 4.4: Descriptive statistics for the evaluation of the learning processes in the LC

Question	Item	M	SD	Min	Max	Range	N
V4	Discussing	5.43	0.50	5	5	1	7
V6	Sharing knowledge together	4.57	1.05	3	5	2	7
V1	Identifying	4.43	1.05	3	5	2	7
V3	Giving and receiving feedback	4.43	1.29	2	5	2	7
V2	Reflecting	4.29	1.28	2	5	2	7
V7	Creating	4.29	0.88	3	5	2	7

Table 4.4: Continued

Question	Item	M	SD	Min	Max	Range	N
V9	Developing knowledge together	4.29	1.16	3	5	2	7
V5	Investigating	4.14	0.99	3	5	2	7
V8	Collaborating	4.0	1.31	2	5	2	7
V12	Innovating	3.86	0.83	3	5	2	7
V10	Experimenting	3.71	1.16	3	5	2	7
V11	Organizing	3.71	0.69	3	4	1	7
V13	Sharing concrete pieces	3.57	1.40	2	5	2	7

M = Mean; SD = Standard deviation; N = Number of participants

Integrating the C-I-M-O: Recalibrating design elements (CIMO: Outcomes)

The evaluation showed that implementing theory- and practice-based design elements in the LEADER-LC appeared to activate a number of crucial learning mechanisms in LCs. In particular, the mechanisms around reflection, relevance to working practice, peer exchange, and knowledge (co-)construction were reflected in participants' experiences who participated in the evaluation. The participants appreciated a number of things from the LC: The interactive format, the thematic connection to their work practice, and the learning from and with each other.

At the same time, it became clear that certain mechanisms were less consistently activated through the LEADER-LC. Looking at Table 4.4 and Table 4.5, some learning mechanisms were activated to a lesser extent. Shared ownership of learning remained uneven, as commitment varied between participants and required clearer expectations (#5). Situated learning beyond formal meetings was only partially realized, since digital platforms were not sufficiently embedded in daily routines (#7). Reflective practice supported learning, but occurred too infrequently to fully drive collective adaptation and transformation (#15).

These findings highlight the importance of clear agreements and better embedding learning within daily work routines. Based on these insights, we systematically evaluated and recalibrated the original design elements. This evaluation provides concrete starting-points for further strengthening the effectiveness and feasibility of future Learning Communities in the context of frontline leaders in the road-transport sector.

Table 4.5 A thematic table of participant evaluation of the LEADER-LC

Theme	Subtheme	Example quote
Use of MS Teams as a communication tool	*Facilitates exchange*	"Easily accessible. View shared documents. Good for sharing information."
	Not integrated into work process	"No push notifications. Really have to look up. Email is used much more by me."
Deployment of physical meetings among participants	*Necessity for participation*	"Without these physical meetings, nothing would have come of it."
	Network and inspiration	"Very inspiring and increases networking."
Positives of the LC	*Group dynamics and atmosphere*	"The physical sessions had a pleasant dynamic."
	Exchange and mutual learning	"The exchange of experiences. Working on goals from here."
	Content relevance	"Fun topics"
	Practical organization	"Visiting different organizations"
Points for improvement from the LC	*Commitment and responsibility*	"Setting expectations in the form of input and attendance."
	Structure and clear agreements	"Offering structured program. Not non-committal but committed."

Discussion

This study evaluated which design elements for a Learning Community were perceived by frontline leaders in road transport as valuable for their professional learning experience. Using the formulated three (sub-)research questions, based on the CIMO-logic framework (Denyer et al., 2008), we first discuss the main findings, followed by methodological reflections and implications for practice.

In what context do *which* design elements work? (CIMO Question 1)

Within the highly operationally organized road transport sector, where there is limited time for learning, it was precisely the small scale, recognizability of topics covered in and structure of the LC that proved to be crucial design elements for success. Fourteen frontline leaders participated in the LC, which was also divided into smaller subgroups wherein the participants reflected on recognizable practical situations around self-selected themes. Working in thematic subgroups and rotating the hosts activated knowledge-sharing mechanisms such as peer feedback, practice reflection, and collective

meaning-making. These mechanisms became visible in participants' own evaluation in both the quantitative and qualitative parts of our study.

How do design elements influence engagement? (CIMO Question 2)

The original interventions focused on encouraging active participation, including shared ownership, voluntary theme selection, and the use of asynchronous communication (Microsoft Teams and WhatsApp). Participants appreciated the opportunity this gave them but also indicated that too much non-commitment of other participants strained the learning process. The absence of some participants at the last meeting and the challenging deployment of Microsoft Teams confirmed that commitment to the LC was not similar across participants. Hence, the balance between autonomy and the joint formulation of clear agreements and preconditions proved essential. The evaluation also showed that involvement was expected to increase, according to the participants, when expectations were clear beforehand and when participants were given greater and more specific responsibility for the learning process, for example through assigning roles.

Which design elements could be recalibrated (CIMO Question 3)?

The recalibrated design elements stem from the evaluation of the original design elements, in which participants emphasized the added value of practicality, ownership, a safe learning environment, clear communication, and supportive process guidance. The evaluation provided the empirical foundation for the five design elements:

1. **Embed the program in recognizable real-life situations** to ensure immediate relevance and transfer to the workplace.
2. **Encourage rotating hosts and self-directed theme selection**, to foster ownership of participants.
3. **Guaranteeing small scale group formation** as a prerequisite for psychological safety to foster openness and reflection.
4. **Integrate digital communication in an accessible and unambiguous way**, with clear agreements on function and use.
5. **Ensure a facilitating role that provides process-oriented guidance and an adequate structure**, without directing content.

Methodological reflections

The CIMO-logic model provided guidance when analyzing the effectiveness of design elements. Specifically, instead of using CIMO only to derive design

principles as propositions for a design or in retrospect (e.g., Weggeman & Cauffman, 2024), here it served as a testing framework to assess whether the intended mechanisms actually came into effect. At the same time, distinguishing interventions from mechanisms proved empirically difficult, as Costa et al. (2018) also pointed out.

We used a mixed-methods design to assess how specific design choices shaped participants' experiences in the LC. This approach allowed us to explain patterns observed in the survey data by qualitative data. However, selection bias is likely (Heckman, 1979): 7 out of 16 participants (44%) completed both the qualitative and quantitative evaluation, and most were attendees of all LC sessions. As a result, perceived benefits may be overestimated relative to the full cohort.

Conclusion

This study concludes that a theory- and practice-informed LC can serve as a context-appropriate non-formal professional development approach for frontline leaders in the road transport sector. Across the mixed-methods evaluation, participants predominantly experienced the LC as relevant and valuable, particularly due to its grounding in recognizable work situations, the emphasis on peer exchange and collective reflection, and the psychologically safe learning climate supported by small-scale interaction. At the same time, not all intended learning mechanisms were consistently activated. Shared ownership and commitment varied between participants, learning beyond the face-to-face meetings was only partially realized because digital communication tools were insufficiently embedded in daily routines, and reflective practice occurred too infrequently to fully support ongoing collective adaptation. Taken together, these findings indicate that effectiveness hinges on fit between design and context: future LCs in this sector should preserve core elements that foster trust, relevance, and dialogue (e.g., physical meetings, small subgroups, structured peer reflection, and skilled facilitation), while strengthening feasibility and mechanism activation through clearer upfront agreements on reciprocity and attendance, more explicit role allocation amongst participants, and more accessible and integration of digital platforms to support continuity within the LC between sessions.

Practical implications

For HR and L&D departments in organizations, this LC approach offers a low-threshold and effective alternative to traditional leader development programs. Some design guidelines could be derived, specifically:

- **Start small and practical**: organize a series of meetings around recognizable, topical issues.
- **Encourage ownership**: let participants actively contribute to content, working methods and chairmanship.
- **Ensure social safety and continuity**: choose a stable group with clear mutual expectations on commitment.
- **Offer structure and autonomy**: use a facilitator to monitor the learning process, without determining the content.
- **Integrate digital resources carefully**: use tools such as Teams and Outlook with a clear function for the knowledge-sharing process.

Within and across organizations, an LC can function as a deliberately designed intervention to support the professional development of frontline leaders in a context-sensitive manner. This study demonstrates that LCs can be tailored to the professional development of frontline leaders in the road-transport sector. When the aim is to design and implement LCs, sector- or industry-level organizations may play an enabling role by providing forms of support that are essential for guiding and scaling such initiatives, as was the case in the LEADER-LC.

Appendix A - Questionnaire on the LC

Part I - Experienced processes within the LEADER LC

Please rate the following elements from 1 to 6:

(1) Never (2) Very rarely (3) Rarely (4) Occasionally (5) Frequently (6) Very frequently:

1. Within this learning community, topics relevant to me for strengthening sustainable employability within my organization are addressed.
2. Within this learning community, topics related to sustainable employability of my employees are looked at from different angles.
3. By participating in this learning community, I improve my competence as a leader.
4. There is a good connection within this learning community.
5. In my own practice, I use the knowledge I gained within this learning community.
6. Frontline leaders outside this learning community will soon also be able to use the knowledge generated by our learning community.
7. Topics we encounter in our practice are dealt with in a meaningful way within this learning community.
8. This learning community is important for facilitating sustainable employability within my organization.
9. This learning community is important for how I approach things in my daily work practice (your actions as a leader regarding sustainable employability of employees).
10. I am satisfied with the composition of professionals within this learning community.

Part II – Experienced learning mechanisms within the LEADER LC

Please rate the following elements on a scale from 1 to 6:

(1) Not at all / none (2) Hardly (3) To a limited extent (4) To a fairly strong extent (5) To a strong extent (6) To a very strong extent

To what extent did you experience the following within this learning community?

1. Identifying (individual vs. group identity)
2. Reflecting
3. Giving and receiving feedback
4. Discussing
5. Investigating
6. Exchanging (practical) knowledge together
7. Creating
8. Collaborating
9. Developing new (practical) knowledge together
10. Experimenting
11. Organizing
12. Innovating
13. Sharing concrete materials (e.g., documents, PowerPoint files, etc.) with one another

Chapter 5: Leading by learning together: Exploring leader development pathways in a Learning Community

A version of this chapter is under review at an international peer-reviewed journal as: Van Zwol, W. G. A., Rusman, E., De Jong, J. P., Van der Heijden, B. I. J. M. (2026) Transforming, adapting, or confirming? Divergent pathways of leader development in a Learning Community.

Abstract

This study investigates how a Learning Community (LC) shapes leader development over time. Using expansive learning theory and a longitudinal abductive grounded theory design, we conducted 114 interviews with 14 logistics leaders and their 84 followers, both before and after LC participation. The qualitative analysis revealed three pathways. Transformative leaders faced clear tensions, engaged in reflective problem-solving, and moved through most phases of the expansive learning cycle. They redefined their roles and made structural or relational changes that followers noticed. Incremental-adaptive leaders addressed concrete issues and made modest gains within their existing frame, leading to small but uneven improvements. Confirmatory leaders saw little need for change and maintained existing routines, which followers confirmed. The study clarifies how collective learning unfolds in LCs by distinguishing different developmental pathways over time and by showing how these pathways relate to leaders' engagement with the phases of expansive learning.

Introduction

Many leaders in organizations face a dual challenge: Safeguarding happy and healthy employees while ensuring their labor productivity (Whiteoak et al., 2023). *How* leaders navigate this challenge directly affects employees' career sustainability, which refers to one's ability to "create, test, and maintain one's adaptive capacity" (De Vos et al., 2020, p. 1). Understanding how leaders can be developed to balance employee well-being and productivity remains a key challenge (Inceoglu et al., 2018). Developing leaders so they can navigate such matters, remains inherently complex as the indicators of (sustainable) careers (i.e., happy, healthy, and productive) are innately idiosyncratic (De Vos et al., 2020; Donald et al., 2024).Consequently, adopting a universal "one-size-fits-all" approach for leader development in this context inevitably results in a reductionist understanding (Day, Bastardoz, et al., 2021; Haslam et al., 2024).

Despite the plethora of (formal) training strategies for leaders, ranging from short courses, workshops, to full MBA programs, few lead to the behavioral change organizations actually seek (Bachkirova & Jackson, 2024; Kirwan & Birchall, 2006). Despite major investments, only 10-40% of such initiatives lead to lasting changes in professional practice (Kirwan, 2025). This has shifted attention toward more non-formal (i.e. flexible, experience-based) approaches to leader development (Becker & Bish, 2017; Cerasoli et al., 2018; Rowe et al., 2023; Smith et al., 2019).

Learning Communities (LCs) represent one such approach. While not new (Lave & Wenger, 1991; Wenger, 1998), they offer leaders a non-formal yet structured environment to learn from peers, and develop new practices through collaboratively reflecting on real workplace challenges (Smith et al., 2019). LCs are collaborative groups that foster inquiry and shared learning among professionals (Stoll et al., 2006). Through situated and relational experiences (i.e., engaging in dialogue, reflection, and perspective taking), LCs can enable leader development (Attard, 2012; Kotlyar et al., 2015; Smith et al., 2019). *Leader development* is considered as the perceived growth of individual leaders' self-awareness, skills, and sensemaking capacities. This is distinct from *leadership development*, which concerns the cultivation of collective leadership processes and social dynamics (Day et al., 2014).

Whilst still a nascent field of research (Leroy et al., 2022), researchers in the field of leader development seem to recognize the importance of (continuous)

social learning (Day et al., 2014; DeRue & Myers, 2014). For instance, leaders learn from challenging experiences, feedback, and reflection, supported by mentors, peers, and followers (Day, 2000; Dragoni et al., 2009). These developmental strategies are social at their core, relying on relationships and dialogue to crystallize (social) learning experiences into practice (Day, 2000; Day et al., 2014; DeRue & Myers, 2014). While formal programs can help with frameworks and shared language, lasting growth comes from ongoing cycles of action, reflection, and feedback (Kolb, 1984). Thus far, we seem to understand that leader development is concerned with a social, experience-based process rooted in real challenges (Day, 2000; Dragoni et al., 2009). Hence, LCs, as enablers of social learning, provide suitable environments for leaders' development through exactly those ongoing cycles of action, reflection, and feedback on leaders' experience (Howorth et al., 2012).

What remains unclear, however, is *how* such learning unfolds for leaders within socially embedded settings such as learning communities. For example, when leaders discuss similar critical incidents in an LC, some report profound shifts in how they understand their role, while others mainly exchange experiences without translating these discussions into changes in practice. It is not well understood which interactional processes, moments, or conditions account for these divergent learning trajectories. What factors facilitate or constrain leaders' learning from such challenges when these are discussed collectively within an LC (see McCall, 2010)?

We argue that a shift is needed to better understand leaders' developmental processes over time. When we are better able to understand how learning unfolds within an LC, we are more equipped to trace down the causal pathways of LCs as leader development interventions, a general and enduring challenge in learning and development research (Blume et al., 2010; Salas et al., 2012). However, so far, leader developmental programs have mainly been studied by the use of cross-sectional methods such as surveys or single interviews with participants (Kirwan, 2025; Wallace et al., 2021). If we want to understand the developmental process of leaders, the use of longitudinal designs and the inclusion of followers' perspectives on enacted leadership practices is worthwhile (Day & Dragoni, 2015; Kwok et al., 2021). Therefore, in this study we aim to unravel how leader development unfolds over time within a starting LC. Specifically, we seek to (1) identify the social and contextual conditions that facilitate or constrain leaders' learning, (2) examine how other LC members shape individual developmental trajectories, and (3) how leaders'

developmental trajectories relate to leaders' behavioral change at work as perceived by their followers. By employing a longitudinal, multi-actor design that includes followers, this study advances understanding of the causal pathways through which participation in LCs can translate into observable leader development in leaders' enacted behavior.

With this study, we make three main contributions to earlier work in this field. First, it advances theory on non-formal leader development by clarifying how and under what conditions individual leader development takes place within a LC (Day, Riggio, et al., 2021; Wenger-Trayner & Wenger-Trayner, 2014). Second, we obtain pre- and post-LC evaluations of each leader's behavior from their respective followers. Comparing these sets of data could potentially show clear impact of leaders' learning and shed more light on which elements of the learning process of the leader were translated into real change in practice, adding to the theorization of leader development (Vogel et al., 2021). Finally, with this study we provide practical guidance for human resource professionals and leader development consultants on non-formal learning as an alternative for formal training programs, emphasizing strategies to effectively design and facilitate LCs to optimize both individual and collective learning and professional developmental outcomes (Garavan & McCarthy, 2008; Schipper et al., 2023).

Theoretical framework

We begin by outlining what is readily known on leader development, then we define what constitutes an LC, and lastly, we explain how collaborative processes within LCs can catalyze leader development.

Current theoretical perspectives on leader development

Although leader development has garnered significant scholarly attention over the years, it still lacks unified theories that explain how leadership is learned (Day, Riggio, et al., 2021; Lacerenza et al., 2017). From a learning perspective, leader development can be understood as involving both structured learning that supports conceptual understanding and experience-based learning, in which reflection on challenging work situations may contribute to adaptation (DeRue & Wellman, 2009). Here, we crucially distinguish leader development from leadership development; the former emphasizes the development of individual leaders' competencies, identity, and self-awareness, whereas the

latter targets collective capacities within groups and organizations (Day & Harrison, 2007). Yet development is not only about acquiring skills such as being able to reflect and adapt; it also involves shifts in self-concept. Through feedback, reflection, and interaction, individuals form a leader identity, seeing themselves and being seen by others as leaders (DeRue & Ashford, 2010).

Synthesizing decades of research, Lacerenza et al. (2017) showed that leadership training and development interventions are generally grounded in adult learning theory (Kolb, 1984; Mezirow, 1991), constructivist learning theory (McCauley & Van Velsor, 2004), and transfer of training models (Baldwin & Ford, 1988). Within this body of work, leader development is viewed as an experiential and iterative process in which individuals strengthen their leadership capacity through repeated cycles of practice, reflection, and feedback (DeRue & Myers, 2014). Learning occurs when developmental experiences challenge existing assumptions and stimulate new meaning-making (Mezirow, 1991), prompting leaders to experiment with alternative behaviors in realistic contexts (DeRue & Wellman, 2009; Kolb, 1984). Feedback and continued application then consolidate these experiences into enduring cognitive and behavioral change that transfers to work settings (Baldwin & Ford, 1988; Kluger & DeNisi, 1996).

Grounded in adult development theory, leadership growth can also be understood as a lifelong process of meaning-making and maturation (McCauley et al., 2006; Mezirow & Taylor, 2009). Several authors have argued that integrating adult development theory into leader development research is essential for building a more comprehensive theoretical foundation (Day & Sin, 2011; McCauley et al., 2006). This life-span perspective emphasizes how leaders evolve cognitively and emotionally across different phases of their careers, reflecting a gradual deepening in how they make sense of themselves and their work. However, while such theories illuminate *how* leaders can develop over time, they provide limited insight into *where* and *under what conditions* this development actually occurs. In particular, it remains unclear to what extent leaders can develop through bottom-up, social learning environments that rely less on formal instruction and more on peer interaction, shared reflection, and experiential learning. Building on this perspective, LCs represent such bottom-up social learning environments that offer promising avenues for examining how leader development takes shape.

What are Learning Communities?

Learning Communities are considered as influential spaces for organizing professional development, particularly in contexts that emphasize collaborative problem-solving, reflection, and experiential learning (e.g., Boud & Middleton, 2003; Handley et al., 2006; Nicolini et al., 2022; Rowe et al., 2023; Smith et al., 2019; Wenger, 1998). Alongside a variety of formats, LCs are social learning systems that are similar in characteristics to Communities of Practice (CoPs; Wenger, 1998), Professional Learning Communities (Stoll et al., 2006), and Learning Networks (Katz & Earl, 2010). LCs are typically marked by shared goals, mutual engagement, joint enterprise, and the development of a common repertoire of tools, language, and practices (Wenger, 1998).

Drawing on prior research, learning communities can be conceptualized as socially embedded, practice-based learning configurations grounded in voluntary participation, bottom-up initiative, and largely horizontal learning relations (Boud & Middleton, 2003; Handley et al., 2006; Wenger, 1998). Within such communities, participants are not passive recipients of predefined knowledge but active agents who contribute to a collective learning process through dialogue, reflective practice, and experimentation situated in their everyday work (Handley et al., 2006; Nicolini et al., 2022; Smith et al., 2019). Over time, these interactional dynamics may foster relational conditions such as trust, shared responsibility, and a sense of ownership over learning, which are important for sustaining collective learning processes (Rowe et al., 2023; Smith et al., 2019).

While LCs share important features with communities of practice, most notably their emphasis on learning through participation in practice and collective sensemaking (Wenger, 1998), they are not conceptually equivalent. Whereas CoPs are typically described as emergent, self-organizing social formations that evolve organically around a shared practice, LCs are more often intentionally initiated and bounded in time, scope, or purpose, with an explicit focus on learning and development (Emanuel et al., 2022; Stoll et al., 2006). LCs thus represent a more purposive and designable configuration for collective learning, while still drawing on similar underlying social learning principles.

The flexible, emergent qualities of LCs align closely with what Poell et al. (2000) described as Liberal Learning Networks. In such networks, learners enjoy considerable autonomy in shaping their own developmental trajectories, selecting learning topics, methods, and collaboration partners according to

their evolving interests and needs. Organizational control is minimal, and the diversity of pathways reflects the *multiplicity* inherent in adult professional learning. This pluralistic design is particularly well-suited to complex professional contexts, where learning and development unfold through iterative engagement with diverse perspectives and experiences. In what follows, we elaborate on how individual and collective learning processes can interact within LCs to support leader development.

Leader development in an LC: The dynamic interplay between individual and collective learning

Research explicitly theorizing how leaders learn within LCs is still emergent and fragmented. Only a small number of empirical studies examine *how* learning and development actually unfold within these settings, and *why* leaders exposed to similar LC experiences follow divergent developmental trajectories.

One of the most explicit and related contributions is provided by Smith et al. (2019), who conceptualize leadership development through participation in a *program community of practice* (PCoP). Drawing on Wenger's CoP theory (Wenger, 1998), they argue that leader learning in a PCoP occurs through sustained participation, dialogue, and negotiated meaning, grounded in members' own leadership challenges. Development is framed as a process of *becoming*, in which leadership practice and identity co-evolve through social engagement rather than through the acquisition of predefined competencies. Importantly, Smith et al. (2019) explicitly note the absence of prior empirical research that specifies how a CoP can be deliberately designed for leadership development, positioning their work as exploratory rather than conclusive.

More recent work begins to clarify processual conditions shaping learning within LCs. Green (2025) examines an online peer learning community structured as an action learning set and shows that leader learning depends on collective sensemaking, structured questioning, and iterative reflection on real leadership challenges. Leaders who engaged deeply in peer dialogue reported shifts toward more collaborative and compassionate leadership practices. However, Green (2025) also documents significant constraints, including uneven participation, power dynamics, limited psychological safety, time pressure, and concerns about confidentiality, all of which shaped whether learning translated into changed practice. This study provides empirical insight into *why* some participants develop while others remain largely unchanged within the same LC.

Related insights can also be found in adjacent leader development research that, while not LC-specific, reinforces the importance of social processing of experience. For example, McDermott et al. (2011) show that leaders learn from experience through reflection, feedback, and dialogue with others, but that learning outcomes are shaped by contextual and relational conditions rather than by experience alone.

Taken together, this overview suggests that leaders learn in LCs primarily through collective sensemaking of experience, facilitated reflection, and identity-related role enactment, rather than through content transmission. However, existing studies consistently show that learning is contingent on conditions such participation dynamics. What remains insufficiently understood is how an LC gives may give rise to divergent leader development trajectories over time.

Trajectories of leader development

To understand why leaders develop in different ways, it is useful to view leader development through the lens of learning trajectories. A learning trajectory refers to the evolving pathway through which individuals learn across different contexts and experiences. As several authors have stressed, people learn different things from similar situations, and prior experience shapes what they learn (Merriam, 2001; McCall et al., 2010; Poell et al., 2018). According to Membrive et al. (2022), personal learning trajectories are multidimensional and dynamic, shaped by two interrelated planes: (1) participation, referring to the connections and continuities between activities and contexts in which people engage; and (2) subjective experience, referring to how individuals make sense of, reconstruct, and integrate these experiences over time. The principle of *multiplicity* emphasizes how unique individual backgrounds, experiences, and identities shape distinct developmental trajectories (Poell et al., 2018). Thus, learning pathways are inherently subjective and contextually embedded (Poell et al., 2000), resulting in strongly personal-dependent leader development processes.

Using expansive learning to examine leader development trajectories in LCs

Leader development in social learning systems such as Learning Communities (LCs) is inherently interactional. Leaders observe and interpret their own enacted behaviors (Bem, 1972) while integrating feedback from others into their ongoing practice (Engeström, 2001). To examine how participation in LCs supports the development of leadership skills and enacted leadership practices, this article draws on expansive learning theory (Engeström, 2001).

Expansive learning provides an analytical lens for understanding how leaders collectively question established routines and reconceptualize their activity systems. Within LCs, participants are exposed to new cognitive frames and a social context that encourages behavioral experimentation, reflection, and feedback. These processes support the generation of new insights within the LC and their translation into daily leadership practice, thereby contributing to the refinement of leader identities.

Central to expansive learning is the reciprocal relationship between individual and collective learning. Engeström (2001) argues that systemic transformation often begins with individual questioning of existing practices, which can trigger collective inquiry and experimentation. At the same time, shifts in the shared object of activity (i.e., the community's central concern) invite individuals to reassess their own assumptions, roles, and learning goals. Individual and collective learning therefore do not unfold sequentially but mutually shape and reinforce one another.

This reciprocal dynamic also implies that leader development within LCs is not uniform. Individuals engage with and enact learning opportunities in different ways, depending on how they relate to emerging collective practices. LCs thus constitute complex learning environments in which individual development both contributes to and is shaped by the evolving collective enterprise.

Ultimately, the dynamic entanglement of individual and collective learning within LCs nurtures reflexivity essential for leader development (Attard, 2012; Kotlyar et al., 2015; Smith et al., 2019). Engaging across learning levels, leaders cultivate practices to navigate tensions and effectively respond to complex organizational demands. Thus, we theorize that leader development in LCs can emerge as an iterative interplay between the individual and the collective where behavioral enactment and social interaction continuously reinforce leader development. Our analysis is guided by the following main research question:

How do pathways of leader development unfold within a learning community, and how do these pathways relate to leaders' behavioral change at work?

To deepen and refine the interpretation of leaders' pathways of development, the following sub questions will be addressed:

Sub questions

1. How do leaders develop through participation in a Learning Community (LC), and what distinguishes their developmental pathways?
2. What learning mechanisms explain the emergence and progression of each developmental pathway in the LC?
3. How are these developmental pathways reflected in behavioral changes of leaders at work?

Methods

Research design and paradigm

We adopted an abductive grounded theory approach (Charmaz, 2014; Timmermans & Tavory, 2012). An abductive grounded theory approach combines systematic data analysis with iterative movement between empirical findings and existing theory. It allows emerging patterns from the data to be refined, questioned, and theoretically informed as analysis progresses, rather than derived purely inductively. This approach is particularly well-suited for investigating the under-theorized and contextually embedded process of leaders' development (Leroy et al., 2022; Vongswasdi et al., 2024). Specifically, we aimed to understand the role of participating in an LC and how this may contribute to leader development. The LC that the leaders participated in represented a collective learning intervention, and little prior research has explored how such experiences shape their development as a leader. The abductive grounded theory approach allowed us to combine inductive insights with insights from expansive learning theory and Communities of Practice (Engeström, 2001; Wenger, 1998), thereby facilitating the development of a theoretically grounded, yet empirically sensitive, understanding of leader learning trajectories.

Research context: The LEADER Learning Community

The LEADER-LC was developed within the framework of the LEAdership Development in Road transport (LEADER) research project funded by the Dutch Organization for Scientific Research (NWO). This project focused on facilitating leader development to foster the sustainable employability of truck drivers in the Dutch road transport sector. As part of this project, an LC was designed that supported knowledge exchange and knowledge creation on the theme of career sustainability among frontline leaders. For more information on the design of the LC, see Chapter 4 of this dissertation.

Data collection

For this study, we conducted interviews with participating leaders before (T0) the start of the LC ($N = 16$) and after (T1) participation ($N = 14$). Simultaneously, we conducted pre- ($N = 48$) and post-interviews ($N = 36$) with leaders' direct subordinates. Sixteen leaders signed up for the learning community. Of these, two dropped out: One due to a job change and the other due to long-term sickness, which prevented full participation in the data collection. For several remaining leaders, we were unable to re-interview all subordinates at T1 from the T0 measurement (see Table 5.1). In total, we were able to conduct 114 interviews. Taken together, these pre and postinterviews with leaders and their direct subordinates form a multiple perspective qualitative longitudinal interview design: We follow the same leaders and their follower groups over time and collect separate, but linked, accounts of their shared working relationship (Vogl et al., 2018).

Table 5.2 An overview of all the leader and follower interviews at both T0 and T1

Leader ID	L (T0)	L (T1)	Followers (T0)	Followers (T1)
L1	✓	✓	F1, F2, F3	F4
L2	✓	✓	F1, F2, F3	F1, F2, F3
L3	✓	✓	F1, F2, F3	F1, F2, F3
L4	✓	✓	F1, F2, F3	F1, F2, F3
L5	✓	✓	F1, F2, F3	F1, F2, F4
L6	✓	✓	F1, F2, F3	F1, F2, F3
L7	✓	✓	F1, F2, F3	F2
L8	✓	✓	F1, F2, F3	F1, F2, F3
L9	✓	✓	F1, F2	F1, F2
L10	✓	✓	F1, F2, F3	F2, F4, F5
L11	✓	✓	F1, F2, F3	F2
L12	✓	✓	F1, F2, F3	F1, F2, F3
L13	✓	✓	F1, F2, F3	F1, F2, F3
L14	✓	✓	F1, F2, F3	F1, F2
L15	✓	✓	F1, F2, F3	–
L16	✓	✓	F1, F2, F3	F1, F2, F3

To examine how leaders' developmental pathways relate to changes in their behavior as perceived by followers, we inquired how followers evaluated their formal leaders. We did so because follower perspectives provide essential evidence of leader behavior at work: follower ratings are typically more

reliable indicators of enacted leadership than leaders' own self-reports, which tend to be biased toward intentions rather than observable actions (Fleenor et al., 2010; Yammarino & Atwater, 1997). The sustainable careers framework (Van der Heijden, 2005) informed the formulation of interview questions by highlighting domains in which leaders may enact leadership behaviors (i.e., towards health, happiness, and productivity). The study did not assess these outcomes at the employee level; instead, the focus was on leaders' behavioral actions and practices as perceived by employees. For example, employees were asked: "How does your formal leader support your health at work?" All interviews were transcribed verbatim and pseudonymized. The average length of the interview with the participants was 45 minutes. The average length of interviews with leaders' subordinates was 15 minutes.

Interview protocols

To explore how participants construed their leadership practices around sustainable employability of their subordinates and how this might evolve through participation in the LC, we included two questions on leader self-perception and the perception by others. These questions draw on the well-established leader identity literature, which emphasizes that leadership is not merely a role or set of behaviors that is evaluated in terms of perceptions by subordinates, but also a key aspect of one's self-concept that develops over time (Day & Harrison, 2007; Lord & Hall, 2005). In addition, we included several situational and scenario-based questions to explore how leaders approach complex and often morally or emotionally charged leadership situations. Prior research highlights that such 'key' situations facilitate sensemaking, and leader development (Mumford et al., 2000; Weick, 1995). Moreover, the ability to manage dilemmas and to balance organizational and employee needs is central to effective leadership in operational contexts, such as the transport sector (Harms et al., 2017). For the full overview of the interview schemes and protocols, see Appendix A for the leader interview and Appendix B for the follower interview protocol.

Theoretical sampling

In line with the principles of grounded theory, we engaged in theoretical sampling throughout the study (Charmaz, 2014). Rather than fixing the sampling frame for our study in advance, we allowed emerging insights from our analysis to inform the analytic focus. We first examined all LC participants for whom data were available at both time points. During initial coding, we identified emerging patterns in leaders' engagement with LC activities and in how they described

their developmental experiences. In response, we engaged in targeted follow-up analysis of interview data to deepen our understanding of these differences. This process of iteratively sampling and analyzing continued until we reached theoretical saturation (Charmaz, 2014). That is, when additional data collection and coding no longer yielded new properties or insights.

Data analysis

Consistent with an abductive grounded theory approach (Charmaz, 2014; Timmermans & Tavory, 2012), our data analysis proceeded iteratively, moving between inductive coding of empirical material and theoretical sensemaking to develop plausible explanations of leader development within the LC.

The first stage of analysis involved open coding of a random subset of the pre-interviews. Using in vivo coding, the first author sought to remain as close as possible to the participants' language and experience, focusing in particular on expressions of learning, change, and reflection regarding leadership beliefs and behaviors, specifically in relation to subordinates' sustainable employability. In parallel, we coded instances that suggested specific learning mechanisms (e.g., experimentation, feedback-seeking, collaborative reflection), as well as variations in patterns of LC engagement and references to team member perceptions.

Emergent codes and early analytical memos were discussed iteratively within the author team. Through these discussions, we refined the coding framework and gradually sensitized the analysis to relevant theoretical constructs from expansive learning theory (Engeström, 2001) and the communities of practice literature (e.g., Wenger, 1998). In line with abductive reasoning, we explicitly attended to surprising patterns and anomalies that did not align neatly with existing theoretical expectations (Timmermans & Tavory, 2012), using these instances to refine and elaborate provisional explanations. This approach allowed space for forms of learning and change that extend beyond dominant theoretical models.

In the next phase, we engaged in axial coding and cross-data synthesis across time points (T0/T1). We traced shifts in individual leaders' beliefs and enacted leadership behaviors over time and triangulated leaders' self-reports with followers' perspectives. Analysis proceeded through iterative movement between the empirical material and emerging theoretical insights, resulting in increasingly coherent explanatory patterns of how leader development unfolded through participation in the LC.

As patterns stabilized, we constructed a set of empirically grounded developmental pathways. These pathways integrated longitudinal changes in leaders' self-described behaviors with followers' perceptions of leadership enactment. To interpret follower-reported changes, we drew on contemporary leadership theory that conceptualizes leadership as a relational and follower-embedded process (Avolio et al., 2009), treating follower perceptions as meaningful indicators of enacted leadership behavior. This approach aligns with longitudinal qualitative research that examines both stability and change across multiple, interrelated perspectives and supports the development of process-oriented typologies of developmental trajectories (Vogl et al., 2018). The resulting pathways were subsequently linked back to leaders' own reflections and observed learning processes within the LC.

The developmental pathways thus functioned both as theoretical abstractions and as analytic devices to capture the diversity of leader development trajectories observed in the LC. To enhance credibility and trustworthiness, 50% of the coding was conducted collaboratively by the first author and a research assistant, who discussed coding decisions and emerging analytical insights iteratively. We maintained an audit trail documenting the evolution of the coding framework, analytical memos, and the emerging theoretical model.

Ethical considerations

In conducting this study, we adhered to established ethical guidelines for social science research, including the ethical guidelines of the American Psychological Association (APA). All participants received written information about the study, provided informed consent, and were assured of voluntary participation, confidentiality, and the right to withdraw at any time without consequences. Informed consent was obtained from all participants, who were thoroughly informed about the study's purpose, and their right to withdraw at any time. Confidentiality and anonymity were maintained by removing personal identifiers and using unique codes, with data securely stored in an online secure storage accessible only to authorized personnel. Participants were also informed about the secure storage and usage of their data solely for research purposes and assured that any resulting publications or presentations would not include identifiable information.

Researcher positionality

We acknowledge that our backgrounds in HR, work and organizational psychology, and educational sciences may have influenced our interpretations. While all authors are trained in qualitative research, we were aware of this issue

and did our utmost best to maintain reflexivity to mitigate potential biases. By using a multiple-stakeholder approach, we aimed to present a balanced view of leaders' experiences through their participation in the LC, thereby enhancing the study's credibility by respecting both follower and leader perspectives (Creswell & Poth, 2018). Our use of separate, linked interviews with leaders and their followers follows the logic of multiple perspective qualitative longitudinal interviews, where individual accounts are treated as both personal narratives and as parts of a shared relational history (Vogl et al., 2018).

Results

Our analysis identified three distinct developmental pathways through which leaders developed in the LC: a **Transformative** pathway, an **Incremental–Adaptive** pathway, and a **Confirmatory** pathway. These pathways differed in the magnitude of change, type of participation in the LC, and the types of behavioral change (see Table 5.2). In brief, transformative cases underwent more substantial shifts in mindset and behavior, incremental–adaptive cases made moderate improvements to refine their existing approach, and confirmatory cases showed little to no change.

Moreover, we analyzed each pathway using Engeström's expansive learning framework (Engeström, 2001). Across all cases, development, or its absence, was linked to whether leaders encountered significant contradictions in their work activity (i.e., misalignments or tensions) that could spur change. When leaders did perceive a salient contradiction, it triggered a cycle of expansive learning actions (Engeström, 2001). These actions comprised: Questioning current practices, analyzing underlying causes, modeling new solutions, testing and implementing changes, and finally reflecting and consolidating the new approach (see Table 5.3). However, the extent to which leaders progressed through this cycle varied markedly by pathway.

Those on the transformative pathway traversed most or all stages, resulting in a redefinition of their leadership role and methods. Incremental–adaptive leaders engaged in some stages, such as focusing on problem-solving and small experiments, but stopped short of reframing their overall approach. Confirmatory leaders, lacking the experience of contradictions, generally did not enter the expansive learning cycle at all as their LC participation mostly reinforced pre-existing views without driving (expansive) development.

Table 5.3 An overview of the three different pathways leaders followed in the LC

Dimension	Transformative	Incremental- adaptive	Confirmatory
Magnitude of change	Shifts in mindset and leadership practices; often involving adoption of a new leadership approach.	Modest, focused adjustments to leadership style, primarily refinements to existing practices rather than major transformations.	Little to no change in leadership approach; essentially reinforces the pre-LC leadership approach with no substantive development.
Participation in LC	Engaged in several learning activities (e.g., questioning prior practices, modeling new solutions, implementing changes); an active contributor in the LC, more or less embracing the expansive learning cycle.	Engaged selectively in learning activities; mainly early learning stages (reflection, some modeling) but with limited depth or follow-through.	Minimal engagement with learning activities; remained a peripheral participant in the LC and did not actively pursue new ideas or feedback. Participation did not trigger the initiation or continuation of an expansive learning cycle,
Changes in practices	Implemented substantive new initiatives or reforms based on LC insights (e.g., introduced reintegration plans; added a middle-management layer).	Made targeted improvements within the existing framework (e.g., established a new sick-leave protocol; enhanced delegation and communication practices).	Undertook no notable new practices or policies following the LC; largely continued status quo operations with "no concrete applications" of new learning.
Illustrative quote	"I became more solution-oriented and empathetic." (L3, T1)	"Not every employee is the same." (L2, T1)	"It did not open a whole new world." (L4, T1)

Note. L = leader; LC = Learning Community; T0 = before LC participation. T1 = after participation. In this study, 3 of 14 leaders (L3, L5, L6) followed a transformative pathway, 4 an incremental-adaptive pathway (L2, L4, L7, L8), and 7 a confirmatory pathway (L1, L9, L10, L11 L12, L13, L14).

Below, we detail each pathway, highlighting the different learning phases according to Engeström's expansive learning framework (2001) (i.e., questioning, analysis, modelling the new solution, examining the new model, implementing the new model, and consolidating the new practice) and how these unfolded within the distinct pathways. We also describe the on-the-job behavioral outcomes in each pathway as perceived by and mentioned in followers' reports, ranging from transformative improvements to essentially no change (see Table 5.4).

Table 5.4 An overview of the learning phases in the LC per pathway

Expansive learning phase (Engeström, 2001)	**Transformative pathway**	**Incremental–adaptive pathway**	**Confirmatory pathway**
1. Questioning	• Confronted major contradictions that challenged their entire leadership model. • Asked disruptive questions about their role ("Why don't we do that?"). • Questioned identity and purpose as leaders.	• Questioned *specific* practical problems (e.g., sick-leave chaos, peak overload). • Framed questioning narrowly ("How do I fix this?"). • Did not question deeper leadership assumptions.	• Limited questioning. • Existing practices seen as sufficient. • Information gathered in the LC interpreted as confirming their current approach.
2. Analysis	• Conducted systemic analysis. • Examined structural causes (workload distribution, missing roles). • Reframed assumptions about effective leadership.	• Pragmatic, routine-focused analysis. • Looked for immediate, actionable causes. • Reflected only on the specific issue at hand.	• Minimal analysis. • Interpreted new information as evidence that current routines were fine. • No exploration of alternative models.
3. Modeling the new solution	• Developed new leadership models that changed the activity system (e.g., people-manager layer). • Designed roles, division of labor, and new responsibilities.	• Developed bounded, concrete fixes (e.g., sick-leave protocol, extra planner). • Adjusted routines.	• No new modeling. • No new roles, structures, or workflows proposed.
4. Examining the new model	• Piloted new models on a small scale (two sites). • Actively sought peer feedback to refine solutions.	• Informal testing within own team. • Small tweaks based on experience ("more flexible with call frequency").	• No examination phase. • No piloting, testing, or refinement of new practices.

Table 5.4 Continued

Expansive learning phase (Engeström, 2001)	Transformative pathway	Incremental–adaptive pathway	Confirmatory pathway
5. Implementing the new model	• Rolled out structural changes. • Formalized workflows and redistributed responsibilities.	• Implemented changes directly in their team (e.g., new cadence, extra capacity). • Stayed within existing authority.	• Maintained existing routines. • No changes implemented.
6. Consolidating the new practice	• Integrated new leadership approach (coaching, delegation, long-term focus). • Institutionalized new roles across sites.	• Consolidated improved routines (clearer planning, more check-ins). • No deeper role adaptation.	• Consolidation of *unchanged* practice. • Followers report leader is "the same as before."

5.4.1 Transformative Pathway: Redefining the leadership role

Leaders on the transformative pathway experienced the LC as a catalyst for significant change in their leadership approach. This pathway emerged when acute contradictions in leaders' work became salient through comparison with other LC participants, thereby triggering development. By confronting these contradictions, transformative leaders engaged fully in the expansive learning cycle; from questioning their current approach to implementing and solidifying new practices. The result was an expansive transformation (Engeström, 2001) of their leadership activity: they reconceptualized their role as a behavioral change was observed by their followers.

Encounters with contradictions

Transformative leaders began by recognizing stark problems or breakdowns in their existing way of working. For example, L5 realized that trying to manage everything himself across multiple sites was unsustainable, a personal breaking point that exposed the limits of his "single-point" leadership style. L3, on the other hand, observed a peer company in the LC where dedicated '*people managers*' handled team development, which made him question why his own organization had no such role. He openly asked, "*why don't we do that?*" (L3, T1) upon seeing this contrast. These salient contradictions prompted L5 and L3 to critically question their established routines. This tension-driven questioning provided a starting point for deeper exploration, together with peers.

Analysis and reflection

Having surfaced fundamental challenges, transformative leaders dived into analyzing root causes, often with peer input. They used the LC discussions to unpack why their current methods fell short and to reconsider their assumptions. L5, for instance, examined how the structure of his unit contributed to his overload as everything was funneling through him: *"I hit a limit in trying to manage everything myself – it just wasn't working"* (L5, T1). Peers in the LC helped him see that he needed a systemic solution to distribute leadership work. L3 similarly broadened his perspective: He realized that his role had been defined too narrowly and that his team was "*missing a layer*" (T1) to support employee development. Through critical reflection: "*That [external approach] worked. Then I thought: why don't we do that?"* (L3, T1) and dialogue with others, these leaders reframed their understanding of what effective leadership in the context of career sustainability could look like.

Modeling and implementing new solutions

Prompted by his LC peers, L5 planned the implementation of a new middle-management layer in his region by creating "people manager" positions to take on day-to-day coaching of drivers. This was a radical shift in his organization, directly addressing the contradiction of her overload by redistributing leadership responsibilities. Such an initiative represents how significant modifications in their activity systems were manifested as essentially new models of leadership practice that challenged their business-as-usual.

By the end of the LC, L5 moved to formally implement their innovations and consolidate the changes into routine practice. L5 expanded the people-manager layer into the larger organization, securing upper management's support to make this new layer permanent: "*I hired people managers at two sites; created a middle layer.*" (L5, T1). He effectively institutionalized a new division of labor in his unit, ensuring that leadership was no longer a one-person bottleneck. This also fits with the *examining* phase of expansive learning where leaders pilot a new model and adjust it with experience and input from others rather than rolling it out in one step. Alongside these organizational changes, the leaders underwent personal consolidation of their new approach. L5 learned to step back and delegate more, as he noted that having the middle layer "helps" him say no: "*I tend to say yes too much; this layer helps.*" (L5, T1)

Behavioral changes and outcomes

Leaders in the transformative pathway showed noticeable changes in daytoday behavior, and followers largely described these shifts in the same way. Before the LC, one leader was summed up as "*strict but fair; if you do your work well, he's a great guy*" (F1-L3, T0). Followers already saw him as present and approachable, but also firm and somewhat traditional in his stance. After the LC, the same followers described a more developmental and tailored approach: "*He gives space and adjusts work to my knees; very supportive*" (F2-L3, T1) and "*He coaches more one-on-one and tailors the job*" (F1-L3, T1). Another follower noted that he "*brought me into contact with a psychologist–helped me change things*" (F3-L3, T1). Taken together, these quotes convey a clear move from generic fairness to active, individualized coaching.

A similar pattern appears in other transformative cases. L5, who had been described as "*good and kind, but a bit chaotic–trying to please everyone*" and someone who "*reacts rather than plans*" (F2–L5, T0) was later seen as "*less chaotic now; he learns to say no*" and as someone whose "*expectations are clearer and follow-through is better*" (F2-L5, F3-L5, T1). Here, followers converged on a shift from reactive, peoplepleasing behavior toward more structured leadership and setting boundaries.

In another transformative case, followers initially portrayed the leader as reliable but short-term and ad hoc in problem solving: "*He fixes things ad hoc instead of structurally*" (F2–L6, T0). After the LC, they stressed both empathy and a more proactive, longer-term stance: "*He shows more empathy now; he understands us better*" (F2–L6, T1), "*He is really working on sustainable employability–'this function is better for you*'" (F4-L6, T1), and "*He redistributes work and matches people better*" (F1-L6, T1). These narratives point to a qualitative shift in how the leader thinks about and organizes work for people.

Across transformative cases, then, quotes move from words like "chaotic," "reacts," or "ad hoc" toward descriptions such as "coaches," "less chaotic," "more empathy," and "matches people better." Importantly, followers inside each team seemed to use very similar language. The consensus amongst followers is high because the changes are both substantial and easy to see in everyday interactions.

5.4.2 Incremental-adaptive Pathway: Gradual improvements within an existing frame

Leaders on the incremental-adaptive pathway achieved more modest development through the LC. They addressed specific problems and made targeted improvements to their leadership practice, but without fundamentally changing their overall approach or role as leaders. In Engeström's terms, these leaders engaged in some expansive learning actions, but in a limited way by focusing on concrete issues rather than questioning their entire activity system (2001). Typically, they stopped after implementing a bounded solution, resulting in partial adaptation rather than a wholesale transformation.

Focused triggers and constrained questioning

Incremental-adaptive cases were usually sparked by narrower, day-to-day contradictions or shocks. For example, L2 faced a mini-crisis when 23 employees were out sick at the same time, which plunged his department into chaos. This extreme situation made him realize that there was no proper system to manage such an occurrence, an acute problem that "*opened [his] eyes*" (L2, T0) to the need for a better approach. This may also have served as motivation for L2 to participate in the LC, as the LC is themed around this topic.

Similarly, L7 had long experienced recurring overload in his planners' schedule during peak seasons, which he had accepted as normal until LC discussions prompted him to ask why they "*burn out our planners every peak*" (L7, T1) and whether they could not do something to prevent it. These kinds of triggers led incremental leaders to question how to fix a specific issue, but unlike the transformative group, they did not challenge their broader leadership model or purpose.

In short, they focused their questioning on a particular problem rather than on their overall way of working. Engeström's framework (2001) allows for such partial expansive action as a localized contradiction can be resolved by a targeted adjustment without altering the whole (activity) system.

Pragmatic analysis and minor reframing

Once a problem was identified, these leaders analyzed it in a pragmatic, root-cause-oriented way, often borrowing insights from peers. After a crisis where "23 people [were] sick…", L2 (at T1) realized that absence handling needed to be organized more clearly. He then "call[s] daily in week one" and sets "a weekthree" meeting, formalizing an absence followup cadence. The key point

is that their analysis remained confined to the immediate issue. They did reflect - asking "what's causing this problem and how can I fix it?", but they did not question deeper organizational norms or their own leadership approach. For example, L2 did not consider whether the organizational culture contributed to absenteeism, only that he lacked a procedure for it; L7 accepted the seasonal demand surges as given and focused on coping strategies. Thus, they reframed specific routines (e.g., "we need a clear sick-leave follow-up process" or "we should plan extra capacity for peak weeks") but did not rethink the broader context or goals of their leadership.

Modeling and implementing focused solutions

After diagnosing their issue, incremental-adaptive leaders moved quickly to develop and apply concrete fixes. For L2, the solution was to establish a new sick-leave follow-up protocol. Post-LC participation, he set a rule that if someone went on extended sick leave, direct supervisors would check in regularly (e.g., daily calls in the first week, a meeting by the third week) and plan the employee's return to work early. He documented this step-by-step process and announced it to his team. L2 essentially introduced a "*new sick-leave policy*" to ensure consistency, which he noted put things "*more under control now*" (L2, T1). L7, on the other hand, implemented two straightforward measures to alleviate his team's peak-time overload: He offered overtime pay to existing planners to boost capacity, and he arranged for an extra planner, or personally stepped in himself, during the busiest weeks. These interventions were adaptations of current practices rather than radical innovations, incremental-adaptive leaders optimized how work was allocated using resources already at the leader's disposal. Importantly, because these fixes were within the leader's authority and scope, they were enacted almost immediately in their teams without requiring higher-level approval.

Limited examination and. refinement

Unlike the transformative cases, incremental adaptive leaders did not make major shifts in how they led. L2, for example, added a structured sick leave cadence which was formalized later on, comprising calling employees daily during the first week and meeting with them in week three. His later reflection (at T1), "Not everyone is the same; each needs a different approach," points to a practical, task focused adjustment rather than a deeper identity change. Similarly, L7 handled recurring peak time overload by using overtime, hiring an extra planner, and briefly taking on planning himself, which signals only a modest shift in his approach.

Behavioral changes and outcomes

In the incremental-adaptive pathway, leaders changed in narrower ways. Followers often noticed these adjustments, but their interpretations were less uniform. A typical pattern is continuity in the core style with some added consideration (Halpin, 1954; Judge et al., 2004). For instance, one leader was initially described as someone who "*shows understanding; we have open conversations*" and who "*gives you room to arrange it your way*" (F1-L2, T0). After the LC, the same follower still saw "*the same approachable style*," but "*a bit more facilitation*" (F1-L2, T1), while another noted that the leader "*ensures we get the trainings and stay healthy as drivers*" and "*checks in more and thinks along about solutions*" (F3-L2, T1). Here, followers converge on small additions (e.g., more checking in, more practical facilitation) rather than a deep change in role.

Another leader in the incremental-adaptive pathway illustrated a shift from a strongly process-focused stance toward more human attention, but again within a similar basic framework. Before the LC, followers characterized him as "*very process-driven; needs to focus more on the human part*" (F3-L7, T0). Afterward, one follower said, "*he has become much more human; more approachable*" and "*more open in conversations now*" (F2-L7, T1), while another stressed that he was "*still factual and structured, but warmer*" (F1-L7, T1). The leader remained analytical and structured, yet added a warmer relational tone. Followers agreed on the direction of change, but they presented it as a moderate softening rather than a sweeping transformation.

Some incremental-adaptive cases showed clearer gains in structure and organization, combined with existing relational strengths. One leader was originally described as "*very accessible; down-to-earth in how he deals with people*" and someone who "*gives trust and space to do the job*" (F1, F3-L8, T0). After the LC, followers emphasized that "*he restored order; he listens and puts people where they fit best*" and that "*planning is clearer and roles are better allocated*" (F3-L8, T1). Another follower noted that "*they listen and do something with it–that increases work happiness*" (F1–L8, T1). Here, modest changes in structure and follow-through sit on top of an already positive relational base, yielding relatively high agreement amongst followers.

At the same time, the incremental-adaptive pathway also contains clear disagreement. One incremental leader was widely seen as accessible and supportive before the LC: "*His door is always open; you feel heard and seen*"

(F3-L4, T0). Afterward, two followers continued to stress this accessibility ("*He listens and arranges things*"; "*You can still walk in any time*"; F1, F3-L4, T1), but another follower gave a much more negative account: "*He is bad at communication; takes no initiative; I asked eight times for fewer hours*" and "*He doesn't solve things; poor follow-up on overload*" (F2-L4, T1). In this case, the same leader was described as both attentive and ineffective, which pulled follower-consensus in their evaluations down.

Overall, the incremental-adaptive pathway was characterized by small refinements, more relational attention, a bit more warmth, somewhat clearer planning, that some followers notice more strongly than others. Quotes showed improvements such as "more approachable," "checks in more," or "planning is clearer," but rarely a wholesale redefinition of the role. As a result, consensus across followers tends to be moderate rather than high.

5.4.3 Confirmatory Pathway: Reinforcing the status quo

For about half of the leaders [that took part in the LC (L1, L9, L10, L11 L12, L13)], participation did not translate into expansive development. These confirmatory cases confirmed the status quo as the leaders ended up reinforcing their T0-LC leadership practices rather than changing them. This confirmatory pathway was marked by a lack of perceived problems, and thus a lack of development, minimal engagement in the LC's developmental activities, and little to no difference in behavior, as perceived by followers, after the LC (T1).

Lack of salient contradictions

A defining feature of leaders following the confirmatory pathway was that they did not encounter or acknowledge any urgent contradictions in their work that would compel change. Without a felt need for change, they remained within the 'status quo.' Some leaders entered the LC thinking their current approach was already effective or that the LC topics were not relevant to their situation. For example, L1 (T1) admitted that he "*didn't really see a connection*" between what was discussed in the LC and his own role, implying he saw no major issues the LC could help with. Similarly, L4 (T1) remarked that the LC "*mostly confirmed what I already knew*," suggesting he heard nothing that challenged his existing beliefs. In essence, these leaders failed to identify any significant misalignments in their activity system. Any potential contradictions remained hidden or were rationalized away. For instance, at T1, L9 operated in a context of high driver outflow through sickness ("*a lot of outflow[...] many*

sick"), but he mainly explained this through broader societal and generational change ("*change in society*", "*different generations*") rather than questioning his own 'old-school' way of leading; at T1, he still described the work as fixed and insists you should not "*adapt the work to the people*". Without surfacing a genuine problem to solve, they had no impetus to question their practices. As Engeström (2001) noted, if internal tensions are not recognized, an activity system tends to simply reproduce its existing form, which is what happened in these cases.

Peripheral participation and superficial learning

According to their own reflections, confirmatory leaders seemed to participate in the LC from the periphery. According to Lave and Wenger (1991), peripheral participation means being a legitimate member of the community while engaging mainly through observation, and brief contributions. These leaders were present in the LC but did not enter the deeper joint problem-solving or reflective work that defined core participation. For instance, one leader (L1) later said he was "*mostly seeing how others do things*," taking a passive stance rather than actively engaging. When these leaders did speak or reflect, it was usually to reinforce general principles they already believed in, rather than to wrestle with new insights. For example, L12 (T1) mainly raised platitudes like "*it's basically about being logical and humane*", effectively stating that the key lessons were common sense and aligned with what they were already doing. Such reflections did not identify any gap between current and ideal practice; instead, they reassured the leader that their approach was fine. In short, any learning in these cases remains at a surface level. The critical first step of the expansive learning cycle (i.e. questioning one's own practice) was largely skipped.

Little to no modeling of new practices

In line with skipping the first phase, these leaders did not go on to subsequent phases such as modelling or experimenting with new ways of working. At most, some showed intellectual interest in others' ideas without acting on them. For instance, L13 noted that the concept of "*people managers*" (see L5's case) sounded like a nice idea, but he made no attempt to implement anything similar in his organization. Others made modest tweaks. L9, for example, decided to move his afternoon planners' desks closer to the dispatch team, framing it as an improvement in communication, however, this minor logistical change did not address any root problem or alter his management style. Generally, confirmatory leaders either stuck to their usual routines or "implemented"

things that were essentially the same practices repackaged. These efforts allowed them to claim they tried something from the LC, without having to change their underlying approach.

Reinforcing existing identity

Rather than evolving their leadership approach, confirmatory leaders seemed to have used the LC experience to strengthen their existing practices. Instead of engaging in adapting their core approach, they doubled down in the narrative that their way was already the right way. L4's perspective exemplifies this: "*Not really a whole new world opened for me*," he said, essentially concluding that the LC did not change his outlook. In fact, L4 interpreted the experience as validation for sticking to his usual approach (e.g., following rules and maintaining consistency). Likewise, L1 (T0) received some feedback about being too closed-off in communication, a potential contradiction, and he even acknowledged, "*I'm rather a closed book…people need to talk to me, I won't easily open up.*" But he never translated this insight into action. By the end of the LC, when asked if he had made any changes, L1 (T1) admitted, "*Not yet, maybe after the holidays we will pick it up*." This exemplifies how confirmatory leaders rationalized the lack of change: either they failed to see a need, or they procrastinated actual improvements. In the end, they maintained their prior approaches, effectively reinforcing the status quo.

Behavioral outcomes: no substantive change

In the confirmatory pathway, followers mostly described the leader's behavior in the same terms before and after the LC. When small differences appeared, they were rather framed as nuances rather than substantial shifts.

One leader, for example, was initially described as "*a bit laid-back; he doesn't take enough leadership*" (F1-L1, T0) and someone who "*rarely takes charge; planning decides most of our day*" (F2-L1, T0). After the LC, the same follower stated "*he is the same as before–friendly and supportive*" (F1-L1, T1), while another reported that "*he leaves me to manage my work; I call him if necessary*" (F2-L1, T1). The core description, supportive but not leading, remains intact.

Another confirmatory leader was consistently portrayed as formal and hierarchical. Before the LC, followers described him as "*honest–says where it stands*," but also "*hierarchical–not a people-person*" and "formal and principled; little grey area" (F1, F2-L9, T0). Afterward, one follower allowed that "he is becoming softer, but still very black-and-white" and concluded

"core style unchanged" (F2-L9, T1). Small tonal changes ("*softer*") are explicitly contrasted with a stable underlying approach ("*black-and-white*," "*core style unchanged*").

Several confirmatory cases centered on leaders who are liked as people but seen as structurally unchanged in their leadership. One leader, was described before participating in the LC (T0), was described as "*a nice, spontaneous person*" who makes people "*feel heard*," yet "*not very decisive; more a people manager*" (F2, F3-L12, T0). Post participation in the LC (T1), followers still described her as "*a nice person; pleasant contact*" who "*listens–clear and direct–adds humanity*" but stressed that "*she still defers decisions*" (F1-L12, T1). Another leader was summed up by one follower as "*she doesn't dare to push through; her standard answer is 'I'll come back to it'*" (F1-L13, T0). After the LC, followers reported: "*She still checks everything with the director–even when unnecessary; she should decide herself more,*" "*Her answer is always 'I'll come back to it'... sometimes we need an answer now, so we decide ourselves,*" and "*She still lacks decisiveness; we often decide ourselves because waiting takes too long*" (F1-F3-L13, T1). In these cases, both strengths (i.e., accessibility, humanity) and weaknesses (i.e., lack of decisiveness) appeared to be stable. Finally, some confirmatory leaders were described as stably positive. One manager was characterized pre-LC as "*a calm, straightforward guy... you can deal with him; always friendly, a bit of humor*," who was "*clear about what he wants; doesn't beat around the bush" and "listens to your opinion, and he can do the work himself*" (F1-F2-L14, T0). After the LC, followers said he offered "*a listening ear... if needed he invests in materials to make our work easier*" and described him as "*very motivated for the company" and someone who "let[s] you very free; if something goes wrong you can call straight away*" (F1-F3-L14, T1). The quotes suggested continuity of a strong, handson, supportive style rather than new behaviors. In this pathway, quotes at T1 were often near paraphrases of T0. Followers either explicitly said that their leader is the same as before or point to identical patterns (e.g., same indecisiveness, same handson support). Where small changes were mentioned, they were framed as minor tone shifts, not as genuine behavioral change.

Table 5.5 Follower-based behavioral changes across the three leader developmental pathways

Pathway	T0 - Follower perceptions	T1 - Follower perceptions	Nature of change	Follower consensus
Transformative	• "Strict but fair; if you do your work well, he's a great guy." (F1-L3, T0) • "Good and kind, but a bit chaotic—trying to please everyone." (F2-L5, T0) • "He fixes things ad hoc instead of structurally." (F2-L6, T0)	• "He coaches more one-on-one and tailors the job." (F1-L3, T1) • "Gives space and adjusts work to my knees; very supportive." (F2-L3, T1) • "Less chaotic now; he learns to say no." (F2-L5, T1) • Shows more empathy now; "understands us better." (F2-L6, T1) • "Redistributes work and matches people better." (F1-L6, T1)	Reactive → proactive; fairness → individualized coaching; ad hoc → structured; short-term → sustainable employability	Very high
Incremental-adaptive	• "Shows understanding; we have open conversations." (F1-L2, T0) • "Gives you room to arrange it your way." (F1-L2, T0) • "Very process-driven; needs more human focus." (F3-L7, T0) • "Very accessible; gives trust and space." (F1, F3-L8, T0) • "Door is always open; feel heard and seen." (F3-L4, T0)	• "Same approachable style, but more facilitation." (F1-L2, T1) • "Ensures trainings… checks in more." (F3-L2, T1) • "More human; more approachable." (F2-L7, T1) • "Still factual, but warmer." (F1-L7, T1) • "Restored order; planning clearer." (F3-L8, T1) • Disagreement: "He listens and arranges things" (L4, T0) vs. "Bad at communication; no initiative." (L4, T1)	Small refinements; warmer tone; clearer planning; core style unchanged	Moderate

Table 5.5 Continued

Pathway	T0 - Follower perceptions	T1 - Follower perceptions	Nature of change	Follower consensus
Confirmatory	• "A bit laid-back; doesn't take enough leadership." (F1-L1, T0) • "Rarely takes charge." (F2-L1, T0) • "Honest… hierarchical; not a people-person." (F1-L9, T0) • "Nice, spontaneous… not decisive." (F2, F3-L12, T0) • "Doesn't dare push through; 'I'll come back to it.'" (F1-L13, T0) • "Calm, straightforward, friendly." (F1-F2-L14, T0)	• "Same as before–friendly and supportive." (F1-L1, T1) • "Leaves me to manage my work." (F2-L1, T1) • "Becoming softer, but core style unchanged." (F2-L9, T1) • Pleasant contact… still defers decisions." (F1-L12, T1) • "Still checks everything with the director." (F1-F3-L13, T1) • "Listening ear… lets you very free." (F1-F3-L14, T1)	Stable behavior; minor tone shifts; strengths and weaknesses unchanged	High for stability; low for change

Discussion

Summary of key findings

We longitudinally followed fourteen logistics leaders participating in a leader-development–oriented LC, and their followers, to examine changes in leaders' workplace behaviors. The qualitative results identified three distinct leader development pathways within the LC: *transformative*, *incremental-adaptive*, and *confirmatory*. In the transformative pathway, participants leveraged the LC to catalyze *different* leadership approaches and engage more in developmental activities. By contrast, the incremental-adaptive pathway was characterized by gradual, stepwise growth, and selective engagement in developmental activities. Participants on this path refined and adapted their existing leadership approach over time, making moderate improvements through the LC. Finally, the confirmatory pathway involved minimal behavioral change; leaders largely *reinforced* or confirmed their pre-existing style and assumptions. Those in the confirmatory group often seemed to engage minimally in developmental activities and use the experience to validate what they already knew rather than to change. To the best of my knowledge, such a typology for leaders' developmental activities in an LC does not exist; we therefore developed an empirically grounded typology that explicates distinct patterns of engagement and learning within the LC. Specifically, the pathways that we distinguished appear to differ in degree of personal change, level of participation in the LC, and leadership behavioral outcomes as perceived by followers. This result aligns with the idea that leader development is not one-size-fits-all but follows multiple trajectories – a concept supported by adult development scholars who argue that development is shaped by distinct individual steps in a non-linear process (e.g., Poell et al., 2018). By summarizing key findings here, we set the stage for a discussion of how they integrate with existing theory and contribute toto knowledge on leader development.

Situating the leader development pathways in an LC within leader development research

This study makes several contributions to leader development theory. By identifying three qualitatively different developmental pathways–transformative, incremental-adaptive, and confirmatory–within a collective learning setting (i.e., an LC), we address a number of lacunas to the leader development literature and refine several theoretical domains. Specifically, this study develops a typology of leader development trajectories in an LC,

shows how collective learning settings shape leader development, and links learning phases to changes in enacted leadership behavior.

Day and colleagues (2014, p. 74) noted that the field lacked process models and specific typologies of developmental trajectories and explicitly called for research that could "devise a typology of trajectories to help understand and predict development." My results answer that call, as we show that leaders who participated in an LC do not uniformly follow a single developmental trajectory but instead move along distinct patterns of growth. The transformative pathway shows deeper psychological and behavioral change; the incremental-adaptive pathway shows modest, task-focused improvements; the confirmatory pathway reflects consolidation rather than change. This supports developmental theorists who argue that adult development proceeds through multiple possible routes rather than one similar upward ladder (Poell et al., 2018; Stevens-Long & Michaud, 2002).

A second contribution is that we show how collective learning settings, such as LCs, can shape leader development. By identifying developmental pathways that unfold within a LC, we demonstrate how a collective learning approach can foster behavioral change for leaders. Building on prior work emphasizing that adults may learn different things from similar situations (Merriam, 2001; McCall et al., 2010; Poell et al., 2018), my findings identify distinct learning pathways within a single learning community and delineate the characteristics that differentiate these pathways over time. Rather than treating LCs as uniformly developmental, we conceptualize them as differentiated learning environments in which leaders enact transformative, adaptive, or confirmatory modes of learning over time. Extending the work of Smith et al. (2019), we move beyond a focus on collective learning processes and pedagogical design to foreground heterogeneity in leaders' learning trajectories within a single LC and to trace how these trajectories translate into distinct patterns of leadership behavior over time. Specifically, we empirically show that leaders use and engage with the same LC in different ways, resulting in qualitatively distinct developmental pathways rather than uniform outcomes.

A third contribution is the integration of learning phases and leader behavior change into a coherent typology (i.e., developmental pathway). We used a longitudinal, multi-actor qualitative design, thereby responding to calls for methods that trace the process of individual leader development trajectories over time rather than relying solely on pre/post quantitative comparisons (Day et

al., 2014; Day & Sin, 2011). This method makes key patterns visible, such as the presence of a confirmatory pathway, which would remain hidden in mean-level analyses. We also addressed the "process knowledge" gap highlighted by scholars as the field has strong interest in how leaders develop but limited empirical accounts of the development process (Vogel et al., 2021). Namely, my findings map how involvement in an LC unfolds into, or fails to unfold into, developmental change, connecting specific learning phases to developmental outcomes. Expansive learning theory (Engeström, 2001) helps clarify this process, showing how contradictions, collective reflection, and experimentation contribute to development. Importantly, the confirmatory pathway shows that expansive learning is not guaranteed; some leaders stabilize existing practice rather than transform it. This nuance strengthens theory by expanding its explanatory range.

Practical implications

My findings point to several practical implications for how an LC for leader development could be designed and implemented. Because participants appeared to follow different developmental pathways, the design of an LC needs to account for variation in engagement with learning activities which can spill over to other participants. Therefore, an LC could seek to diagnose individual dispositional factors related to participants' willingness and capacity to engage in different learning activities within the community.

Changes in both transformative and incremental pathways were grounded in so-called 'experience-feedback-reflection' loops. The design of LCs could therefore incorporate a combination of both challenging assignments, and guided reflection based on participants' work-related experiences. Varied challenging assignments increase the chance that each participant encounters a personally meaningful trigger. Reflection practices (e.g., journals and facilitated conversations) help consolidate these experiences and link them to redefine leadership approaches.

In this study, we show that leaders' participation in LCs can result in different developmental pathways, ranging from transformative change to incremental-adaptive and confirmatory development. Because all three pathways represent meaningful, albeit qualitatively different, forms of development, we argue that evaluations of LC participation should not solely focus on return on investment (ROI), which is common in assessments of development activities. Instead, evaluations should also incorporate qualitative reflection on the type and nature of development that is achieved.

Limitations and future research

The study has several limitations that mirror common challenges in leader or adult development research. These limitations set boundaries on what we can claim and point to priorities for future work.

We observed changes during and immediately after the program, but we lack long-term evidence of consolidated behavioral changes. Some participants might show delayed change, while others may regress after a transformational period. Leader development literature repeatedly stressed the need for longitudinal studies, yet they remain rare (Day, Riggio, et al., 2021). Following participants for a year or more through interviews, diaries, or periodic behavioral assessments could clarify which pathways persist, evolve, or converge over time and whether they lead to persistent changes in leaders' behaviors at work.

My analysis relied heavily on leaders' and followers' perceptions. Self-reported growth is vulnerable to social desirability, selective recall, and program enthusiasm (Davis et al., 2023; Karpen, 2018). This challenge is common across the literature, where subjective reports dominate and objective workplace indicators are scarce (Day et al., 2014; Lacerenza et al., 2017). Future studies should combine self-reports with multi-source ratings, behavioral observations, simulations, or other objective indicators to validate reported change. Structured behavioral tasks could capture subtle improvements that are not easily articulated by participants.

Lastly, and most importantly, we cannot isolate the LC as the sole cause of change. Participants experienced parallel workplace events, and personal factors (e.g., such as learning orientation) likely shaped outcomes. Prior work shows that dispositional factors can influence development trajectories (e.g., Day et al., 2014; Y. Wang et al., 2018). Future research should measure these factors at baseline and examine how they relate to pathway membership. Comparison groups would also help clarify what the LC adds beyond other forms of workplace learning.

Conclusion

This study showed that leaders participating in a learning community follow one of the three identified developmental pathways: transformative, incremental-adaptive, and confirmatory. These pathways differ in the degree of personal change, level of participation in the LC, and behavioral outcomes

as perceived by followers. By identifying these qualitative differences, the study answers to calls for clearer process models and typologies in leader development research and shows how developmental change unfolds, or does not unfold, within a collective learning setting of an LC.

The findings also point to practical considerations for designing leader development LCs, such as supporting experience-feedback-reflection cycles. Recognizing that not all development is transformative underscores the need for broader evaluation approaches that capture different forms of learning and development.

The study has limitations typical for leader and adult development research, including the absence of long-term follow-up, reliance on subjective reports, and the inability to isolate the LC from other influences. These limitations highlight the importance of longitudinal, multi-method research that can clarify how developmental pathways persist, change, or relate to personal dispositions and workplace context.

Overall, the results show that leader development within an LC is not one-size-fits-all but follows multiple trajectories, which provides a basis for integrating these pathways into future theoretical and practical work on leader development in LCs.

Appendix A – Interview protocol for participating leaders in the LC (T0/T1)

Interview guide (before starting)

Welcome the participant, introduce yourself, and offer something to drink (coffee, tea, water) if the interview is in person. Inform the participant about the background and importance of the study and about the audio recording (this should already have been mentioned beforehand or by email). Ask the participant to sign the consent form for participation in the study (for telephone interviews: clearly explain how the data will be handled and ask whether the participant agrees). Explain beforehand that the data will not be traceable to any individual participant. Ask whether everything is clear, whether there are any remaining questions, and address them. Help the participant feel at ease by emphasizing that there are no right or wrong answers and show that you are genuinely interested in their experiences. Always encourage the participant to elaborate on their answers.

Part 1 – Personal Details

1. What is your first and last name?
2. Which company do you work for?
3. How many people do you supervise?
4. Do you supervise a team?
5. Whom do you supervise? (drivers, planners, warehouse employees)
6. What is your job title?
7. Can you briefly describe your daily tasks?
8. In what ways do you have contact with your employees? (by phone, at the office, via on-board computer, etc.)

Part 2 – Leadership

1. How would you describe yourself as a leader?
2. How would others describe you as a leader?
3. Think back to a situation in which you had to make a decision that you knew would not be well-received by your employees but that you needed to make and communicate in the interest of the organization. Describe the situation and your response in detail.
4. Think back to a situation in which it was important for your employees to perform well for the organization's benefit, but you had the impression that some employees were dissatisfied and not working as efficiently or quickly as you had hoped. Describe this situation and your response in detail.

5. Imagine that one of your drivers is out sick for an extended period while you are under high pressure to fill the rosters so that the organization's goals can be met. This means that the workload for the rest of your team will likely increase. Describe in detail how you would handle this.

Appendix B – Interview protocol for participating leaders' followers (i.e., direct reports)

Interview guide (before starting)

- Welcome the participant and introduce yourself.
- Inform the participant about the background and importance of the study and about the audio recording (this should already have been communicated in advance or via email).
- Ask the participant to provide consent to participate in the study. Clearly explain how the data will be handled and whether the participant agrees to this. Explain that the data will not be traceable to any individual participant.
- Ask whether everything is clear, whether there are any questions, and address remaining questions.

Part 1 – Personal Information

1. What is your first and last name?
2. Who nominated you for this interview?
3. Which company do you work for?
4. What is your job title?
5. What tasks do you perform on a daily basis?
6. In what ways do you have contact with your supervisor? (by phone, at the office, via on-board computer, etc.)

Part 2 – Leadership & Career Sustainability

1. How would you describe your supervisor?
2. How does your supervisor ensure that you are happy in your work?
3. How does your supervisor ensure that you remain healthy in your work?
4. How does your supervisor ensure that you are productive in your work?
5. How does your supervisor ensure that you have the right knowledge and skills to continue performing your job?
6. Is there anything else you would like to share about your supervisor?

5

Chapter 6: Discussion

Introduction

Although trucking keeps the economy moving, policymakers, employers, and drivers are all concerned about drivers' ability to cope with ongoing technological and societal developments (Boyce, 2016; Ji-Hyland & Allen, 2022; LeMay & Keller, 2019; Staats et al., 2017; Van Fossen et al., 2023; S. Wang et al., 2023; Wijngaards et al., 2019). Despite the current concerns about the population of truck drivers, not much research has been devoted to how to overcome the challenges drivers face regarding their career sustainability (M. K. Ng et al., 2015). Drivers' health, happiness, and productivity are shaped not only by structural conditions, but also by how their work is supported by the organization. In this context, direct supervisors play a key role as representatives of the organization, for instance, by translating organizational policies into concrete practices that affect drivers' career sustainability. To address such challenges, more knowledge of leadership in the transport sector could provide part of the solution. Thus, in this dissertation, I have set out to understand (frontline) leaders' role within this specific occupational context in relation to truck drivers' career sustainability, and how leader development related to that theme can be fostered through the design and implementation of a Learning Community (LC). By conducting four studies, employing a variety of methodologies (see Table 1.1 in Chapter 1 for an overview), and various theoretical frameworks, I have set out to answer the following research question: "How do frontline leaders in the Dutch road transport industry shape conditions that matter for truck drivers' career sustainability, and how does a learning community contribute to their development in this context?"

This dissertation shows that frontline leaders in the Dutch road transport industry shape conditions for truck drivers' career sustainability mainly through everyday leadership practices that are tightly intertwined with occupational constraints and relational dynamics at the frontline. It further demonstrates that LCs can support leader development by offering a structured social learning space for reflection, and experimentation in relation to these challenges. At the same time, leader development within such settings follows multiple pathways, as leaders engage with and benefit from the learning community in different ways, resulting in varying degrees and forms of behavioral change. Below, I present the objectives, approaches, and key findings of each chapter. Together, these chapter-specific findings provide an empirical and theoretical basis that substantiates the answer to the central research question outlined above. The implications of these findings are discussed in a later section of this chapter.

In **Chapter 2**, I document the limited attention to occupational context in research on leadership behavior and follower outcomes. Although leadership theory broadly acknowledges the importance of work context, our review indicates that followers' occupations are rarely treated as a substantive contextual variable in empirical studies. Especially blue- and green-collar occupational contexts (i.e., manual laborers and military personnel) are less considered in research on leadership behaviors. The limited attention to occupational context weakens claims about the generalizability of leadership style effects and raises doubts about whether widely accepted leadership styles are equally effective across different occupational contexts. By carrying out an exploratory meta-analysis, I revealed that while ethical, servant, and transformational leadership are generally linked to positive follower outcomes, the strength and direction of these relationships vary across occupational groups: Servant leadership appeared especially beneficial for pink-collar workers' job performance, whereas transformational leadership was negatively related to their commitment. These findings provide initial indications that leadership effects may vary by occupational context. However, because evidence for blue- and green-collar occupations remains scarce, it is unclear whether similar patterns apply to these groups. This uncertainty raises doubts about whether any leadership style can be assumed to be universally effective for blue-collar workers such as truck drivers, particularly given their geographically dispersed and largely autonomous work arrangements. To address this gap, I examined the trucking context more closely by studying how leadership functions within this occupation.

In **Chapter 3**, I report the findings of a qualitative comparative case study among Dutch road-transport companies to explore how leadership relates to truck drivers' career sustainability. The study showed that drivers draw on a specific form of agency (i.e., identity agency) in relation to their career sustainability, rooted in their occupational social space. However, leaders' influence on drivers' career sustainability proved complex and far from straightforward. Drivers perceived themselves as having high agency over their career sustainability, but this agency took the form of identity-based, short-term coping (e.g., managing daily demands, and meeting performance expectations) rather than future-oriented proactive actions aimed at fostering a sustainable career. Frontline leaders, as representatives of the organizational social space, reinforced this misalignment by emphasizing compliance and performance while offering little support for fostering sustainable careers among drivers. Together with structural constraints in the

occupation (e.g., physical isolation, long and irregular working hours, limited internal mobility), this produced what I termed as the *agency paradox*: drivers believe they can shape their careers, but their actual capacity to act on this belief is structurally limited.

Given these findings, Chapter 3 highlights that frontline leaders face a complex challenge in fostering career sustainability for drivers, which implicitly points to constraints in the tools, skills, and organizational support available to them. This prompted us to conduct the study reported in **Chapter 4**, to shift focus toward leaders themselves by implementing and evaluating an LC to support their development in order to face the challenges regarding truck drivers' career sustainability. The LC served as a non-formal professional learning environment aimed at fostering peer learning and structured reflection. The aim of this study was to evaluate the design elements of an LC geared towards leader development of truck drivers' frontline leaders. The LC's participants valued its practical relevance, small-scale dialogue, and shared ownership. At the same time, the LC showed that too much autonomy can undermine engagement; facilitation and guidance remain essential. Finally, Chapter 5 examined leaders' developmental outcomes of this LC.

In **Chapter 5**, I examined how leaders developed as they took part in the LC implemented and evaluated its design constellation in Chapter 4, and how this participation led to different development pathways. This chapter aimed to answer the question: "How do distinct pathways of leader development unfold within a learning community, and how do these pathways relate to leaders' behavioral change at work?" The findings revealed three pathways: transformative, incremental-adaptive, and confirmatory. In Chapter 5, I show that leaders participating in the same LC follow distinct developmental pathways over time. Longitudinal analysis identified three pathways: transformative, incremental-adaptive, and confirmatory, that differed in the extent of leadership behavior change, patterns of engagement in LC activities, and outcomes as perceived by followers. Transformative leaders used the LC to fundamentally rethink their leadership approach and engaged broadly in developmental activities. Incremental-adaptive leaders showed gradual, selective refinement of existing practices, resulting in moderate behavioral change. Confirmatory leaders displayed little change, primarily using the LC to validate pre-existing assumptions rather than to alter their leadership behavior. Together, these findings indicate that participation in an LC does not produce uniform developmental outcomes for leaders, but instead supports multiple,

qualitatively different leader development trajectories, even within a shared learning context. Together, these chapters demonstrate that equipping leaders to foster career sustainability among truck drivers is a complex undertaking. Generic best-practice models for leadership towards career sustainability provide only limited direction for blue-collar contexts (Chapter 2). Leadership processes themselves cannot be understood without close attention to the occupational conditions and relational dynamics in which they are embedded (Chapter 3). Building on the theoretical design principles outlined in Chapter 4, Chapter 5 advances understanding of leader development by showing how a social learning setting (i.e., an LC) can give rise to different developmental pathways. Rather than assuming uniform effects, the findings clarify how leaders' engagement with the learning community shapes the nature and extent of behavioral change, offering a more differentiated and realistic view of leader development in this context.

Theoretical implications

In this section, I elaborate on the theoretical implications of this dissertation. The starting point of this work is that leadership and its effectiveness for fostering employees' career sustainability is context-sensitive. This raises a critical set of questions: How does context matter? To build on prior research on the context-sensitivity of leadership (e.g., Johns, 2024), this dissertation not only explores the occupational context as a relevant contextual dimension (see Chapter 2), aims to better understand the complex and interrelated dynamics leaders face in shaping conditions for truck drivers' career sustainability (see Chapter 3). Throughout this dissertation, there is a mere focus on a single occupational context, that of the road transport sector, which allows for a more in-depth exploration of the mechanisms through which context shapes leadership dynamics and outcomes.

In particular, I have centered this dissertation on *career sustainability* as a key outcome of interest for leadership in this context, given its urgency and relevance within the road-transport sector. Moreover, if leadership is indeed context-specific, we must also ask how leadership skills can be developed in a way that is attuned to that particular context. In this dissertation, I implemented and evaluated a *Learning Community* aimed at fostering leader development within the road-transport sector (see Chapter 4 and 5). In what follows, I aim to synthesize and integrate the theoretical implications drawn from the

preceding chapters, offering a synopsis on how this dissertation contributes to context-sensitive theorizing in leadership research.

Objective 1: To contribute to contextual leadership theory by uncovering the role of follower occupation-as-context

I analyzed current research on leadership behaviors and follower outcomes to see how these relationships vary across different occupational contexts (see Chapter 2). With this study, I provide the conceptual and empirical foundation for the remainder of the dissertation by demonstrating that leadership–outcome relationships vary across occupations and that blue-collar contexts remain underrepresented in existing research. Together, these insights clarify why the road transport sector warrants dedicated empirical investigation in Chapters 3–5.

Our findings of the extensive scoping literature review revealed that follower occupation-as-context is scarcely and narrowly studied. Notably, our review identified distinct occupation-specific patterns concerning the prevalence of various leadership styles in existing empirical research (e.g., safety-related outcomes and leadership styles in blue-collar contexts). Our exploratory meta-analysis of ethical, servant, and transformational leadership shows that their relationships vary with the occupation and outcome in question. Servant leadership showed the strongest relationship in job performance for pink-collar employees. Transformational leadership is related positively to job performance and motivation across most groups (including blue-collar workers), yet for pink-collar workers it actually linked to lower commitment. Conversely, blue-collar workers' commitment related positively to transformational leadership. Our research underscores critical limitations regarding scholarly attention to the links between leadership behaviors and follower outcomes across occupational contexts.

Given the predominance of leadership research in white-collar professions, concerns arise about the generalizability of its conclusions (Johns, 2024). This concentration implicitly assumes broadly positive leader–follower relationships, an assumption that remains largely unexamined in other occupational contexts. Thus, I highlight here the need for more inclusive research across occupational groups to achieve robust conclusions regarding leadership behaviors' effectiveness. Thus, in Chapter 3, I focus on the occupational context of truck driving to analyze how the characteristics of this profession influence the ways in which leadership is enacted and experienced towards fostering career sustainability by both leaders and followers.

This occupationally situated perspective resonates with the recognition in leadership theory that leadership processes are inherently shaped by the context in which they occur (Johns, 2024; Oc, 2018; Osborn et al., 2002). According to a review by Oc (2018), two levels of contextual factors can be distinguished that influence the process of leadership: The omnibus (i.e., where, who, and when) and discrete context (i.e., task, social, physical, and temporal). He found that organizations (i.e. omnibus contexts) are often modeled as a moderating factor to explain leader effectiveness. Similarly, job characteristics (i.e. discrete contexts) are also regularly used to study the variance in effects for leadership styles or Leader-Member-Exchange (LMX) (Den Hartog & Belschak, 2012; Litano et al., 2016; Svendsen et al., 2018). In Chapter 3, I demonstrate how structural features of truck driving simultaneously shape the physical, temporal, social, and relational conditions under which leadership is enacted. This moves beyond viewing context as a moderating backdrop and instead positions occupation as a constitutive condition of leadership practice.

Why occupation-as-context matters for understanding leadership?

In Chapter 2, I stressed the role of followers' occupations as relevant contextual factors for leadership. Occupations are considered as sets of jobs that are similar to each other, which are considered as omnibus contextual factors (Johns, 2006; Oc, 2018). Both authors' reviews of the leadership literature do not mention follower occupational variation as a relevant contextual factor (Johns, 2024; Oc, 2018). Yet, thoroughly examining this as a contextual variable would require a broad and systematic effort, given that most leadership studies have not been designed to investigate occupationally homogeneous samples (see Chapter 2). Some authors are making the case for certain styles to fit particularly well with the needs and characteristics of knowledge workers (Correia de Sousa & van Dierendonck, 2010). By drawing on Implicit Leadership Theories (ILTs; Eden & Leviatan, 1975) and Social Identity Theory (SIT; Tajfel & Turner, 1979; Van Knippenberg & Hogg, 2003) I aimed to understand why the effectiveness of leadership behaviors is inherently influenced by followers' occupation-as-context. This theoretical rationale illustrates that the effectiveness of leadership is not universal, but filtered through occupational norms and identities which are often implicit, but deeply ingrained (Ashforth et al., 2014; Ashforth & Kreiner, 1999). Thus, understanding leadership effectiveness requires contextual sensitivity to what followers within a given occupation expect and accept from those in leadership roles.

This perspective extends Dierdorff's (2019) proposition that occupations encapsulate a significant degree of variance in organizational behavior. Consequently, our findings from Chapter 2 not only build upon the insights provided by the contextual school of leadership but also explicate occupational-specific patterns in which leadership behaviors and follower outcomes were studied. However, this evidence is heavily skewed toward white-collar settings. Consequently, existing research tells us relatively little about how leadership behaviors are enacted in specific occupational contexts, nor about how occupational characteristics shape the leadership–follower outcome relationships.

Against this backdrop, I turn to how leadership is enacted in the less examined occupational group: Blue-collar workers. Specifically, I discuss the role of frontline leaders in navigating the career sustainability of truck drivers, thereby addressing a set of conditions in a context where sustainable careers can(not) unfold (Bal et al., 2021; Bal & Alhnaity, 2024).

Objective 2: Understanding the role of frontline leadership with regard to truck drivers' career sustainability

For this objective, I mainly draw from our comparative case study conducted across several road-transport organizations in the Netherlands (see Chapter 3). Here, I show how the findings of this empirical chapter contribute to theorizing frontline leaders' influence on truck drivers' career sustainability.

Existing scholarly work has consistently emphasized that frontline leaders or supervisors function not merely as formal role holders, but essentially as gatekeepers for resources and career development (Baruch & Rousseau, 2019; Fugate et al., 2021; Van der Heijden & De Vos, 2015). Seminal insights by Purcell and Hutchinson (2007) similarly underscored that frontline leaders act as critical intermediaries, translating HR policies into day-to-day realities and thereby shaping employees' perceptions of their career prospects. While earlier research has convincingly highlighted the relevance of frontline leadership, our study seeks to deepen the understanding of how such leadership shapes employees' career sustainability in a blue-collar work context more specifically.

In Chapter 3, I explored a dynamic that may or may not be occupation-specific. I refer to this dynamic as occupation-specific, rather than occupation-general, as our study did not involve a comparative analysis across occupational groups.

As such, I am unable to generalize these findings to other occupations. Still, it is noteworthy that hallmark features of truck driving, the physical isolation from the organization, the sedentary nature of the job, and the often-long work hours (Van der Beek, 2012) can significantly shape how leadership is enacted and experienced. For instance, spatial separation creates a distinct set of relational conditions that influence how frontline leaders interact with drivers, as well as how leadership support is perceived. In that sense, the occupational context of truck driving not only neutralizes leadership behaviors (Antonakis & Atwater, 2002; Podsakoff, 1994; Podsakoff et al., 1984; Popper, 2013) but also increases the psychological distance between leader and employee (Marstand et al., 2025). These dynamics and constraints are certainly not limited to truck drivers, as they could also apply to maritime personnel or postal mail carriers (Brooks & Greenberg, 2022; Nayani et al., 2018). Indeed, such findings have already been uncovered with bus drivers (Irai et al., 2025). Future research on leadership behaviors across occupational contexts (Chapter 2) would benefit from explicitly incorporating such characteristics of blue-collar work.

While truck drivers display considerable individual agency toward shaping their careers, this is not generally perceived as such by organizational actors, including frontline leaders. This dissonance is what I describe as the 'agency paradox': drivers see themselves as autonomous, but their actual room to act is tightly constrained. Supervisors amplify this paradox by expecting drivers to take charge of their careers while offering little of the support required to make such agency possible (Chapter 3). This may be enhanced by the stereotyping and marginalization drivers experience in society or sometimes even within organizations. Frontline leaders influence this process by shaping the perceived boundaries of what is possible, or impossible, in terms of career-related action for employees (Delva et al., 2021). The mismatch between expected and experienced forms of agency towards fostering career sustainability suggests that agency is contextually embedded and can take on different modes, such as identity versus life course agency, depending on prevailing structural and normative conditions (Bal et al., 2021; Bal & Alhnaity, 2024). Career agency is thus not enacted uniformly, but in multiple ways. Through their relational interactions, frontline leaders can indirectly shape which mode of career agency becomes dominant (Lawler, 2001). Our observations align with the broader literature that highlights the structural function of frontline leadership. Frontline leaders may help shape the organizational social space and determine the conditions under which career-related practices become viable or remain out of reach (Baruch & Rousseau,

2019; Fugate et al., 2021; Purcell & Hutchinson, 2007; Van der Heijden & De Vos, 2015; Voxted, 2019). In Chapter 2, the view becomes nuanced by showing that leaders do not shape the organizational social space through a generic set of leadership behaviors. Instead, they may enact occupation-specific patterns of behavior. These patterns structure how followers experience the social space and, in turn, shape their agency to act on their career sustainability. Chapter 2 provides indicative evidence that, among blue-collar workers, transformational leadership is positively associated with job performance and commitment outcomes, suggesting this as a relevant avenue for further investigation. Moreover, the findings resonate with the broader and increasingly relational orientation that the concept of a 'sustainable career' has come to embody (De Vos et al., 2020; Donald et al., 2024; Van der Heijden & De Vos, 2015, 2015). Specifically, I demonstrate that individual agency is not only a matter of an individual's choices, but it is also shaped by organizational objectives, which are inherently set out by organization's leadership.

Taken together, these findings underscore the role frontline leaders play in shaping the perceived and actual possibilities for career sustainability among truck drivers. However, they also show that frontline leaders often reinforce patterns that keep truck drivers trapped in a vicious cycle, which in turn limits the support they can offer for drivers' career sustainability. From a leadership-theory perspective, these findings show that frontline leaders seem to function as boundary actors who reproduce existing organizational constraints. Leadership theory therefore needs to move beyond decontextualized, behavior-centric models and take seriously how leadership is embedded in, and shaped by, occupational structures that both enable and constrain career sustainability. This insight prompts a practical and theoretical question: how can frontline leaders be better supported in developing the competencies to foster sustainable careers in blue-collar settings? In response, the next objective turns toward the design of a Learning Community as a targeted developmental initiative to strengthen leadership's capacity in this domain.

Objective 3: To advance theory and practice on shaping a Learning Community that develops leaders for enhancing truck drivers' career sustainability

To address the third objective, I mainly draw on two empirical chapters: Chapter 4 focuses on the practical, and theory-informed design of a Learning Community geared towards leaders in road-transport and examines how it was received and evaluated by its participants as a means for leader development.

Chapter 5 investigates the developmental outcomes of the Learning Community through a grounded theory approach, based on longitudinal qualitative data collected from both the participating leaders and their subordinates. As a basis, Chapter 2 and 3 have shown that the occupational context, and specifically that one of truck driving, is relevant to take into account when designing a leader development intervention. Together, in these Chapters I provide insight into how a context-sensitive design for a Learning Community can(not) foster leader development aimed at enhancing truck drivers' career sustainability. As outlined below, several theoretical contributions to the literature on professional learning, Learning Communities, and leader development are offered.

First, in Chapter 4 I underscore the importance of contextualized design in Learning Communities (LCs). The findings show that in highly operational environments such as the road transport sector, where time for learning is scarce, design elements like small scale, recognizability of content (e.g., comparable problems and solutions), and clear structure for organizing the LC are particularly positively evaluated. I base this contribution on the CIMO-logic (Context–Intervention–Mechanism–Outcome; Denyer et al., 2008). In this study, CIMO-logic served a dual purpose. First, it guided the ex-ante design of the learning community by helping specify how particular mechanisms were expected to work within the given occupational context. Second, I used the same logic as an evaluative framework to examine whether those mechanisms were activated in practice and whether the intervention produced the outcomes it was designed to generate. This allowed for a linkage between the intended design to the learning processes that actually unfolded. This dual use of the CIMO framework enriches its value for non-formal intervention researchers (Denyer et al., 2008). In this Chapter, I contribute to a more nuanced understanding of workplace learning in blue-collar vocations, highlighting that the interventions in an LC cannot be applied generically, but must be contingent on the specific characteristics of the occupational setting in which they are embedded (e.g., Billett, 2011). Thereby, aligning the LC design with the recommendations of Chapter 2.

Moreover, Chapter 4 shows that leaders value learning in an LC best when individual and structure are kept in balance. From this scholarly work, it became clear that participants liked choosing their own topics and sharing ownership, but too much freedom hampered engagement. Clear expectations and roles kept that freedom productive. This result puts Fischer's (F. Fischer,

2018) scaffolding framework to the test in professional learning. Fischer lists three positions: anti-scaffolding (Hod et al., 2018), self-regulation (Tao & Zhang, 2018), and orchestration (Fong & Slotta, 2018; J. Y. Ma & Hall, 2018). The data back the orchestration view: scaffolding is not a limit on autonomy but a condition for effective collaboration and knowledge building. Participatory learning in an LC rarely appears on its own; it needs well-timed, and contextualized scaffolding (F. Fischer, 2018).

Lastly, Chapter 5 showed that confirmatory pathways were most common in the LEADER-LC. This indicates that substantial shifts in leadership approach are not easily achieved within a six-month period. This aligns with adult development research showing that development often stabilizes when individuals do not encounter salient contradictions or triggers that disrupt existing routines (Engeström, 2001; Stevens-Long & Michaud, 2002). When contradictions remain weak or are not recognized as problematic, leaders tend to reproduce their usual patterns, consistent with research on habitual leadership behavior (Lord et al., 2020). This aligns with evidence that leadership development often yields only minor or short-lived change (Lacerenza et al., 2017) and helps explain the persistence of a vicious cycle in which frontline supervisors are embedded, sustained by organizational norms that reinforce existing behaviors (Chapter 3).

In light of the vicious cycle described in Chapter 3 where drivers face structural barriers towards shaping a sustainable career, the prevalence of confirmatory pathways is not trivial. If leaders do not engage with the occupational contradictions that shape drivers' daily experience, the deeper conditions that undermine career sustainability remain unchanged. Taken together, this suggests that fostering leaders' exposure to meaningful contradictions, whether through structured reflection, peer confrontation, or contact with employee experiences, is not an optional element but a necessity to foster leader development in an LC. Adult development theory argues that progress to more complex meaning making requires dissonance (McCauley et al., 2006) and leadership development research shows that powerful triggers often precede growth (DeRue & Wellman, 2009). The finding that confirmatory pathways were the modal trajectory reinforces this pattern. In the transport sector, structural and institutional features of the work may limit leaders' opportunities to encounter and work through the tensions required to break the cycle in which truck drivers can become stuck.

Methodological reflections

In this section, I outline the methodological strengths and limitations of the present dissertation. By critically reflecting on both aspects, I aim to offer transparency regarding the design choices made throughout the research process, as well as the rationale underpinning these decisions.

Strengths

In this dissertation, as has been outlined in empirical Chapters 2 to 5, I have applied a variety of methodologies. Here, I will outline what the strengths of each chosen methodology are.

First, by starting off with reviewing the rich body of literature on leadership behavior and follower outcome relationships, from which I drew conclusions through a scoping review and an exploratory meta-analysis, this approach allowed me to confidently identify underexplored areas in the research on leadership, such as the role of occupational context in leadership research.

Second, in Chapter 3, I collected rich qualitative data from multiple cases within the Dutch road transport sector. This included thirty-one interviews with a diverse range of stakeholders. Most notably, a substantial number of truck drivers, a group that is often underrepresented and difficult to access in academic research. The inclusion of this occupational group, situated within a largely overlooked context in leadership studies as Chapter 2 showed, enables a critically questioning of the generalizability of prevailing theories in the leadership scholarly domain. In doing so, the study demonstrates a deliberate effort to move beyond commonly studied populations and to address the field's overreliance on white-collar samples, effectively 'putting our money where our mouth is' by integrating insights from a sector that is too often left at the margins of organizational psychologists (e.g., Bergman & Jean, 2016).

Third, the design of the Learning Community (LC) was firmly grounded in theoretical principles on professional learning (see Chapter 4). Drawing on the foundational framework of communities of practice (Lave & Wenger, 1991; Wenger, 1998; Woudstra et al., 2022) the LC was purposefully structured to activate core learning mechanisms including reflection, peer exchange, and real-world experimentation. This theoretically informed design ensured conceptual alignment between the intervention's structure and its intended outcomes, namely, to foster leaders' development for truck drivers' career sustainability.

Fourth, the qualitative data collected on leader developmental trajectories within the LC was comprehensive. I adopted a longitudinal qualitative design to trace leader development over time, which is increasingly recognized as essential for capturing the dynamic and iterative nature of leader development (Cotrim & Da Silva Gomes, 2024). This included pre- and post-interviews with the participating leaders, as well as repeated interviews with three subordinates per participant over a six-month period. Such a multi-actor, multi-timepoint approach provided rich, triangulated insights into how participation in the LC shaped both self-perceived leader growth and follower-reported behavioral change thereby offering a rare, relational perspective on leader development situated in real-world organizational practice (Day & Dragoni, 2015).

Limitations

Nonetheless, given its strengths, I also must acknowledge a number of limitations of the methodological designs in this dissertation.

First, in Chapter 2, due to the limited number of empirical studies addressing certain occupational categories, particularly the notable absence of published data related to blue- and green-collar groups, I could not conclusively determine the ineffectiveness of specific leadership behaviors. Moreover, the meta-analysis faced limitations concerning statistical power, primarily due to insufficient variability in the occupation-as-context moderator across the different leadership behavior–follower outcome relationships. Additionally, inferences drawn from the studies included in the meta-analysis should be interpreted cautiously, as the manner in which leadership styles and follower outcomes have historically been measured is inherently flawed due to value-based conflation (see T. Fischer & Sitkin, 2022).

Second, the generalizability of our findings warrants caution. The empirical, and mainly qualitative investigations were situated exclusively within the road transport sector in the Dutch context. Consequently, the conclusions derived from my findings may not be directly transferable to other (blue-collar) occupational contexts, industries, or geographical regions without further empirical validation. That said, in line with Levitt's (2021) reconceptualization of generalization in qualitative research, my aim was not to generalize to a population, but rather to map meaningful variation within the phenomenon of frontline leadership as it is enacted in a specific occupational setting. From this perspective, the value of my findings lies not in their (statistical) representativeness, but in their preciseness to the complexity and conditions

under which leadership practices vary or hold. This form of qualitative generalization can offer a foundation for transferability, enabling readers to judge the applicability of findings in relation to their own contexts (Levitt, 2021; Lincoln et al., 1985)

Third, the included studies may be susceptible to selection bias. Participation in both the comparative case study (Chapter 3) and the LC (Chapters 4 and 5) was voluntary, possibly resulting in self-selection bias. Participants who chose to engage may possess distinct characteristics, motivations, or predispositions toward learning and development that differ from those who opted out (Heckman, 1979).

Directions for future research

This dissertation has employed a diverse set of methodological approaches to examine the role and development of frontline leadership in the road transport sector regarding the career sustainability of truck drivers, as an example of an understudied blue-collar context, through the implementation of an LC. While several strengths have enhanced the rigor of the research, limitations remain that constrain the generalizability and robustness of the findings. Taken together, these strengths and limitations offer clear and promising avenues for future research. Below, I outline several key directions that future scholars may pursue to expand upon, refine, and challenge the current work (see Table 6.1).

Firstly, the scoping review and exploratory meta-analysis presented in Chapter 2 faced several conceptual challenges related to the measurement and definition of leadership behaviors. As previously discussed, research examining leadership and follower outcomes has historically been hampered by value-based conflation, particularly in how leadership styles and follower outcomes are operationalized (T. Fischer & Sitkin, 2022). To move the field forward in addressing this issue, scholars can explore several pathways, one of which involves acknowledging the less idealized realities encountered by individuals in actual leadership practice (Haslam et al., 2024).

One attempt to embrace this perspective is exemplified in the empirical approach in Chapter 3, where, rather than limiting the investigation to a single leadership model or theory, I deliberately focused on a specific occupational context. In order to extend the understanding beyond a single occupational

setting, future research could examine these lived experiences of leadership through cross-occupational comparative studies. Drawing on ILTs and SIT, this opens up avenues for future research that can be worthwhile to further understand how leadership enactment and leader development aimed at career sustainability differ across various occupations. Particularly, occupations such as construction workers, carpenters, machine operators, and farmers remain notably underrepresented in leadership research (see Chapter 2) despite experiencing pronounced challenges related to career sustainability (Gittleman & Monaco, 2020; Hötte et al., 2023; Jetha et al., 2021).

Future research could further examine how occupation-specific patterns of leadership behavior structure followers' experiences of the organizational social space and shape their agency to act on career sustainability. In particular, building on the indicative evidence in Chapter 2, studies could explore whether specific leader behaviors typically subsumed under transformational leadership show relevance in blue-collar contexts, rather than treating transformational leadership as a coherent or universally applicable style. Moreover, leadership scholars could assess how incorporating core characteristics of blue-collar work refines our understanding of leadership effects across occupational contexts.

Before progressing to large-scale, complex quantitative studies designed to yield statistically generalizable conclusions on new leadership models and their explanatory power regarding follower outcomes, I posit here that it remains crucial to understand the underlying mechanisms and processes influencing leadership and career sustainability across diverse occupational contexts. Given the lived realities of leadership practice, acknowledging these mechanisms is indispensable, particularly in response to recent critiques accusing scholars of neglecting engagement with real-world challenges (Haslam et al., 2024; Tourish, 2020; Van de Ven, 2007).

As the aforementioned subsection already highlighted, two of the aforementioned studies may suffer from self-selection bias. Volunteers could be more motivated or self-aware than those who declined. Future work could use randomized trials or quasi-experimental methods, and process tracing. Another option would be to make use of propensity score matching (Rosenbaum & Rubin, 1983), to control for selection effects.

Another limitation concerns intervention fidelity (Carroll et al., 2007), which is potentially a more general issue with shaping and setting up an

LC as participant attendance and engagement is necessary to yield value from participation. Although variations in attendance and participator's yielded (perceived) value were tracked and considered analytically, a more standardized and validated approach to measuring fidelity could strengthen future studies. This might involve developing mixed-methods fidelity metrics that combine attendance tracking, observational checklists, facilitator logs, and participant feedback to more rigorously capture the extent to which the LC was implemented as designed. A key strength of the current dissertation lies in its longitudinal, multi-actor design in Chapter 5, which included pre- and post-interviews with leaders and repeated interviews with three subordinates per leader over six months. This approach yielded rich insights into the leader developmental value of LC participation. Future studies could further build on this by two ways: Incorporating more repeated measures (quantitative or qualitative) and extending the time horizon of data collection to one or two years, allowing for the analysis of more sustained impacts over time (Hollenbeck et al., 1994; Sullivan, 2008). If we want to understand leaders' spillover effects on followers' career sustainability, the inherent nature of a career is longitudinal and hence prompts such an approach (De Vos et al., 2020). In sum, such future research would provide further understanding of the temporal and processual dynamics of leaders' development through an LC.

Table 6.6 Directions for future research summarized

Focus area	What needs more research?	How to do it?
Cross-occupational variation	Comparisons of leadership practices across occupations is missing.	Run comparative studies across several occupations (ILTs, SIT)
Contextualized leader behaviors across occupations	Whether specific leader behaviors (e.g., transformational) are relevant in blue-collar contexts.	Study disaggregated behaviors while modeling core work characteristics.
Mechanisms behind leadership & career sustainability	Understand real-world processes before conducting complex quantitative modelling	Use qualitative or mixed-method work in varied occupational settings
Self-selection bias in voluntary programs	Volunteers may differ from non-volunteers	Apply randomized or quasi-experimental designs; try propensity-score matching
Intervention fidelity in Leadership Community (LC) programs	LC attendance and engagement vary	Create mixed-methods fidelity metrics (logs, checklists, feedback)
Long-term impact of LC participation	Need to see sustained or fading effects of LC participation	Collect more waves of mixed-method data over 1-2 years with leaders and followers

Practical implications

This dissertation yields several actionable implications for organizations, sectorlevel bodies and policymakers who aim to strengthen leadership and career sustainability in bluecollar settings, particularly in the roadtransport sector (see Table 6.2). First, the findings demonstrate that truck drivers' career sustainability is closely intertwined with the practices of frontline leaders and with drivers' own sense of agency. Unless sectoral institutions and transport firms explicitly acknowledge this leverage, interventions meant to improve career sustainability are unlikely to deliver their intended effect. Organizations, and sectoral bodies are urged to target leader development interventions to dispatchers as well, as they are often seen as having a role in truck drivers' leadership (although not formally recognized per se). Second, the design and implementation of Learning Communities (LCs) in this dissertation shows that they can provide a scalable, lowthreshold route to leader development. By encouraging collective reflection, peer learning and honest discussion of workplace dilemmas, LCs create conditions that traditional training often fails to achieve. Human resource professionals should therefore weave LCs into their broader professionalization strategies and, where possible, form crossorganizational partnerships. Third, the empirical insights generated here broaden the policy lens on leadership to the field of bluecollar work. Recognizing that leadership is enacted not only through formal positions but also through informal influence allows social partners, training providers and government agencies to tackle staffing challenges by professionalizing those frontline actors who affect employees' working lives on a daily basis. In many occupations, several employees may take on informal leadership roles. When these individuals are deliberately included in learning and development efforts, organizations are better able to achieve strategic goals linked to healthy, satisfied, and productive employees.

Finally, this scholarly work offers a methodological blueprint for evaluating behavioral and developmental interventions in situ. My qualitative assessment of a fourteenleaders' LC trajectory illustrates how robust, longitudinal evaluation can uncover the subtle leader–follower interactions that determine whether an intervention succeeds. Learning and development professionals are encouraged to adopt similarly rigorous designs, supplementing qualitative inquiry with quantitative metrics and using technological tools (e.g., AI, machine learning) to ease data collection while preserving analytical depth.

Conclusion

In this dissertation, I set out to explore how frontline leadership influences career sustainability in the road transport sector and how frontline leaders can be developed to support that goal. Drawing on four empirical studies, I show that leadership does not happen in a vacuum: Occupational context matters for leadership approaches. In particular, truck driving comes with specific social, spatial, and cultural conditions that shape how leadership is enacted and experienced.

Across the studies, one insight is the "agency paradox": drivers are expected to take responsibility for their careers, but the conditions and support to do so are often lacking. Frontline leaders play a central role in reinforcing or relieving this tension, as they can exert their influence in organizations. Yet they are not always equipped to recognize or act on this responsibility. The findings indicate that LCs, when designed with the occupational context in mind, can function as a practical, low-threshold space in which leaders engage in reflection and learning around how they support drivers' career sustainability.

This dissertation contributes to theory by introducing occupation-as-context as a critical but often overlooked factor in the field of leadership. It also offers practical guidance for improving leader development in blue-collar settings through offering design guidelines for LCs as non-formal learning environments for professional development. If organizations want to support sustainable careers in essential sectors like transport, they must invest in leadership that fits the realities of the job.

Table 6.7 Practical implications of this dissertation summarized

Practical implication	Key actions / recommendations	Primary actors
Leadership should be tailored to the follower's occupation-as-context (see Chapter 2)	Design occupation-specific leadership programs; match leadership styles to the occupational context during leader selection; integrate occupation-as-context into leadership curricula and training	HR and learning-and-development professionals, organizational practitioners, MBA coordinators
Recognize frontline leaders' leverage over drivers' career sustainability (see Chapter 3)	Acknowledge the pivotal role of dispatchers and other frontline supervisors; design leaderdevelopment interventions that explicitly target them	Sectoral bodies, transport firms, policymakers
Institutionalize Learning Communities (LCs) as a lowthreshold development platform (see Chapter 4)	Embed LCs within HR/professionalization strategies; form crossorganizational and triplehelix collaborations; train LC facilitators via partnerships with educational institutions	HR professionals, organizations, educational institutes
Adopt rigorous, mixedmethod evaluation of developmental interventions (see Chapter 5)	Combine longitudinal qualitative and quantitative metrics; leverage AI and machinelearning tools to streamline data collection while capturing leader–follower dynamics	Learninganddevelopment professionals

6

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Appendices

About the author

Wouter van Zwol was born on the 2nd of June 1996 in Oosterhout (Noord-Brabant), the Netherlands. He completed a BSc in Psychology at Tilburg University in 2019. Thereafter, he completed an MSc in Human Resource Studies in 2020 (with distinction). Ever since finishing his final school research project, he has been interested in research. In December 2020, he started a PhD at Radboud University at the Institute for Management Research in Nijmegen focusing on how leaders impact the career sustainability of truck drivers, and how a Learning Community can contribute to their development regarding in this context.

During his PhD, Wouter has written several (conference) papers that were presented at various international conferences, such as: *EAPRIL* (Hasselt, Belgium), the 11th and 12th *Biennial International Conference of the DutchHRM Network* (respectively Enschede, and Rotterdam, the Netherlands), *the 21st EAWOP Congress* (Katowice, Poland), *the 83rd Annual Meeting of the Academy of Management* (Boston, USA). For the latter conference, his paper has been published in the Academy of Management Proceedings. He received the 2022 IMR Best PhD Award (shared with the PhD Council), the Academy of Management Best Reviewer Award in 2023 and 2024, and a 2025 NSvP valorisation grant to disseminate his research. Since January 2026, Wouter has been working as an HR Innovation Advisor at the Royal Netherlands Air and Space Force, contributing to skills-based organizing. Moreover, since 2024, Wouter has been a member of the Early Career Reviewer Board for Leadership and Organizational Development Journal.

Statement of contribution (in accordance with art. 71 of the promotion regulations)

This dissertation consists of four empirical papers (Chapters 2–5), each co-authored with one or more supervisors. Below, I outline my individual contribution to each paper.

In Chapter 2, I designed the review protocol, executed the literature search, and coded all studies. Together with the second author, I coded a subset of the studies to ensure reliability. I performed the data synthesis and wrote the full manuscript, while all co-authors contributed to the conceptual framing and provided critical revisions.

In Chapter 3, I developed the research design and interview protocol, collected and analyzed all qualitative data, and drafted the manuscript. My co-authors provided feedback on the theoretical framing and assisted in refining the discussion section.

In Chapter 4, I initiated the study design, co-facilitated the learning-community sessions, collected the data, and performed the data analysis. I wrote the first and subsequent versions of the manuscript, while my co-authors advised on methodological framing and contributed to the editing of the final version.

In Chapter 5, I conceptualized the research questions, supervised the data collection, integrated the leader and follower datasets, conducted the grounded-theory analysis, and drafted the manuscript. My co-authors provided feedback on data interpretation and the overall structure of the paper.

Across all four papers, I served as the primary author and was responsible for the conceptual development, empirical execution, and manuscript preparation. My co-authors contributed through supervision, methodological advice, and critical review.

Funding statement (in accordance with article 78 of the promotion regulations)

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Research data management statement

The empirical studies presented in this dissertation are based on one literature study and two empirical datasets. Chapter 2 is based on available peer-reviewed literature. Chapter 3 is based on interviews conducted at Radboud University by the author of this dissertation and two research assistants. Chapters 4 and 5 are based on other interviews conducted by the author of this dissertation and two research assistants. For the data collection, a research data management plan was developed at Radboud University. In line with this research data management plan, personal data were removed from the datasets the moment they were no longer necessary and datasets that contained identifiable data were encrypted and only stored on the personal computers of the researchers involved. The research data management plan can be obtained upon request. Personal data were removed from the datasets where possible, datasets containing identifiable data were stored encrypted and identifiable data were pseudonymized.

Dankwoord (Acknowledgments)

Promoveren, wilde ik dat altijd al? Dat is de vraag die naar boven rijst als ik dit dankwoord schrijf. Het is zeker niet iets wat vroeger in mijn beroepskeuzetests naar boven is gekomen. Wetenschapper zijn is geen *sexy* beroep en je moet er daarnaast héél intelligent voor zijn. Dat dacht ik tenminste. Ik kwam er de afgelopen jaren achter, niet geheel verrassend, dat het *niet* zo sexy was. Maar intelligentie is niet zo zeer de doorslaggevende factor of je succesvol een promotietraject kan afronden. Wat je zeker wél nodig hebt is een voorliefde voor wetenschappelijk onderzoek, wat ik pas tijdens het schrijven van mijn Masterscriptie in Tilburg ontdekte, bij HRS. Robin Bauwens, mijn begeleider, vroeg me of ik wel eens serieus nagedacht had om te gaan promoveren. Ik was vereerd dat iemand zo kennelijk over mijn kwaliteiten als onderzoeker dacht. Dus Robin, ik wil je daarvoor danken dat je me op dit spoor hebt gezet. Zonder jou was het idee van 'promoveren' nooit in mijn hoofd terecht gekomen.

Na wat sollicitaties kwam ik via Robin op een interessante, maar verwarrende vacature uit. Eentje waarbij je een achtergrond nodig had in zowel Software Engineering als Psychologie. Dat kwam niet veel voor, dacht ik. Ik besloot dus maar eens de telefoon op te pakken en te vragen hoe 'hard' deze eis eigenlijk was. Beate (Beatrice), nam de telefoon op. Niet wetende dat zij uiteindelijk mijn promotor zou gaan worden, had ik een enorm hartelijk gesprek waarna ze mij op het hart drukte dat het zeker géén harde eis was en dat ik maar moest solliciteren met mijn achtergrond. Niet veel later werd ik uitgenodigd voor een online gesprek met een 6-koppige commissie. De rest is geschiedenis. Beate, ik wil je ontzettend bedanken voor de kans en het vertrouwen dat je mij hebt geschonken om dit promotietraject samen aan te gaan. Van jou heb ik enorm veel geleerd over de *mores* van de academische wereld, onderzoek en vooral het vele schrijven wat erbij komt kijken.

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hele plezierige wijze hebben gebrainstormd. Het was al snel duidelijk dat er in ons team verschillende disciplines waren, ondanks dat deze verschillen er duidelijk waren zag jij vaak toch de overeenkomsten en was je bereid om jezelf te verdiepen in een ander vakgebied. En wie weet, misschien maak je nog eens de overstap naar 'ons' mooie vakgebied!

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kennen bij Advanced HRM waar we vanaf de meet zeker nog niet dikke matties waren. Sindsdien hebben we een hele hoop meegemaakt, zo zijn we samen met Elias in de FLIX bus naar Polen beland omdat we onze vlucht hadden gemist... Maar ook de vele conferenties, schrijfdagen, retraites, of hoe we keihard werken en daarna een paar flessen wijn soldaat maken tegenwoordig noemen. Niet alleen ben je voor mij een gerespecteerde vakgenoot, maar tegelijkertijd ook een goede vriend geworden. Gary, the fact that we met by chance at a conference in Brighton – where I was completely on my own – and that five years later you are now sitting on my committee, says it all. I want to thank you for the time and effort you have invested in making the journey from Wales to Nijmegen, not once but twice, in support of our research on community learning.

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Woorden, tekens, of figuren kunnen niet voldoende uitdrukken hoe dankbaar ik ben voor één persoon in het bijzonder: mama. Zonder jou had dit proefschrift er niet gelegen. Ondanks dat er niemand in onze familie eerder een wetenschappelijke opleiding heeft afgerond, heb je een ferme basis gelegd. Al ver voordat ik begon met promoveren heb je, zonder dat je het wist, me in staat gesteld om dit promotietraject af te ronden. Na de opofferingen die je voor mij en Iris als moeder gemaakt hebt, is het zien van jouw stralende, trotse gezicht als een turbo voor de motor.

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Nederlandse samenvatting

Dit proefschrift onderzoekt hoe leidinggevenden in de wegtransportsector kunnen bijdragen aan de duurzame inzetbaarheid van truckchauffeurs, en hoe hun ontwikkeling gericht kan worden versterkt via een Learning Community (LC). De centrale onderzoeksvraag luidt "Hoe beïnvloeden eerstelijns leidinggevenden in de Nederlandse wegtransportsector de condities die relevant zijn voor de duurzame loopbanen van vrachtwagenchauffeurs, en welke bijdrage levert een leergemeenschap aan hun ontwikkeling in deze context?". Die vraag is complex omdat zowel leiderschap als duurzame loopbanen sterk afhankelijk zijn van de context waarin mensen werken. De vier studies in dit proefschrift laten samen zien dat bestaande leiderschapsmodellen onvoldoende rekening houden met de kenmerken van blauwe boorden beroepen en dat leidinggevenden in deze sector werken onder omstandigheden die hun handelingsruimte zowel mogelijk maken als beperken.

Het werk begint met de vaststelling dat de meeste leiderschapstheorieën zijn gebaseerd op onderzoek onder 'witte boorden' werknemers. Hierdoor ontbreekt systematische kennis over hoe leiderschap werkt in beroepen waarin werk fysiek, tijdsgebonden en geografisch verspreid is. Een scoping review en exploratieve meta-analyse laten zien dat de relatie tussen leiderschapsgedrag en uitkomsten verschilt per beroepsgroep. Vooral voor blauwe- en groene boorden beroepen (militairen) is weinig empirisch materiaal beschikbaar. Waar wel data beschikbaar zijn, blijken leiderschapsstijlen niet universeel effectief. Dit onderstreept dat beroepscontext ertoe doet, en dat theorieën die gebaseerd zijn op kenniswerkers niet zonder meer toepasbaar zijn op truckchauffeurs. Deze bevinding vormde de basis voor een verdiepend onderzoek naar leiderschap in de wegtransportsector.

In de volgende studie is onderzocht hoe chauffeurs en hun leidinggevenden invulling geven aan leiderschap en wat dit betekent voor loopbaanduurzaamheid. Chauffeurs ervaren zichzelf als autonoom en verantwoordelijk voor hun eigen loopbaan, maar hun feitelijke handelingsruimte wordt sterk beperkt door planning, regelgeving, tijdsdruk en fysieke afstand tot hun leidinggevende. Hierdoor ontstaat een spanning tussen ervaren en daadwerkelijke handelingsruimte. Leidinggevenden verwachten dat chauffeurs initiatief tonen, maar bieden vaak niet de ondersteuning die nodig is om dat initiatief vorm te geven. Tegelijkertijd hebben zij wel invloed op de randvoorwaarden die loopbaangedrag mogelijk maken: toegang tot informatie, feed-

back, ontwikkelkansen en een planning die ruimte biedt voor leren. De praktijk laat zien dat deze invloed fragmentarisch wordt ingezet. Daardoor blijft duurzame inzetbaarheid voor chauffeurs vooral afhankelijk van dagelijkse routines, toevallige omstandigheden en relaties, terwijl juist deze dimensies door leidinggevenden worden beïnvloed.

Omdat deze spanning niet eenvoudig valt op te lossen, richtte het onderzoek zich vervolgens op de vraag hoe leidinggevenden beter toegerust kunnen worden. Hiervoor werd een Learning Community ontworpen waarin leidinggevenden gedurende zes maanden samen werken aan hun professionele ontwikkeling. De LC richt zich op gezamenlijke reflectie, herkenbare casuïstiek en het delen van dilemma's uit de praktijk. Deelnemers waarderen die opzet, maar de LC laat ook zien dat leren in een operationele sector niet vanzelf ontstaat. Wanneer de LC te open is ingericht, verdwijnt de energie. Wanneer de LC te strak is, ontstaat weerstand. De belangrijkste ontwerpuitkomst is dat effectieve professionele ontwikkeling in deze context vraagt om een balans tussen autonomie en structuur: deelnemers moeten hun eigen vragen kunnen inbrengen, maar hebben ook duidelijke begeleiding nodig om werkelijk tot verandering te komen.

De laatste studie onderzocht hoe leidinggevenden zich daadwerkelijk ontwikkelen door deelname aan de LC. Via een longitudinale opzet met interviews met zowel leidinggevenden als hun volgers blijkt dat ontwikkeling niet uniform verloopt. Sommigen veranderen fundamenteel in hoe ze hun rol zien en handelen; dit wordt door volgers ook opgemerkt. Anderen verbeteren hun werk stapsgewijs, zonder hun leiderschapsopvattingen te herzien. Een derde groep blijft grotendeels bij het oude en gebruikt de LC vooral ter bevestiging van bestaande routines. Deze drie ontwikkelpaden laten zien dat leiderschapsontwikkeling geen lineair proces is en sterk afhangt van de spanningen die leidinggevenden ervaren, hun motivatie om daaraan te werken en hun mate van actieve deelname.

Gezamenlijk laten de vier studies zien dat leiderschap in de wegtransportsector niet kan worden begrepen zonder rekening te houden met de beroepscontext. De duurzame inzetbaarheid van chauffeurs hangt samen met hoe leidinggevenden dagelijkse werkomstandigheden vormgeven, welke ruimte zij creëren voor reflectie en ontwikkeling, en hoe zij met chauffeurs communiceren over wat wel en niet mogelijk is. Een LC kan een zinvolle manier zijn om deze leidinggevenden te ondersteunen, maar alleen wanneer de opzet is afgestemd op de structurele

en sociale kenmerken van het werk. Dit proefschrift draagt hiermee bij aan leiderschapstheorie door beroep als relevante contextfactor te positioneren, en biedt organisaties handvatten om leiderschapsontwikkeling beter in te richten in sectoren waar duurzame inzetbaarheid steeds centraler komt te staan.

English summary

This dissertation examines how frontline leaders in the road transport sector can contribute to the career sustainability of truck drivers, and how their development can be strengthened through a Learning Community (LC). The central research question is: "How do frontline leaders in the Dutch road transport industry shape conditions that matter for truck drivers' career sustainability, and how does a learning community contribute to their development in this context?". This question is complex because both leadership and career sustainability are deeply shaped by the context in which people work. The four studies in this dissertation together show that existing leadership models insufficiently reflect the realities of blue-collar occupations, and that frontline leaders in this sector operate under conditions that both enable and constrain their influence.

The work begins by showing that most leadership theories are based on research with white-collar populations. As a result, we lack systematic knowledge of how leadership functions in occupations where work is physical, time-pressured, and geographically dispersed. A scoping review and exploratory meta-analysis demonstrate that relationships between leadership behaviors and outcomes differ across occupational groups. Blue- and green-collar occupations are especially underrepresented. Where data do exist, leadership styles do not appear to be universally effective. This indicates that occupational context matters and that theories built on knowledge-worker samples cannot automatically be applied to truck drivers. This insight formed the basis for a deeper investigation into leadership in the road transport sector.

The next study explored how drivers and their frontline leaders enact leadership and what this means for career sustainability. Drivers experience themselves as autonomous and responsible for their own career, yet their actual room to act is heavily constrained by planning demands, regulations, time pressure, and physical distance from their supervisor. This produces a tension between perceived and actual agency. Leaders expect drivers to take initiative, but often do not provide the support needed to make such initiative possible. At the same time, they do influence key conditions that shape career behavior—access to information, feedback, development opportunities, and planning arrangements. In practice, this influence is applied inconsistently. As a result, career sustainability for drivers depends largely on everyday routines, informal practices, and relational dynamics, even though these are precisely the areas where leaders can make a difference.

Because this tension cannot be solved through simple prescriptions, the research then examined how frontline leaders can be better equipped. A Learning Community was designed in which leaders engaged for six months in joint reflection, discussion of real workplace problems, and experimentation with new behaviors. Participants valued the recognizability of topics and the open exchange, yet the LC also showed that learning does not emerge automatically in a highly operational sector. When the LC was too open, engagement declined; when it was too structured, resistance increased. The central design insight is that effective professional development in this context requires a balance between autonomy and structure: leaders need space to bring in their own questions, but also require guidance and clarity to translate these questions into actual learning.

The final study examined how leaders developed through their participation in the LC. A longitudinal, multi-actor design, including interviews with both leaders and their followers, showed that development unfolds differently across individuals. Some leaders redefined their role and demonstrated clear behavioral change that followers recognized. Others made incremental improvements within their existing frame of thinking. A third group showed little change and used the LC primarily to confirm existing routines. These three developmental pathways illustrate that leadership development is not linear. It depends on the tensions leaders perceive, their motivation to work through these tensions, and the degree to which they actively engage in the learning process.

Taken together, the four studies show that leadership in the road transport sector cannot be understood without attending to occupational context. Drivers' career sustainability depends on how leaders shape daily work arrangements, create space for reflection and development, and communicate about what is possible within organizational constraints. A Learning Community can support this process, but only when its design fits the structural and social characteristics of the work. This dissertation thus contributes to leadership theory by positioning occupation as a critical contextual factor and offers organizations practical guidance for improving leadership development in sectors where career sustainability is becoming increasingly important.

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