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Joint Production Motivation and Interprofessional Learning in an Interorganizational Network

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university of
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"Ik zit mij voor het vensterglas,
onnoemelijk te vervelen.
Ik wou dat ik 'n multidisciplinair team was,
dan kon ik allemaal verschillende dingen."

Pieter Teekens
May 16th, 2017

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1

Introduction

1.1 | Introduction

This dissertation is about interorganizational networks: collectives of independent organizations that work together to reach common goals (Isett et al., 2011; Jones et al., 1997; Provan et al., 2007; Raab, 2018). Governments, formal organizations, and managers increasingly engage in interorganizational networks to deal with complex societal problems that require multiple stakeholders to cooperate across organizational boundaries (Agranoff, 2006; Ansell & Gash, 2008; Kickert et al., 1997; Raab et al., 2015; Shumate et al., 2022). Already in 1994, Lipnack and Stamps declared the arrival of the *Age of the Network* (1994), and empirical evidence shows this form of governance is still on the rise (Agranoff & Kolpakov, 2023; Mandell & Keast, 2009; Sørensen & Torfing, 2011).

The core question of this dissertation is what makes collaboration in interorganizational networks sustainable over time. In a review piece, Turrini et al. (2009) state that "the long-term sustainability and maintenance of a network has rarely been a topic for many scholars, and few empirical studies have explored this issue" (p. 533). This is particularly strange, given the fact that many collaborative efforts to sustain interorganizational networks over longer time periods fail (Getha-Taylor, 2019; Scott et al., 2018). The reasons why interorganizational networks fail are diverse. Since these networks comprise many independent organizations and individual employees, they have to deal with complex interdependencies. The danger of free-riding behavior looms large, as there may be opportunities to benefit from the efforts and resources of the members of the other organizations in the network (Partanen & Möller, 2012; Planko et al., 2017). Conversely, interorganizational collaboration as such may be robust, but the creation of benefits for the participants or outside stakeholders may dwindle (Lampel & Shamsie, 2003; Shumate et al., 2023). While these threats are endogenous to the collaborative effort (i.e., they are threats that emerge within the network), there are also external threats such as the Covid-19 pandemic that may hamper collaboration in interorganizational networks. In both cases the question is how organizations manage to keep their cooperation going and valuable.

To answer this question, this thesis argues that we need to understand under what conditions individual actors at different levels of an interorganizational network can be motivated to collaborate together in order to create joint value. This involves creating a social infrastructure in which the joint production of mutual benefits remains effective and efficient for the participants and the collectives they serve, even in adverse conditions (Wittek, 2022b).

In the following, we will first define interorganizational networks more precisely, and take stock of the literature surrounding their effectiveness, governance, and sustainability. There, we will argue that our understanding of the sustainability of interorganizational networks would benefit from an improved theoretical micro-foundation of organizational behavior (Cowen et al., 2022; Felin et al., 2015). We then describe how goal-framing theory (Lindenberg, 2001; Lindenberg & Steg, 2007, 2013) offers such a behavioral micro-foundation. Putting these elements together, we present an overarching theoretical framework for sustainability in interorganizational collaboration (Lindenberg & Foss, 2011). Following this theoretical overview, we present an overview of the empirical setting of this dissertation. We describe the background, organization, and governance of NetwerkZON, an interorganizational network operating in the education of health care workers in the North of the Netherlands. We conclude this introduction with a brief overview of the four empirical studies in this dissertation.

1.2 | Interorganizational Networks

That organizations engage in conscious collaboration with other organizations in network forms is by now more rule than exception (Agranoff, 2006). Processes of governmental decentralization and liberalization in the past decades have introduced the notion of the *Hollow State* (Fredericksen & London, 2000; Klijn, 2002; Milward & Provan, 2000), leaving a significant share of decision-making, service provision, and policy implementation to interorganizational networks (Ojo & Mellouli, 2018). Lazega (2020) argues that current societies are primarily organizational societies, where the interconnectedness of organizations plays a key role in shaping social change. Mayntz (1993) offers an analysis of how modernization and the network form co-evolve as autonomous (organizational) actors negotiate the complex problems around them. Interorganizational networks seem to be here to stay.

The study of interorganizational networks reveals them to stand apart from traditional modes of governance (Powell, 1990; Powell et al., 1996). Despite the debate regarding the precise nature of networks as either a separate or hybrid form of markets and hierarchies (see Vakkuri & Johanson, 2021), scholars agree that network organizing functions according to its own set of logics and mechanisms (Jung & Lake, 2011). Consequently, to work successfully and sustainably in networks requires different arrangements and regulations. In other words, the networked mode of organization has its own benefits and dangers, and requires specific mechanisms through which these can be realized or avoided.

1.2.1 | Defining Interorganizational Networks

Interorganizational networks are "group[s] of three or more organizations connected in ways that facilitate achievement of a common goal" (Provan et al., 2007, p. 482). Amidst a wide variation of conceptual and empirical definitions (Isett et al., 2011 offer a thorough review), this general definition is useful as it distinguishes three main dimensions that characterize an interorganizational network: its participants, the relations between them, and the presence of a common goal that provides a *raison d'être* for the network (Carboni et al., 2019). The definition captures the wide range of forms that interorganizational networks take. Examples in which governmental bodies, non-governmental organizations, and other stakeholders collaborate are policy networks (Lamping et al., 2013; Laumann & Knoke, 1987), public-private partnerships (Dhillon, 2015; Getha-Taylor, 2019), public good provision networks (Ihm et al., 2015; Provan & Milward, 2001), and disaster response networks (Abbasi & Kapucu, 2012). There are also interorganizational networks without governmental organizations, which are then often directed at more private interests, such as joint alliances (Flanagin et al., 2006; Gulati, 1998), and innovation networks (Collins & Clark, 2003; Thorgren et al., 2009).

The building blocks of interorganizational networks are organizations and the individuals that act on their behalf (Saz-Carranza & Ospina, 2011; Susskind et al., 2011). The organizations comprising interorganizational networks vary widely, potentially including government agencies, nonprofits, and for-profit organizations (Isett et al., 2011). Interorganizational networks frequently contain a diverse mix of organizational types, although there are also networks that contain only one type of organization, such as joint alliances in which for-profit companies share resources to develop innovations in R&D-programs (Oxley & Sampson, 2004). An interorganizational network requires at least three participating parties as a minimum to be a proper network (Provan et al., 2007). When two organizations collaborate repeatedly with one another, the literature describes this as *dyadic* collaboration. Although such dyadic collaborations can be valuable for organizations, the addition of more members brings with it completely new levels of complexity and interdependence (Kenis & Knoke, 2002; Powell et al., 1996; Raab, 2018). The presence of three or more organizations therefore requires and warrants its own particular conceptual category.

Interorganizational networks contain organizations that are connected to each other in multiple ways. These relations can take multiple forms. Some of these relations are explicit and formal, as organizations share resources or have contractual relations (Jarillo, 1988; Planko et al., 2017), while other relations are based on membership in particular social groups (Provan & Sebastian, 1998). Additionally, informal relations outside of the workplace, such as friendship, can play a key role in interorganizational networks. Chetty and Agndal (2008), for instance, provide a

detailed account of how friendship ties were essential for the development of an interorganizational network in the Auckland boat-building industry. Finally, ties between organizations do not always have to be active, as the work on latent ties shows (Mariotti and Delbridge, 2012). However, neither informal nor latent relations can be the sole connecting factor between organizations, as interorganizational networks require some level of formalization or stability in order to count as a network (Kickert et al., 1997). Connections between organizations are *multiplex* (Lazega, 2020; Provan & Milward, 2001), meaning that different types of interaction between organizations occur simultaneously and have joint effects on the functioning of the network.

A common goal provides the interorganizational network with a reason to exist (Human & Provan, 2000; Saz-Carranza & Ospina, 2011). Even in highly heterogeneous networks containing a diversity of organizational stakeholders, having congruent ideas about what the joint goals are is essential (Lemaire, 2020). The common goal needs to be salient for the interacting participants. This distinction is important, as it differentiates interorganizational networks from other ways in which organizations can be interconnected. A case in point are interlocking directorates (Mizruchi, 1996), in which a relatively small set of individuals occupy positions in multiple organizational boards (Stokman et al., 1985). The interlocking of such directorates may have far-reaching effects on the functioning of particular organizations, but they do not necessarily reflect intended action of the organizations who are connected through an interlocking director. To account for this difference, Kilduff and Tsai (2003) distinguish *goal-directed* networks from *serendipitous* networks that come into being by chance, and describe how the processes and mechanisms governing both types of networks differ substantially (pp. 90-92).

An additional aspect of collaboration in interorganizational networks that is often included in its definition is the fact that the common goal of the interorganizational network cannot be produced by either a marketplace or by one single organization (Shumate et al., 2023). Particularly among scholars in public administration, this distinction is often added to differentiate interorganizational networks more explicitly from markets or single organizational entities, indicating that neither of those is able or willing to produce a public good (Isett et al., 2011). Often, interorganizational networks appear in the face of *wicked problems* (O'Toole, 1997; Rittel & Webber, 1973). Weber and Khardemian (2008) uncover three characteristics of such problems: (i) they are unstructured, meaning a piecemeal solution is not available yet; (ii) they are cross-cutting, indicating they span the immediate interests of multiple stakeholders; and (iii) relentless, designating any solution brings with it a new aspect of the problem (p. 336). Dealing with such problems inherently requires the cooperation

of several individuals, organizations, and governments related to the problem at hand (Ansell & Gash, 2008; Jones et al., 1997), and interorganizational networks are particularly adept to provide public goods, such as health care (Scheaff & Schofield, 2016) and disaster management (Nowell et al., 2018).

1.2.2 | Defining Sustainable Cooperation

Although our understanding of the inner workings of interorganizational networks is steadily increasing, one of the urgent questions that remains is the question of their sustainability (Getha-Taylor, 2019). Despite the possible benefits that interorganizational networks bestow on particular collectives, empirical research shows that reaching those objectives is difficult, and that networks that manage to do so over longer time periods are very rare (Scott et al., 2018). The question is therefore important, as collaborative efforts otherwise drown in good intentions, with potential wasted resources and potential benefits foregone. However, to understand how interorganizational networks can cooperate sustainably, it is essential to conceptualize clearly what sustainability in collaboration is, and how it differs from related notions such as effectiveness and resilience.

We define sustainable cooperation as the extent to which "the social infrastructure for the joint production of mutual benefits remains effective and efficient in producing outcomes that are valuable for both the participants in the joint production and society, also under adverse conditions" (Wittek, 2022b, p. 6). Although the terms *resilience* and *sustainability* are often used interchangeably, there is an important distinction between the two concepts (Elmqvist et al., 2019). The resilience of a system is often defined as its capacity "to experience shocks while retaining essentially the same function, structure, feedbacks, and therefore identity" (Walker et al., 2006, p. 2). The resilient capacities of collaboration deal with a social system's ability to absorb an external shock, and to bounce back to the situation as it was before. Elmqvist et al. (2019) stress how resilience thus is a functional characteristic of a collaborative effort, as it focuses on the *means* of collaboration, rather than focusing on ends. See Table 1.1 for an overview of the relevant definitions regarding effectiveness, resilience, and sustainability.

Shared value-creation, however, is an essential aspect of the sustainability of collaboration. Dividing collaborative sustainability into two dimensions of collaborative resilience (the extent to which a collaborative effort manages to continue operating) and shared value creation (the extent to which a collaborative effort manages to create shared values) results in the typology reproduced in Table 1.2 (Holzhacker et al., 2016). Quadrant I, characterized by *low collaborative resilience*, and *low shared value creation*, contains unsustainable collaborative efforts, that will decay unless they move into the direction of the other quadrants.

Table 1.1

Selected Definitions of Interorganizational Network Effectiveness, Resilience, and Sustainable Cooperation

Concept	Definition	Source
Interorganizational network effectiveness	The effects, outcome, impacts and benefits that are produced by the network as a whole and that can accrue to more than just the single member organizations in terms of increasing efficiency, client satisfaction, increased legitimacy, resource acquisition, and reduced costs.	Turrini et al. (2009, p. 529)
Resilience	The ability of an urban system and all its constituent socio-ecological and socio-technological networks across temporal and spatial scales-to maintain or rapidly return to desired functions in the face of a disturbance, to adapt to change and to quickly transform systems that limit current or future adaptive capacity.	Elmqvist (2019, p. 269)
Organizational resilience	The ability to adapt to internal/external disturbances, maintain integrity as a system, reorganize itself, and increase capacity by transforming challenges into opportunities for learning and innovation.	Witmer and Mellinger, used by Getha-Taylor (2019)
Social resilience	The capacity of groups of people bound together in an organization, class, racial group, community or nation to sustain and advance their well-being in the face of challenges to it.	Hall and Lamont (2013, p. 6)
Sustainable cooperation	The social infrastructure for the joint production of mutual benefits remains effective and efficient in producing outcomes that are valuable for both the participants in the joint production and society, also under adverse conditions.	Wittek (2022b, p. 6)

Table 1.2

Typology of Collaborative Resilience and Shared Value Creation

	Ends	Shared value creation	
Means		Low	High
Collaborative resilience	Low	I	II
	High	III	**IV**

Note. This table is reproduced from Wittek (2022b, p. 21)

Quadrant II contains collaborative efforts that are *low in collaborative resilience*, but *high in shared value creation*. Interorganizational networks in this quadrant are effective in creating values for themselves, or for the communities they serve, but they are vulnerable to sudden shocks. Given that interorganizational collaborations arrive at critical junctures in their collaborative lifespans (Getha-Taylor, 2019), collaborative efforts in this quadrant will not manage to adapt to sudden changes. Note that such critical junctions can be either exogenous, such as when governmental support suddenly disappears (Agranoff & Kolpakov, 2023), or endogenous, such as with the sudden departure of a key organizational actor (Müller-Seitz, 2012).

Collaborative efforts in quadrant III are characterized by *high collaborative resilience*, but with *low shared value-creation*. Interorganizational networks in this quadrant are resilient to threats, and are able to adapt their functioning when situations change, but their value-creation stagnates over time (Koppenjan & Klijn, 2004). Such cases are dubbed *collaborative inertia* by Huxham (1996, 2003), who shows that situations of stagnating value-creation in continued collaborative efforts occur quite often. Emerson and Gerlak (2014) provide an interesting case study in national estuary management programs in the United States, showing that these collaborative efforts focused a lot of their time and resources on adapting to changing institutional arrangements, with shared value-creation losing focus in the process.

Quadrant IV contains *sustainable collaborative* efforts. Here, interorganizational networks manage to combine their consistent value-creation with resilience to shocks. Note that the conceptualization of social resilience of Hall and Lamont (2013), in which social resilience entails the sustained creation of favorable outcomes to the collaborating parties, comes close to the sustainable cooperation that occurs in this quadrant. However, the distinguishing feature between sustainable cooperation in a social system from social resilience is that collaboration can only be sustainable if it produces joint mutual values for both the collaborating parties and external stakeholders (Wittek, 2022b). Interorganizational networks, following our

definition, are able to cooperate sustainably to the extent to which they produce of mutual benefits remains effective and efficient in producing outcomes that are valuable for both the participants in the joint production and society, also under adverse conditions.

Given that sustainable collaboration is often the desired state of an interorganizational network, it becomes imperative to identify which governance strategies these networks can employ to either achieve or maintain this state. The empirical research presented in this dissertation focuses on NetwerkZON, a healthcare interorganizational network with over 25 years of operation. Given its longevity and success, we view NetwerkZON as a prime example of collaboration within the desired Quadrant IV.

1.3 | Explaining Sustainable Cooperation in Interorganizational Networks

In order to explain what makes cooperation in interorganizational networks sustainable, we thus need to understand how interorganizational networks can become effective in their shared value creation *and* resilient toward shocks. Following Wittek's (2022b) definition of sustainable cooperation, we then need to come to an understanding of which *social infrastructures* could be in place in order to maintain sustainable collaborations. As the literature on the effectiveness of interorganizational networks is much more developed than the literature on resilience or sustainability, we first turn to network effectiveness. The two main lessons we take away from the review of network effectiveness are that (i) the effectiveness of networks, and the mechanisms explaining it, take place simultaneously at several levels, necessitating a multilevel conceptualization of interorganizational networks, and that (ii) the many configurational explanations of determinants of network effectiveness call for a deeper understanding of the mechanisms that lead to collaborative behavior. Our discussion of the literature on resilience in interorganizational networks will further underscore the need for a better theoretical micro-foundation of organizational behavior.

1.3.1 | Interorganizational Network Effectiveness

In the entry on *Interorganizational Networks* in the *Encyclopedia of Social Network Analysis and Mining* (Alhajj & Rokne, 2018), Raab succinctly summarizes one of the key insights in the explanation of network effectiveness: "Interorganizational networks matter at three levels" (2018, p. 1137). These three levels are the organization itself, the network it belongs to, and the wider community or society they serve (Jang & Valero, 2023). For organizations, interorganizational networks matter because they influence their position in a sector, knowledge, opportunities and constraints (Luzzini

et al., 2015; Planko et al., 2017). On the network level, the collaboration produces outcomes for the participating organizations, for instance by reducing production costs or by jointly developing innovations that each participating organization can use. Additionally, network level outcomes are the costs the network incurs to keep operating (Oxley & Sampson, 2004). At the level of communities, networks can be effective in public good provision, by delivering a service or product, or by influencing or co-creating policies that affect the larger community (Provan et al., 2007; Zakocs & Edwards, 2006).

While networks can matter at three different levels, the mechanisms and processes that lead to network effectiveness operate in intricate ways in and between these levels. Raab (2018; Raab et al., 2013) describes that, if one assumes three possible units of analysis in networks (i.e., organizations, their dyadic relationships, and whole networks), the number of possible theoretical approaches to antecedents and outcomes can be contained in a 3 by 3 matrix. Baker and Faulkner (2017) extend this argument, arguing that interorganizational networks should be seen as a three-dimensional box, with organizations in the rows and columns, and their multiplex relations as separate layers. Each layer then represents a particular type of relation (e.g., contractual, informal) between the organizations. When comparing whole networks, one is effectively assessing multiple three-dimensional structures.

By focusing on the multiplexity of potential relations that may exist between organizations, Baker and Faulkner (2017) draw attention to a key unit of analysis in the functioning of interorganizational networks: the individual organizational actor. In a series of studies, Lazega and colleagues (Lazega, 2020; Lazega et al., 2008; Lazega & Mounier, 2002) stress the importance of recognizing how individual actors may play a significant role in connecting organizations with one another. Following the argument that organizations consist of individuals, and that therefore the main explanation of organizational functioning is located in individual action (Coleman, 1994; Felin & Foss, 2005) , the same might be said of interorganizational networks: we need to understand the intricate interplays of the acts of organizational actors in order to explain how network effectiveness (and sustainability) come into being. However, the main theoretical models of interorganizational network effectiveness leave implicit what their model of individual actors' behavior is. We will briefly discuss these models here.

In their foundational study, Provan and Milward (1995) developed a preliminary theoretical framework explaining the conditions that would lead to network effectiveness. Their framework distinguishes two essential characteristics of networks, being network structure and network context. Network structure regards first the way in which the network is centrally integrated, as research found that a network requires a strong central core of organizations that steers the collective endeavor (cf. Provan et al., 2007). Second, Provan and Milward state that networks will function more effectively when there is direct external control, instead of more fragmented forms

of control. Together, control and centralized integration affect network effectiveness, but these direct effects are influenced by the contexts in which the interorganizational networks operate. In order to reach their outcomes, interorganizational networks need to operate within stable social systems that have high levels of resource munificence.

The preliminary model of Provan and Milward (1995) proved to offer fruitful grounds to subsequent empirical research, through which the model was extended and specified. Provan and Sebastian (1998) investigated in more detail the structure of collaborative relations in a network, finding evidence that a fully centralized network might not be most effective in reaching particular outcomes: instead, networks with sub-cliques connected to each other through a small number of overlapping actors were shown to be more efficient in coordination (cf. Pallotti et al., 2015). Analyzing the growth of a network, Human and Provan (2000) showed how the development of legitimacy was essential in propelling network growth; later, legitimacy was divided into external legitimacy for the participating organizations and external legitimacy for the collective for which the network operates. Another seminal contribution was made by Provan and Kenis (2007), who recognized that three modes of governance formed the way in which interorganizational networks were coordinated. Interorganizational networks either *shared governance* among network members, were governed by one *lead organization*, or coordinated their actions through a *Network Administrative Organization* which is a separate organizational entity tasked with governing the network. Depending on the goals and participants of the network, different modes of governance were theorized to be most effective.

Building on the foundational work of Milward and Provan, Turrini et al. (2009) and Schumate (2023) developed more comprehensive models of the effectiveness of networks. In the model of Turrini et al. (2009), three types of characteristics predict the effectiveness of a network: network structural characteristics (e.g., size, formalization), network functioning characteristics (e.g., stability, or the ability to steer network processes), and contextual characteristics that moderate the effects of structural and functioning characteristics (e.g., support from the community and resource munificence) (p. 546). Shumate et al. (2023) add to this model the importance of the *theory of change* by which the network attempts to achieve its goals, stressing that different network aims (such as producing new products in projects, or creating policy together with stakeholders) can be achieved through different network mechanisms (see also Shumate et al., 2022).

A common thread in the literature on network effectiveness is its emphasis on configurational combinations of the determinants that lead to success (Raab et al., 2013; Shumate et al., 2022). Many determinants *can* play a key role, but there is not *one* recipe that leads to an effective network (Cristofoli & Markovic, 2016). For instance, while resource munificence is commonly recognized as a key contextual factor contributing to interorganizational network effectiveness, Raab et al. (2015)

demonstrate that resource scarcity can be surmounted through the adoption of specific coordination mechanisms within the network. Interorganizational networks may have different ends, and each end may have different means to be achieved. Although this conception of *equifinality*, where multiple pathways towards an outcome of interest exist, acknowledges the complexity of interorganizational network functioning (Scott et al., 2018), it raises the question what underlying mechanisms drive the behavior of network participants.

1.3.2 | Interorganizational Network Sustainability

The literature on the sustainability and resilience of interorganizational networks is much less developed and systematized than that on network effectiveness. This led several scholars, such as Turrini et al. (2009) and Isett et al. (2011), to lament the paucity of knowledge regarding the long-term sustainability of networks, particularly in light of the strong indications that many interorganizational networks do not survive over longer periods of time (Fredericksen & London, 2000; Scott et al., 2018).

In one of the few pervasive studies of interorganizational sustainability, Getha-Taylor (2019) provides a comprehensive overview, arguing that three strands of theoretical work together explain the sustainability of collaborative efforts: collaborative benefits, organizational life-cycle theories, and adaptive resilience theory. Collaborative benefit theory (Vangen & Huxham, 2006) is necessary to explain why organizations should collaborate in the first place. Life-cycle theories (Bonn & Pettigrew, 2009) point towards the cyclical nature of organizational behavior, where organizations go through inevitable phases of growth, consolidation, and decline. The adaptive resilience capacities are the characteristics that allow organizational collaborations to survive, bounce back, or improve in situations of shocks. Work on interorganizational resilience by Gonçalves de Almeida et al. (2020) indeed shows that organizational collaborative capabilities matter in predicting the resilience of networks. Van Hoof and Thiel (2014) trace those collaborative capabilities to individual organizational actors, who carry the capacities to work across organizational boundaries. Recognizing that various interorganizational collaborative efforts go through critical junctions, Getha-Taylor (2019) concludes that a number of predictors are particularly beneficial for sustaining collaboration over time: social capital, community buy-in, leadership, structure, and resource diversity (p. 44).

The significance of social capital, as identified by Getha-Taylor (2019) is echoed in other research concerning interorganizational network resilience. There are two primary interpretations of social capital: one centers on trust, while the other emphasizes norms. With *trust* as a core coordination mechanism, organizational actors make a risk assessment of their potential choices in the light of the expected behavior of other organizations. When trust is present, organizational actors can rely

on it as a substitute for formal contracts or for compensating with higher monetary payments (Costa & Bijlsma-Frankema, 2007). If there are high levels of trust between organizations, this increases the predictability of their choices, thereby smoothening the collaborative effort (Rampersad et al., 2010). Moreover, trust can mitigate the negative impacts when one organization's actions harm collaborative partners by framing such actions as unintentional, and thus increasing the likelihood of forgiveness (Wittek, 2003).

A second interpretation of social capital appears in explanations linking the presence of social norms to resilience. Thurmaier and Wood (2002) find that actors engaging in interorganizational collaboration do not frame their actions in economic terms, instead finding "there are more alternative values that better explain the existence and continued propagation of the [collaboration]. [...] The foremost value that was explicitly stated by more than one actor [...] is a norm of reciprocity culture" (pp. 594–595). Here, the explanation focuses on reciprocity, where one actor expects others to return their contributions to the collective (Jolink & Dankbaar, 2010). Perceived obligations to conform to reciprocity norms are found to be stricter when organizational actors more strongly identify with the collective (Min et al., 2008). Additionally, norms of reciprocity are also shown to affect negotiation processes in the agenda-setting of interorganizational networks. Given that networks often include a diverse set of organizational actors, who may have divergent visions on particular issues, reciprocity norms would dictate openness (Di Domenico et al., 2009). Allowing for such divergent views would make the collaboration more resilient, as the collaborative effort would more smoothly manage its way around the ambiguity (Nicholls & Huybrechts, 2016).

1.3.3 | The Need for a Theoretical Micro-Foundation of Behavior in Interorganizational Networks

This brief overview of the literature on effectiveness and sustainability shows that current explanations of interorganizational network functioning often contrast and overlap. The root of these contrasts can be traced to differing underlying conceptualizations of individual decision-making processes. Individuals act in a wide variety of ways, sometimes acting selfish, and sometimes acting to the best interest of the collective (Fehr & Fischbacher, 2004; Fischbacher et al., 2001). Nevertheless, studies differ in which type of behavior they assume to be the default. Some studies assume a selfish actor who pursues mostly individual gains, a so-called *homo economicus* (e.g. Baker & Faulkner, 2017; Collins & Clark, 2003; Gulati, 1998; Oxley & Sampson, 2004; Partanen & Möller, 2012; Planko et al., 2017). Yet, starting with

Powell's differentiation of networks away from markets and hierarchies (Powell, 1990), other scholars emphasize the inherently prosocial nature of humans (*homo cooperans*) (e.g. Conrad et al., 2003; Ferlie & Pettigrew, 1996; Thurmaier & Wood, 2002; Weiner & Alexander, 1998; Zakocs & Edwards, 2006).

It is the contradiction between these types of decision-making that make it difficult to explain the sustainability of interorganizational collaborative networks. As actors have the capacity to act selfishly and collectively in different situations, we need to understand under which conditions one type of decision-making dominates the others. To be able to explain the sustainability of interorganizational networks, one needs to be able to explain under which circumstances individuals are inclined to contribute to the collective, and when the organizations pursue their own individual goals. Why is this the case? Because this shifting between pursuing organizational and interorganizational goals is the *core* of network collaboration: actors collaborate for the collective good, but they must ensure that their work is not exploited by the collective, nor that the collective value creation stagnates. Goal-framing theory may fill this gap.

1.3.4 | Goal-Framing Theory

Goal-framing theory (Lindenberg, 2008b; Lindenberg et al., 2021; Lindenberg & Steg, 2013) is a theory of human goal-directed behavior that captures the shifting nature of motives that individuals can have in different contexts. It bridges the default conceptualizations of humankind of the *homo economicus*, who always pursues egoistic motives, and the *homo cooperans*, who follows norms blindly (Lindenberg, 1990, but see De Moor, 2013; De Moor et al., 2016). By assuming the micro-theoretical theory of action of either the rational choice actor or the norm-following cooperator, Lindenberg (2008b) warns, "one misses out on the architecture of flexible links between the individual and the action situation" (p. 681). To sketch out this architecture, goal-framing theory offers a social rationality approach (Lindenberg, 2001; Wittek, 2022a; Wittek et al., 2013). The core of the argument is that the goals that individuals strive for and the situation in which they find themselves are intricately linked to one another. Depending on the framing of their situation, the preferences and behavior of people differ.

A (by now classic) illustrative example of the impact of different framings of situations is given by Liberman, Samuels and Ross (2004), who provided two sets of experiment participants with a social dilemma game. Briefly put, social dilemma games revolve around the question whether to contribute to a common pool of resources, or to keep your resources for yourself, where the pay-offs for one individual are designed to be highest if everyone but you invest all their resources in the common pool (Axelrod 1984). In this particular study, the only difference between the two

groups was the provided name of the game: where one group was presented with a "Community game", the other group was told they were to participate in a "Wallstreet game". Despite the exact same pay-offs, labeling the game differently had a stark effect on the outcomes: while in the "Community game" 66% of the participants chose to cooperate, the Wallstreet game only had 31% of participants cooperating. The interpretation of these results is that the connotation of Wallstreet led people to believe it was better to pursue personal gains, whereas the community game incited more collaboration in its participants.

Goal-framing theory takes as its point of departure the link between situational contexts and goals that are cognitively salient to individuals (Lindenberg et al., 2021; Lindenberg & Steg, 2013). The goal that is most cognitively salient to an individual is called a *goal-frame*, as it frames "what we attend to, what chunks of knowledge and what concepts are being activated, what we like or dislike, what we expect other people to do, what alternatives we consider, what information we are most sensitive about, and how we process information" (Lindenberg, 2018, p. 121). Goal-framing is often an unconscious process, with cues from the environment framing the goals that individuals attend to: in the example of the Community versus Wallstreet game, participants were not necessarily aware that they were framed in their goals (Lindenberg, 2008b). To certain degrees, humans can be able to self-regulate their goal-frame, but even then, contextual cues have a large impact on which frame is salient in a given situation (Lindenberg, 2013).

Goal-framing theory posits that the frame through which individuals perceive their situation, can be categorized into *overarching goals*. The three overarching goals are the *hedonic* goal, the *gain* goal, and the *normative* goal. Each overarching goal has different cues in the environment that make it salient, and each goal-frame has different goals that individuals prefer to pursuit.

The hedonic goal-frame deals with the individual's state of being in the here and now. When a hedonic goal-frame is salient, individuals are acutely aware of how they are feeling, and attention is focused on how to improve the immediate situation. Hedonic goals are, for instance, increasing the comfort or pleasure that someone is experiencing, or decreasing the effort that it costs to follow a particular course of action. At its most basic level, the satisfaction of physical needs and preferences is a prime example of behavior that falls under the hedonic goal-frame. When a hedonic goal-frame is salient, individuals pay particular attention to cues of excitement, sensory experiences, and physical or intellectual efforts.

The gain goal-frame guides an individual's attention towards their state of being in the future. The gain goal-frame activates goals that are aimed to improve resources in the future, and the archetypical example of behavior in a gain goal-frame is the act of paid labor. When a gain goal-frame is salient, the attention of an individual

is geared towards potential benefits that a particular type of behavior may bestow on them in the future. An example of a cue that draws our attention to the gain goal-frame is the price of a particular product, as it draws our attention to the fact we cannot spend the resources on another product after the purchase of this particular one.

The normative goal-frame stresses the appropriateness of behavior: it focuses people on what they believe is the appropriate thing to do (Lindenberg, 2013). The normative goal-frame, unlike the hedonic and gain goal-frame, is thus focused on supra-individual, or collective, identity (Lindenberg & Foss, 2011). When a normative goal-frame is activated, people are more aware of both their personal norms, as well as injunctive norms that specify what people believe you ought to do (Cialdini et al., 1990). The feelings of *oughtness* present themselves by increasing the subjective importance of norms, increasing negative reactions to norm violations, and increasing the obligation to follow the norm (Lindenberg, 2013).

To illustrate the overarching goals that may frame a situation, consider a health care student who has to choose where to pursue their internship program in order to complete their vocational education. If they are offered a choice between several organizations, a student in a hedonic goal-frame will consider mostly physical and immediate concerns, and will probably opt for the organization closest to home. After all, this decreases travel time, and increases the odds of meeting others whom they already know. For the student with a salient gain-goal, the organization that offers the best remuneration will probably be the best choice, or perhaps the most prestigious organization. For the student with a salient normative goal-frame, considerations will regard the help they may offer to target groups who are most in need: maybe they just received news that the elderly care homes are in dire need of help, and the student then decides that this is where they can be of most use.

There are two more core assumptions to goal-framing theory. They relate to the relationships that the overarching goals have to each other and how individuals can shift between goal-frames. The first assumption is that the overarching goals have different a-priori strengths (Lindenberg & Steg, 2007). The difference in strength causes a hierarchization of goal-frames, where the hedonic goal is the strongest, followed by the gain goal-frame, and the normative goal-frame being the weakest and most brittle. The gain goal-frame and the normative goal-frame therefore require extra support from situational contexts, as they otherwise would decay and the hedonic goal would become salient. The function of this hierarchy in goal-frames is argued to be evolutionary (Lindenberg, 2008b): hedonic goals are the most immediate, and therefore require the most immediate attention in order to survive. As humankind evolved, the gain goal-frame started appearing as a pathway to survival. Evolutionary evidence indicates that the ability to acquire a normative goal-frame most recently (Dunbar, 2003; Tomasello et al., 2005). Lindenberg and Foss (2011) provide an eloquent

reasoning why the normative goal-frame would be more precarious than the other goal-frames: "From an evolutionary point of view, this precariousness makes sense because it is the group that is instrumental for individual adaptive advantages, rather than the other way around" (p. 502).

The second core assumption deals with *background* and *foreground* goals. This assumption asserts that only one overarching goal can frame a situation (i.e., be salient at a time), but that other goals continue functioning to a lesser degree in the cognitive background. In other words, individuals can have mixed motives for one particular type of behavior (Lindenberg & Steg, 2007). In their interactions, background goals can either strengthen, weaken, or replace the focal goal. When background goals align with the focal goal-frame, this supports the stability of the foreground goal-frame. In the illustrative example of before, if the student enjoys the work that they perform at their internship organization, the enjoyment from the hedonic goal may strengthen the stability of the gain-goal frame to receive the credits for completing the program. Background goals can also weaken the focal goal-frame, which would happen when the work that the intern has to be is not enjoyable at all. At first, this feeling might put a strain on the gain goal-frame, but if the hedonic goal of comfort becomes too salient, it might even overtake the gain goal-frame, and the student might feel that stopping the internship program is the only real option.

Goal-framing theory has found its most widespread application in studies regarding environmental behavior (Lindenberg & Steg, 2007, 2013; Steg et al., 2016), where empirical studies as those by Johnson et al. (2021), Khan et al., (2023), and Vermeir et al. (2020) apply the framework to predict how and when individuals are willing to contribute more to make environmentally-friendly choices. In another widely-cited publication in Science, Keizer et al. (2008) showcase the validity of the claims of goal-framing theory through a number of "natural experiments", in which they successfully attempt to provide cues for normative goal-frames in random by-passers. An illustrative example is that individuals were much more likely to ignore a sign prohibiting them from walking through a fence when there were bicycles parked against it, then when the fence was "clean": apparently, the parked bike provided a hedonic cue that someone else violated a norm, which activated the hedonic goal-frame in the (unknowing) participants. As a result, people decided to take the quickest route, ignoring the sign, in line with their hedonic goal-frame.

1.3.5 | Joint Production Motivation

In a series of articles, Lindenberg and Foss (Lindenberg & Foss, 2011; Foss & Lindenberg, 2013; Bernacchio et al., 2022; Weber et al., 2023) have also shown the promise of goal-framing theory for situations of joint production. With these studies, Lindenberg and Foss use goal-framing theory to explain how individuals—often

employees—can be motivated to work jointly in work place situations. They call this particular type of motivation *joint production motivation,* which they define as "a special kind of motivation that is particularly geared to the fact that organizational members need to engage in collaborative activities such that organizations that tap into it would gain a performance advantage" (Lindenberg & Foss, 2011, p. 500). By definition, joint production motivation thus constitutes a motivation on a supra-individual level; some specific mindset individuals have in which they want to work for the common good, rather than make decisions based on their own immediate benefits and costs. When this motivation is prevalent among cooperators, Lindenberg and Foss (2011) argue, the attaining of goals on a group level will be most efficient and effective.

In goal-framing terms, joint production motivation thus requires the normative goal-frame to be activated in collaborative contexts (Lindenberg & Foss, 2011). When collaborators have an activated normative goal-frame in the foreground, they will be motivated to do their best for the organization, while the other two goal-frames would yield less results. For instance, for collaborators with an active hedonic goal-frame, their attention will be drawn towards the comfort or excitement of a particular task, running the risk of shirking behavior. The gain goal-frame has a more prominent place in behavior in the workplace. Nevertheless, there are dangers to having a constant gain goal-frame activated in work-place settings: internal competition and signs of hierarchical status become more important in these goals, and individuals will be more aware of how other individuals might be improving their resources in the moment. When a gain goal-frame is salient, employees will work for organizational goals as much as it aligns with their opportunities, and neglect collective goals when they perceive them as constraints in their career, income, or status (Lindenberg, 2003).

Recognizing that joint production motivation may involve the sustained activation of a normative goal-frame, Lindenberg and Foss (2011) then ask: how can such a normative goal-frame be supported? Which governance methods are at the disposal of organizations in order to strengthen the normative goal-frame? Their answer comes in form of four antecedents of joint production motivation, that indicate how workplaces could be designed to sustain joint production motivation. The first antecedent considers the team and task design of the workplace. Here, the keyword is interdependence: when collaborators realize the complementarity of their tasks and roles, they will be more inclined to work together (Wageman, 1995). This is, perhaps, the *key* antecedent to efforts of joint production: if tasks are not interdependent, individuals can also do the tasks alone, drawing attention away from the collectiveness of the task.

The second antecedent deals with direct support for the normative goal-frame. Such direct support can be found in symbolic and cognitive management. Emphasizing the normative value of the joint production will provide strong cues for the normative goal-frame. The normative value of the joint collaboration explains why individuals

are more easily motivated to work in non-profit organizations (Serra et al., 2011), but Lindenberg and Foss argue that also in for-profit organizations, stressing the normative value of the produced outcomes will increase motivation (2011). A second mechanism that will increase the strength of the normative goal-frame is social contagion. One of the strongest possible cues in the environment on the appropriateness of behavior is the behavior of others (Aarts et al., 2004; Lindenberg et al., 2021; Silitonga et al., 2019). Therefore, Lindenberg and Foss suggest the importance of managers in organizational showcasing the salience of their own normative goal-frame.

The third and fourth antecedent draw their theoretical grounds from the fact that the brittle normative goal-frame can be supported by background goals. By aligning gain goals with the normative goal-frame, the normative goal-frame can become even more salient and stable. The third antecedent, therefore, is an alignment of incentive structures with team outcomes, rewarding the people that manage to contribute to the goals of the collective. It is, however, essential to not overemphasize the pecuniary incentive structure, as this would allow the gain goal to overtake the role of the normative goal-frame (Mühlau & Lindenberg, 2003). Lindenberg and Foss therefore suggest to increase the social dimension of the reward structure, meaning that team recognition becomes more important.

The fourth antecedent deals with decision-making processes, which need to be based in expertise and not in authority. From a goal-framing perspective, joint value production hinges on the *collectiveness* of the effort, and allocating decision-making powers solely on hierarchy would push the potential individual contributions to the joint product to the background. Therefore, emphasizing the individual contributions to the achievement of collective goals would strengthen the interdependence of the individual and the group.

1.4 | Joint Production Motivation in Interorganizational Networks

In this dissertation, we contend that goal-framing theory and the concept of joint production motivation may be particularly suited to explain the sustainability of interorganizational networks. The reasons for this are manifold. First, interorganizational networks are by their very definition situations of joint value-creation; after all, organizational actors participating in interorganizational networks must have a goal towards which they are collaborating (Lemaire, 2020). The theory of joint production motivation lays the groundwork between the goals that are produced jointly, the organizational motivations to collaborate, and the sustainability of such endeavors when the immediate gains are not immediately salient.

Second, the theory of joint production motivation has a dynamic model of goal-oriented behavior, which allows for an analysis of the conditions under which actors are motivated to create value jointly. The theory allows for organizational actors to be motivated differently in different situations, without being internally inconsistent. This is not merely an academic benefit in modelling the behavior of organizational actors, but it also allows for an analysis of when norms of reciprocity and explanations of trust could play a role in network functioning.

Third, a major benefit of the goal-framing theory is that it allows for an analysis of the institutional arrangements that may support the normative goal-frame in interorganizational collaboration (Wittek, 2022b). In the influential work of Ostrom (1990, 2009) on Common Pool Resource Theory, the importance of a number of design principles that would ensure actors would not lose sight of the collectivity in their behavior. Here, the governance focus is on "getting the rules right" (Cote & Nightingale, 2012). Goal-framing theory, however, would complement this analysis of the institutional arrangements by also assessing which situational cues would actually motivate actors to follow such rules (Arana & Wittek, 2016).

Fourth, the theory of joint production motivation theorizes about the importance of interdependence and individual motivation to contribute to the collective. By doing so, it links the institutional contexts within which organizational actors find themselves to their individual situations, and implicitly models the perceived contributions that actors can make to the collective as a shaping factor in their beliefs about the situation. An added benefit of this theoretical micro-foundation is that it allows for an analysis of the motivations of organizational actors at different levels within the interorganizational network: for some actors, their behavior may have strong impacts on the value-creation of the collective, while for others, the impact and influence of the interorganizational networks will be much smaller. A joint production motivation framework would allow for such differences in cognition and motivation.

Figure 1.1

Conceptual Model of This Dissertation

Interorganizational network governance - - - - - - - - - - - - - → Interorganizational network sustainability

Joint production motivation ───────────────→ Consistent collaboration to produce joint value
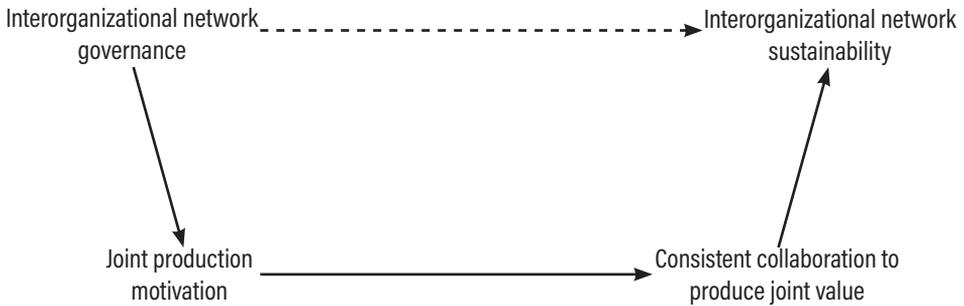
The main thesis we assess here is that in order for an interorganizational network to be sustainable, it needs to be able to maintain the salience of the normative goal-frame in its members. In Figure 1.1, we draw the macro-micro-macro links (Coleman, 1994; Raub et al., 2011) of this thesis. At the left corner, we have the macro-characteristic of interorganizational network governance, that is, the extent to which institutional arrangements are in place that allow for the sustained activation of participants' normative goal-frame. The top arrow indicates the hypothesized macro-relationship between the interorganizational network governance and the sustainability of the network. To explain how the relationship between governance and sustainability emerges, we need to account for the constituent parts that generate the outcome. For an individual organization, participating actors can be motivated to produce joint values. The likelihood that actors will be motivated towards joint production is higher under a salient normative goal-frame than if hedonic or gain goal-frames are salient. Although a gain goal-frame may also induce cooperation, a weak normative goal-frame would cause the collaboration to falter quickly in times of external shock.

From left to right, the arrows in Figure 1.1 depict the following theoretical questions: (a) under which interorganizational network governance conditions are actors motivated to produce joint values?; (b) how does the joint production motivation of organizational actors translate into organizational behavior?; and (c) how does organizational behavior lead to the sustainability of the interorganizational network as a whole? The remainder of this dissertation elaborates on each of these questions. Before proceeding, the remainder of this introduction describes the empirical setting.

1.5 | Empirical setting: NetwerkZON

Empirically, this dissertation offers an in-depth analysis of NetwerkZON, a well-established interorganizational network in the health care sector in the Northern provinces of the Netherlands.

1.5.1 | Contextual and historical background of NetwerkZON

NetwerkZON started as a collaborative network in the aftermath of an educational reform. In her reconstruction of the origins of NetwerkZON, Zuidersma (2012) traces the roots of NetwerkZON back to 1980, when the Dutch government realized that the current educational system did not function properly. The system was primarily based around "in-service education", in which health care organizations each had their own educational programs (Van Kraaij et al., 2022). This was problematic for several reasons: the level of education varied widely, students were only trained to work in one particular profession, the scatter of educational programs across organizations made quality control very difficult, and the politically responsible ministry (The Ministry of Health) did not have the expertise to educate teachers and students. Therefore, the government decided to move the responsibility of the education over to the Ministry of Education, who over the years developed a plan to create a centralized system of vocational health care. This meant that the education of students would occur primarily in schools, with a clearly demarcated set of vocational programs[1] in which students were supposed to be trained *broadly*. This broad education was inherently different from the original highly specialized education student received in in-service education: now students were supposed to be able to work in all seven branches of health care.

A particular point of difficulty was how schools could retain the connection with health care organizations, if the professional education so abruptly moved from occurring within organizations to schools. While the policy reform centralized many of the frames to which health care education now had to comply by stating the types of programs, the precise *way* how to achieve this type of education was not formalized by the government. Rather, the government opted to leave the practical realization to the

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1   The Dutch educational system works with a three-type system of professional education. University level education is called scientific education [wetenschappelijk onderwijs], abbreviated wo. Higher-level vocational education is called higher vocational education [hoger beroepsonderwijs], abbreviated hbo. Lower-level vocational education is called lower vocational education [middelbaar beroepsonderwijs], abbreviated mbo. The mbo-level is differentiated further into three tiers, differing in their length; mbo-2 (a 2-year program), mbo-3 (a 3-year program), and mbo-4 (a 4-year program). The vocational programs in care discussed here were originally Care Assistant [Helpende, mbo-2], Carer [Verzorgende, mbo-3], Nurse [Verpleegkundige, mbo-4], and Nurse [Verpleegkundige, mbo-5].

regions in which health care was operating, stipulating that all schools should have a formal agreement to collaborate with health care organizations to be allowed to offer education. The exact contents of such a collaboration agreement were not specified (Ritzen & Hövels, 2001; Zuidersma, 2012, p. 14).

In the region of Groningen and Drenthe, the newly emerged situation resembled a public good game, with highly interdependent interests and the potential for free-riding behavior (Zuidersma, 2012). Involved in the situation were three types of actors: health care organizations, educational organizations, and students. The students are "exchanged" between schools and health care organizations in the forms of internships, which are essential in preparing them for the health care worker's professional practice. In principle, offering students internships is costly for the organization, as they have to spend resources, time, and effort into aiding the student in their training. Overall, such an investment in interns only pays off for organizations in the long term, as these internships are required before students may enter the organizations as employees. However, interns are not required to work for their internship organizations after their internships, and organizations may lose their investments in a particular intern. It would therefore be strategically rational not to offer internships at all, and rather free-ride on the educational investments of other organizations. Of course, if all organizations would choose to do so, the supply of new workers would dry up.

Complicating the problem was the new legal requirement that students were to be trained as generalist professionals. Instead of training students into a particular branch of health care, educational programs now had generalist end terms. This increased the scope of the public nature of the internships, as the choice of future employers for interns became broader than before. For the health care organizations, competing for the restricted amount of new health care workers entering the market after their education, there was therefore a need to coordinate joint actions, to ensure an equal and fair distribution of the efforts in training interns.

From the point-of-view of educational organizations, they had an interest in being able to offer their students a varied amount of educative internship programs, in order to ensure that graduating students complied with qualifications set by the government. Individually, this would mean that educational institutes would benefit from a set of bilateral agreements with health care organizations about the internship positions they would offer their students. This preference, however, was difficult to realize, as organizations would rather have the schools competing for internship spots, which would allow them to choose among students to find their preferred interns. Simultaneously, schools also wanted to offer students the widest possible variety of internship spots, to ensure that each student would end up at an organization they wanted. Altogether, this variety also led the four schools to realize the potential of

joint coordination: by coordinating, they could keep the variety of potential internship organizations wide, ensure that students had the option of going to coveted internship organizations, and act as a collective towards health care organizations (with a different set of interests).

One educational institute operates at a different tier of education (hbo), whereas the other four schools train mbo-level students. Because this school too was required by the government to engage in the formal collaboration agreements with health care organizations, they joined in the collaborative network of organizations that was taking shape in Groningen at the end of the 90's. On one hand, this was useful to the school as it could make use of a network of collaborating health care organizations, and on the other, it allowed coordination between the mbo-schools and the hbo-school. Given that all students in the region who wished to continue their education at a higher level after acquiring their mbo-diploma could only do so at the hbo-level school, so collaborating with the mbo-schools in this network may smooth out the connection between the educational programs.

Realizing the needs for coordination of the internship allocation, the five educational institutes joined forces through a collaborative agreement with the health care organizations in Groningen and Drenthe. This interorganizational collaboration started in 1997 and was named Provo97. Ever since, the collaborative network has had two main functions: to coordinate the fair allocation of internships across schools and health care organizations ["stagematching"] and to share information and create moments of deliberation between education and health care organizations in the form of platform meetings. In 2012, the collaborative network was renamed to its current title: NetwerkZON.

1.5.2 | NetwerkZON organization

NetwerkZON and its predecessor Provo97 are a cooperative ["coöperatie u.a."]. According to Dutch corporate law, this means that NetwerkZON has voluntary members (being persons or organizations as juridical persons) whose membership is formalized in contracts, who together are the democratic governing body of the cooperative. The "u.a." addition means "uitgesloten aansprakelijkheid", which ensures that members are not liable for the economic functioning of the cooperative. The General Members' Meeting [Algemene Ledenvergadering] contains all members of the cooperative, who jointly have the final say in the governing of the cooperative. Daily operations are run by a program manager and an office of around five employees. The contractual members of NetwerkZON are the five education institutes, whose directors also constitute the highest operative body, and whose Board of Directors constitute the General Members' Meeting.

The first objective of NetwerkZON (to coordinate the fair allocation of internships) is managed by NetwerkZON's employees, and is called Internship Matching [Stagematching] (Internship matching). The allocation is guided by an online platform, so NetwerkZON can be seen as a technological mediator between schools and health care organizations. Both health care organizations and educational institutes have assigned employees (often multiple per organization, divided per organizational subsection), who have to enter the number of internships they need or have to offer, what kinds of students are needed (which year in the curriculum, what educational program), and any other specifications (for instance, whether a driver's license is required or not). The online platform also functions as a way to streamline the sharing of necessary documents and information. Employees of NetwerkZON then divide the interns among the health care organizations, aided by the platform's algorithm. Note, though, that the final allocation is done by employees of NetwerkZON: this also means that direct communication with these employees occurs frequently, with organizations or schools attempting to influence the allocation process. The functioning of the internship matching is overseen by one of the network's platform meetings.

NetwerkZON's second objective is the sharing of information and the mediating of deliberation across organizational members. This occurs through several so-called *platform meetings*. Although there may be occasional project-based meeting instances, most of these meetings are of a recurring nature, occurring a number of times per year. These platforms include Platform Innovation, Platform Planning, Platform Education and Examination, several platforms for particular branches (e.g., Platform Maternity Care), the Internship Coordinators Meeting [Stagecoördinatorenoverleg], and the Strategic Meeting Labor market and Education [Strategisch Overleg Arbeidsmarkt en Educatie]. The latter meeting occurs annually, with all participating members invited to join in a program with lectures and small workgroup sessions, akin to a festive celebration of the collaborative network's work. The function of the other platforms is to exchange information and to coordinate action across educational institutes and health care organizations. Members of these platform meetings are selected according to their expertise in the domain: for instance, the platform Education and Examination contains only members from educational organizations who in their work practice deal with the examination of interns. Platform Innovation is the most strategic of the platforms, as here the members discuss new types of internships and educational programs, and Platform Planning and the Internship Coordinators Meeting are of a more practical nature, as members here can discuss the allocation of students in this academic year and in the future.

1.5.3 | NetwerkZON governance

In their seminal article, Provan and Kenis (2007) differentiate three main modes through which interorganizational networks can be governed: shared governance, lead organization governance, and governance through a Network Administrative Organization (NAO). Each governance mode is theorized to suit a particular type of network, depending on the trust consensus, number of participants, goal consensus, and need for network-level competencies. Given the large number of organizational participants and high goal consensus, the collaborative partners in the health care sector opted for the NAO mode of governance (Zuidersma, 2019). NetwerkZON thus functions as the Network Administrative Organization, that moderates the organizational participants and their relations closely. Given the high-level of network competencies required to govern an interorganizational network, NetwerkZON's program manager, Jelly Zuidersma, actively manages the network through her own theory of reciprocity (2012, 2019).

Zuidersma's theory of reciprocity (2012, 2019) is a micro-theory of organizational behavior, that rests on the assumption that organizational behavior can be broadly classified into two types: *reciprocity behavior* and *status behavior* (cf. De Vos, 2004; de Vos & Wielers, 2003). Both behaviors are social, in the sense that they are aimed at others, but status behavior is aimed at improving one's situation in comparison to that of others, while reciprocity behavior is aimed at improving the situation for both parties involved (Zuidersma, 2012). The core of Zuidersma's governance theory is then that interorganizational collaboration can only succeed when enough collaborating parties show reciprocity behavior, as too many instances of status behavior will dwindle the collaborative efforts.

In the theory of reciprocity behavior, Zuidersma (2012) distinguishes four conditions that will instigate reciprocity behavior and downplay status behavior. The Network Administrative Organization NetwerkZON actively attempts to create these conditions in the interactions between the collaborating organizational parties, in order to create an environment of joint production. The first condition is *reachability*, or "knowing how to find one another" (Zuidersma, 2012, p. 46). This condition deals with both the informational aspects of knowing where to find particular knowledge, as well as a cognitive dimension in knowing how to communicate with one another (cf. Mandell et al., 2017). In practice, this condition is actively managed by brokering social relations between organizations, and by ensuring that mutual understanding arises in the platform meetings.

The second condition for reciprocity behavior is *mutual interdependence*. A key aspect in nurturing collaboration between parties is the perceived interdependence of behavior. It is important here that the dependence also does not fall too much into one direction, in which case power asymmetries arise that, in turn, instigate status behaviors. NetwerkZON attempts to make the mutual interdependence more salient by actively designing role-switching features in the platform meetings, with organizations sharing chairing responsibilities in rotation fashion.

The third is *multilayeredness*, which is very closely related to the notion of relational multiplexity. The mechanism behind this condition is that, when people have more opportunities to meet in diverse settings, this will solidify the relation between the collaborating parties. In practice, this condition is present in the design of meetings of NetwerkZON, in which organizational actors are often invited to join different sessions and platforms. The fourth condition deals with the presence of a *joint perspective on the future*. By stressing the shadow of the future (Axelrod, 1984), organizational actors are forced to think in the long-term, which increases reciprocity behavior and the salience of norms.

1.6 | Empirical Setting: The Covid-19 Pandemic as an External Shock

The empirical research presented in this thesis came into being in a period of unprecedented uncertainty, as the covid-19 pandemic brought life along the globe to a standstill. In the Netherlands, the second week of March 2020 prompted the start of the first in a series of lockdowns installed by the Dutch government. This lockdown heavily impacted all domains of social life, including the domains of education and health care work. Schools had to close down, with education suddenly having to shift their teaching online. Although a general stay-at-home-rule was installed by the government, health care workers were granted an exception due to their essential work for society, and continued their work (Janietz & Werfhorst, 2020). A remarkable media item of this period shows how people, stuck in their houses, applaud from their windows and balconies to show their respect for the health care workers who continued to work during the pandemic (see NOS, 2020). Among the confusion in the initial weeks of the initial lockdown, there was, understandably, no readymade script on what to do with health care internships.

With the outbreak of the covid-19 pandemic, suddenly the sustainability of organizations—and by extension, the sustainable collaboration in interorganizational networks—became a much more immediate concern (Hoekman et al., 2020; Wallenburg et al., 2022). The unforeseen external shock posed critical difficulties about organizations' functional capacities on multiple fronts. Operationally, procedures that were heavily routinized had to be recalibrated to new practices, for instance

regarding how nurses could interact with patients (Joo & Liu, 2021). Social processes within organizations underwent substantial changes as communication moved online, in some cases almost completely (Karl et al., 2022). On strategic levels, organizations sometimes had to redefine their goals, for instance by waiting with expansion decisions (Arokodare & Falana, 2021). Interorganizational networks, as collaborative efforts of the affected organizations, were also heavily impacted, and NetwerkZON was no exception. Not only did its staff have to move daily operations online, but they also saw how their platform meetings moved online, and had to deal with how their organizational members reacted to the pandemic strategically in their own ways.

When the research in this dissertation was designed, we planned to investigate the functioning to understand what made its collaboration so far so sustainable. The covid-19 pandemic introduced an external shock into our empirical analysis that made the resilience a much more immediate concern. Given that our studies were executed before, during, and after the lockdowns of 2020 and 2021 for Covid-19, we therefore are in a unique position to assess the effects of an unexpected external shock in real-time. This, of course, meant that some of the initial research plans had to be adjusted, but simultaneously it offered a unique opportunity to dive deep into the sustainability of interorganizational collaboration.

1.7 | This Dissertation

Under which conditions are participants at different levels in interorganizational networks motivated to produce joint values sustainably? Putting all the elements together, Figure 1.2 depicts the theoretical framework of this dissertation and it enriches Figure 1.1 by sketching the empirical settings investigated in the dissertation. The explanandum of our research regards the relation between the governance conditions of an interorganizational network and its sustainability (depicted as arrow (a) in Figure 1.2). Unlike the basic form of a macro-micro-macro model (Coleman, 1994), our theoretical model distinguishes two different levels of actors that together explain interorganizational network sustainability. Following the argument that interorganizational networks are multilevel in nature (Lazega, 2020), the two levels that this dissertation recognizes are the level of the organization (arrows (b), (c), and (d)) and the level of the student (arrows (e) through (g)).

Figure 1.2

Conceptual Model of This Dissertation with Empirical Study Subjects
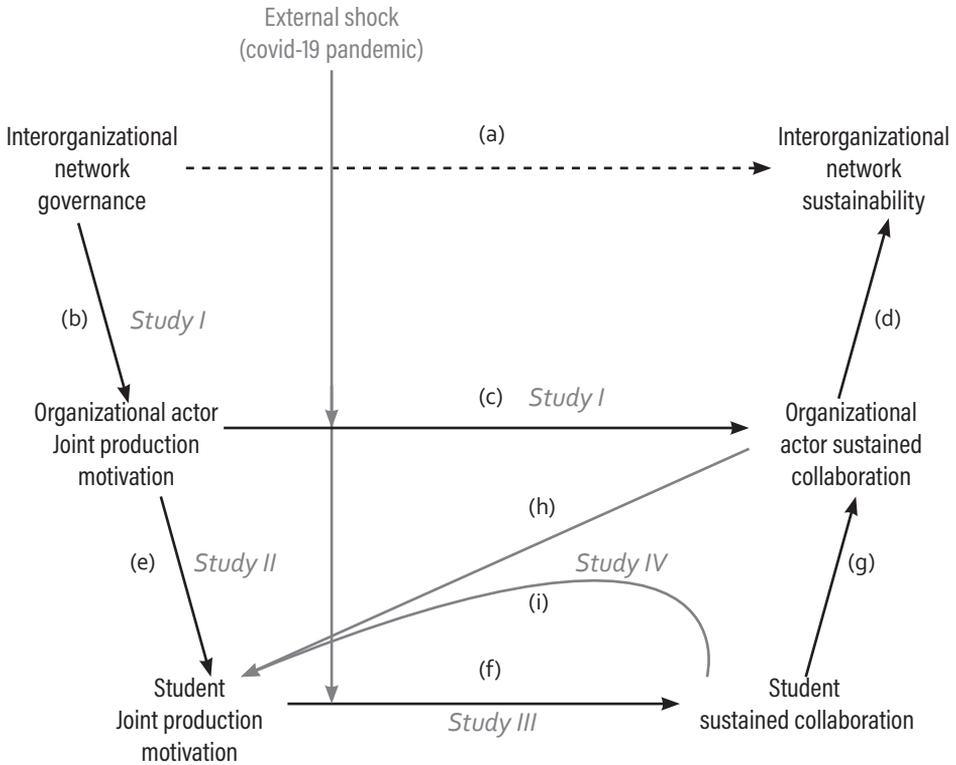
At the organizational level, we study how and why organizational actors collaborate in NetwerkZON. In Figure 1.2, this is captured in arrows (b), (c), and (d). This part of the framework first aims to explain under which governance conditions organizational actors develop the motivation to produce joint values in the network (arrow (a)), by explicating how collaborative conditions affect the goal-framing of organizational actors. Arrows (b) and (c) then describe respectively how organizational actors then decide to collaborate over time, and lastly how this joint production behavior leads to sustainability of the collaborative network.

The level of the students is visually depicted below that of the organizational actors. Here, we find the students that are participating in internship programs. The studies concerning students are depicted by arrows (e), (f), (g), (h), and (i) in Figure 1.2. For these students, the interorganizational collaboration is a far-away reality: they do not participate in platform meetings, they do not have a direct voice in decision-making processes, and they might even be unaware of their participation in an interorganizational network collaboration. Instead, these students follow an internship program in an organization, where they may develop certain professional

skills, such as the practical capacity to collaborate across disciplinary boundaries. Here, the theoretical mechanisms need to first account for the impact of the *organizational* setting on the development of student's skills and motivations. The question is under which organizational governance conditions students' goal-framing of the situation is geared towards joint production motivation: how do the internship contexts affect the strength of the normative goal-frame of interns? Secondly, arrow (b) then details the opportunities these students may have to collaborate consistently, and arrow (c) delineates how the behavior of students may impact the sustainability of the organizations in which they work (and the interorganizational network at large). In the following, we discuss the contents of each of the studies contained in this dissertation.

1.7.1 | Study I: Joint production motivation in interorganizational networks

In this study, we investigate the motivations of organizational actors to collaborate in NetwerkZON. The research question we explore is: What are the motivations of organizational actors for their consistent participation in an interorganizational network, and how do these align with the joint production motivation framework? This first study is an attempt to reconstruct the top half of Figure 1.2, in which we assess how organizational actors can be motivated to collaborate sustainably in an interorganizational network.

Theoretically, we argue for the need of a micro-theoretical explanation for the collaboration that organizational actors have sustained within NetwerkZON. We outline how the theoretical framework of joint production motivation (Foss & Lindenberg, 2013; Lindenberg & Foss, 2011) may be useful in explaining the motivations of organizational actors. We then argue how the sustaining of the joint production motivation explains the sustainability of interorganizational cooperation.

Empirically, this study analyses in-depth interview data from organizational actors who participate in NetwerkZON platform meetings. A thematic analysis of the motivations then will allow us to assess which governance conditions may explain the sustained collaborative efforts in NetwerkZON after existing for almost 25 years.

1.7.2 | Study II: Shared understanding and task-interdependence in vocational internships

The second study in this dissertation moves down to the level of the interns. In this chapter, we investigate how students develop shared understanding with their collaborators in interprofessional internships. The research question we answer is: How is shared understanding in health care interns' collaborative relations affected by characteristics of the collaborative relation and characteristics of the health care intern? Answering this research question thus places this chapter around arrow (e) in Figure 1.2, as we assess under which collaborative and organizational conditions students develop shared understanding with their collaborators.

Theoretically, we argue for a relational understanding of student's collaboration in internship places. Drawing from insights from goal-framing theory and joint production motivation (Foss & Lindenberg, 2013; Lindenberg, 1997, 2015b), we argue how task-interdependence provides the main mechanism through which students develop a shared understanding.

Empirically, we use network survey data collected in 2019 (before the outbreak of the covid-19 in the Netherlands) to assess ego-networks of collaboration in nursing interns' internships.

1.7.3 | Study III: Shaping resilience

In this chapter, we assess how students remained committed to their internship organization during the covid-19 pandemic. The research question is: Under which conditions are nursing interns more committed to continuing work in their organizations during a pandemic? Here, the outcome variable we measure and explain is organizational commitment of students during an external threat, placing this study in the right lower corner of Figure 1.2.

Theoretically, we argue for a joint production motivation explanation (Lindenberg & Foss, 2011) for organizational resilience to explain which students continued their internships during the initial outbreak of covid-19 in the Netherlands. Drawing from Lindenberg's ideas, we distinguish four work characteristics (collaborative contact, shared understanding, task interdependence, and collaborative organizational cultures) that we hypothesize will predict organizational commitment.

Empirically, we use network survey data collected among nursing interns in the final weeks before in the covid-19 outbreak. For this particular cohort of interns, continuation of the internship was a voluntary choice, without formal repercussions or rewards. In the nebulousness of the first weeks of the lockdown, schools promised students that they would not delay in their study programs, even if they did not finish their internship programs. Nevertheless, 23% of the students continued to do their internship, showing strong commitment to their internship organizations.

1.7.4 | Study IV: Competing norms and shifting saliences

In this chapter, we delve deeper into the students' perceptions of norms during the covid-19 pandemic. The research question is: How do personal beliefs about social norms and the related behaviors influence students' selection between two ambivalent normative courses of action? In this study, we theorize about social contagion effects that may have affected the norm beliefs regarding staying at home or continuing to work during the pandemic. Therefore, we added arrow (h) and (i) to our models, to indicate how feedback loops may have operated in the first weeks of the covid-19 outbreak.

Theoretically, we recognize two potential competing norms that students may perceive during their internships in covid-19 times. On the one hand, students staying at home could do so because this was the right thing to do, but simultaneously, students continuing to work may have done so for normative reasons. We add to the understanding of goal-framing by theorizing what would happen when there are two potential normative goal-frames.

Empirically, we use a smaller subset of empirical data on student perceptions of their internships. By using QCA analysis, we can find out several configurations of beliefs about norms and expected behaviors, that lead to different courses of actions in the face of uncertainty.

Chapter

2
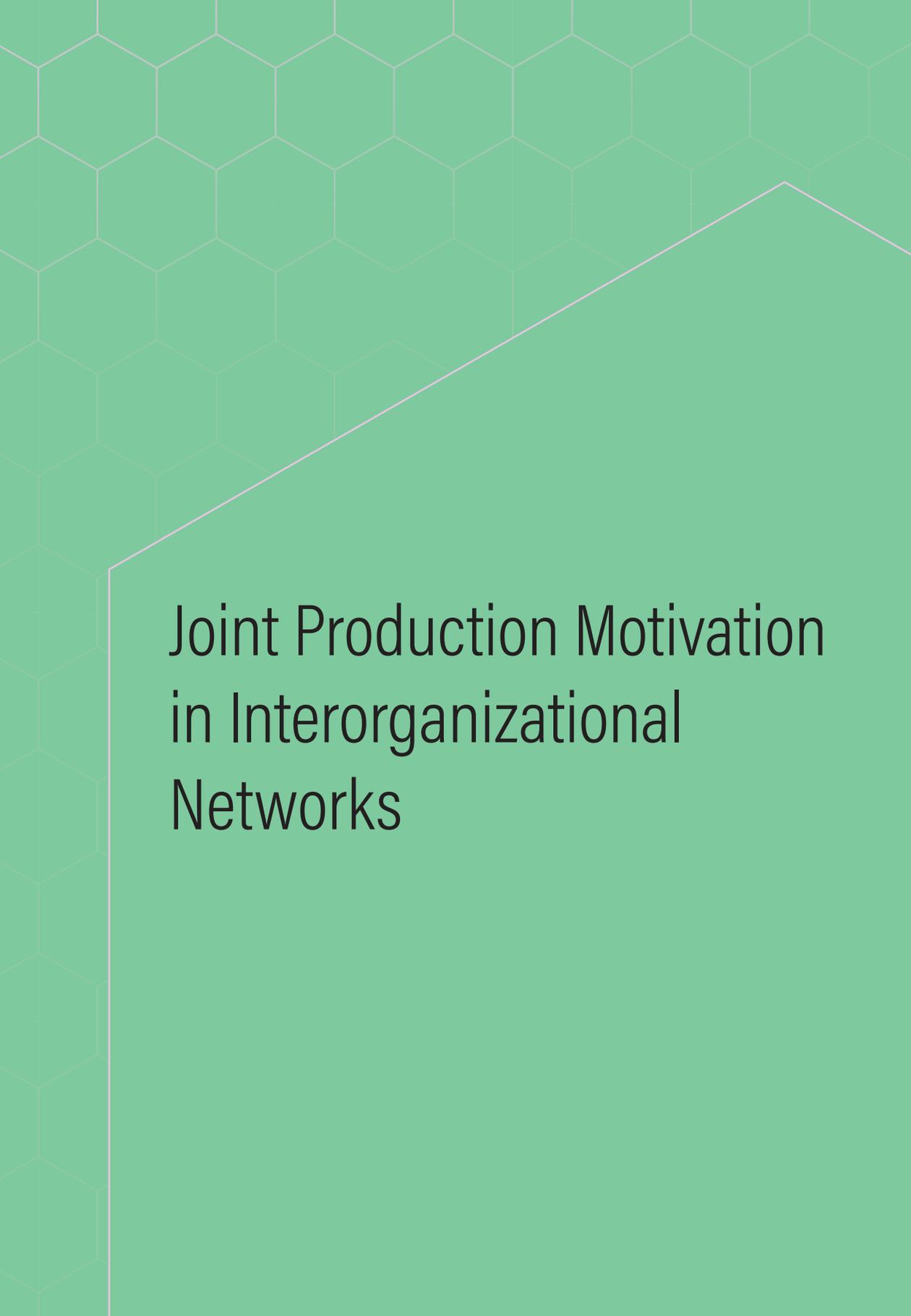
Joint Production Motivation in Interorganizational Networks

Abstract

Only a select group of interorganizational networks become effective, and even less manage to remain effective sustainably over time. Extant literature discusses the effectiveness of interorganizational networks, but much less academic work focuses on which factors contribute to their sustainability. We suggest a goal-framing approach to theorize about interorganizational actors' motivations for sustained collaboration in interorganizational networks. Empirically, we interviewed 15 individuals representing their organizations in a successful interorganizational network operating in the health care sector in the North of The Netherlands. Thematic analysis of their motivations results in seven themes underlying their motivation to collaborate. Three themes strengthen the gain-orientation of organizations (coordinating action, flexibility, and structural redundancy), and four themes emphasize normative aspects of collaboration (fairness, identities, legitimacy, and material proof of joint production). We argue the normative aspects play a key role in curbing the salience of the gain goal-frame, in order to avoid free-riding behavior and abuses of opportunities. Together, these findings indicate that collaboration in interorganizational networks is sustainable when it manages to balance the gain goal-frames and normative goal-frames in its organizational members in a form of mild solidarity.

Keywords

2.1 | Introduction

Governments, formal organizations, and managers increasingly engage in *interorganizational networks* (Kickert et al., 1997), a governance form necessary to deal with complex societal problems requiring multiple stakeholders to cooperate across organizational boundaries (Raab et al., 2015). Though much research has been carried out on the conditions under which interorganizational networks come into existence and under which they become effective (Jang & Valero, 2023; Shumate et al., 2023; Wind et al., 2021), our understanding of what makes interorganizational networks sustainable over time still is limited. As only a fraction of interorganizational networks actually manage to persist over longer periods of time (Getha-Taylor, 2019; Scott et al., 2018), an important question is under which conditions organizational actors—individuals who work for their organizations—are motivated to consistently collaborate in interorganizational networks over time.

We use goal-framing theory (Lindenberg, 2008b; Lindenberg & Steg, 2007) and the theory of joint production motivation (Foss & Lindenberg, 2013; Lindenberg & Foss, 2011) to investigate the motivations that drive organizational actors in the production of joint value in interorganizational networks. We contend that an interorganizational network is sustainable to the extent that its governance conditions are able to sustain joint production motivation in its organizational members. Employing a qualitative approach, we interviewed 15 participants of an interorganizational network that succeeded to sustain its operations in the Dutch health care sector for 25 years. This study investigated how the combined motivations to achieve organizational gains and maintain interorganizational norms interact to support the sustainability of interorganizational networks. Our primary goal is to discern the conditions organizational actors identify for their enduring participation in these networks. Our empirical analysis elicited seven conditions that, according to our informants, motivate their organizations to continue their collaboration in the interorganizational network. Three conditions emphasize the gains of collaboration, and four reflect institutional arrangements preventing organizational actors from pursuing their individual organizational gains at the expense of the collective. Together, these findings point to the importance of mild solidarity (Lindenberg, 1988, 2015a) in creating joint production motivation in interorganizational networks.

The remainder of this study is organized as follows. The theory section reviews the scarce literature on the foundations of sustainability in interorganizational networks. It then describes goal-framing theory (Lindenberg, 2008b; Lindenberg & Steg, 2007), and the concepts of joint production motivation (Foss & Lindenberg, 2013; Lindenberg & Foss, 2011) and mild solidarity (Lindenberg, 2015a, 2023), which are used as sensitizing concepts for the analyses of our interviews. The methods section first provides an in-depth case description of the interorganizational network under investigation, NetwerkZON, before describing the data collection and analysis procedure. The analysis section describes the seven types of motivations as they were elicited from the informants. The final section concludes.

2.2 | Theoretical Background

2.2.1 | Sustainability in Interorganizational Networks

Interorganizational networks are "group[s] of three or more organizations connected in ways that facilitate achievement of a common goal" (Provan et al., 2007, p. 482). This broad definition captures a variety of forms of interorganizational networks, such as joint ventures, strategic alliances, and collaborative platforms. As a governance form, interorganizational networks have in common that multiple organizations are collaborating in order to create joint outcomes that single organizations could not achieve on their own (Isett et al., 2011; Kenis & Raab, 2020). The capacity of interorganizational networks to govern the interrelated actions of multiple types of agencies, nonprofits, and non-profit organizations towards joints outcomes makes them particularly suitable for the provision of public goods (Shumate et al., 2023).

There is a discernable rise in the adaptation of interorganizational networks as a governance form (Agranoff & Kolpakov, 2023; Lipnack & Stamps, 1994; Shumate et al., 2022). However, only a select group of interorganizational networks manage to become effective (Jang & Valero, 2023; Wind et al., 2021), and even less manage to survive over a longer period of time (Scott et al., 2018). This underscores the issue of sustainability as central to the challenges that collaborating in interorganizational networks pose, as collaborative efforts are often fragile. Yet, despite the low survival rates observed in interorganizational networks, Turrini et al. note that "the long-term sustainability and maintenance of a network has rarely been a topic for many scholars, and few empirical studies have explored this issue" (2009, p. 533). Three lines of investigation can be discerned in current research on the sustainability of interorganizational networks: the influence of exogenous factors on survival rates, cognitive motivations, and the effects of social capital.

2.2.2 | Exogenous Factors

Interorganizational networks are not a one-size-fits-all solution to coordination problems (Agranoff & Kolpakov, 2023; Agranoff & McGuire, 2001). Rather, there are specific contexts and situations in which they are more likely to be effective, and a large strand of the academic work on interorganizational networks is aimed at understanding in which contexts interorganizational networks can effectively reach their goals (see Jang & Valero, 2023; Shumate et al., 2022, 2023 for recent reviews of network effectiveness). Scholars have extended models of network effectiveness to theorize under which exogenous conditions interorganizational networks are more likely to sustain themselves over time (Salvato et al., 2017). Findings show that availability of resources (Raab et al., 2015), political climate (Atouba & Shumate, 2010), community support (Human & Provan, 2000), and legal and juridical rules governing the collaboration (Clauss & Ritala, 2023) are key. Central to the academic discourse on exogenous factors and network sustainability is the principle of equifinality. This principle posits that there is no single formula for sustainability, but rather that different combinations of contextual factors can lead to sustainable cooperation over time. The interchangeability of exogenous factors thus raises the question of how contexts affect the endogenous functioning of interorganizational networks. After all, the locus of agency within interorganizational networks lies with the organizations and their respective actors.

2.2.3 | Collaborative Advantage Theory

Collaborative advantage theory (Huxham, 2003; Vangen & Huxham, 2006) is rooted in the cognitive-cultural argument that organizations will be motivated to collaborate whenever they perceive possibilities to achieve their own vision. Work in this area thus focuses on categories, common beliefs, and the shared logics of actors (Scott, 2001). Given the wide variety of participating actors in interorganizational networks, it is essential that actors develop methods to align and coordinate their actions and intentions. In their analysis of sustained collaboration in interorganizational networks, Karlsson et al. (2020) find three important interacting processes that fall in this category: actions need to be coordinated clearly, practice should be evidence-based, and resources need to be used efficiently. These three factors are rooted in the cognition of organizational actors, as each of these processes relate to the legitimacy of the network's actions.

Cognitive explanatory mechanisms related to the beliefs of organizational actors regarding goals and ways to achieve them are crucial in explaining the sustainability of interorganizational networks. We endorse the collaborative advantage theory's view that cognitive motivations underlie collaboration, but we argue for the

need to broaden the motivational basis for sustainable collaboration. Explanations rooted solely in collaborative advantage fail to account for how organizational collaborations can withstand external shocks, when the benefits of collaborating become less prominent. Additionally, theories of collaborative advantage inadequately address the potential dangers of opportunistic behavior or free-riding within inter-organizational networks. Therefore, it remains unclear as to how networks can ensure that all members are contributing their fair share.

2.2.4 | Social Capital Explanations

One of the most exhaustive studies on sustainability of interorganizational networks identifies strong social capital as a key determinant of the adaptive resilience of interorganizational collaborative efforts (Getha-Taylor, 2019). Within these networks, the existence of social capital usually leads to increased trust among members of different organizations, helping to reduce the uncertainty involved in collaborating across organizational boundaries (Dhillon, 2015; Newell & Swan, 2000). Furthermore, Di Domenico et al. (2009) elucidate that interactions between organizational actors can enhance resilience, primarily due to the avenues these interactions provide for navigating normative ambiguities. As incongruent visions may be difficult to avoid in complex collaborations, a normative environment that is receptive to diversity may be necessary (Nicholls and Huybregts, 2016).

What is not clear from these explanations of social processes is how they function to motivate organizational actors to collaborate in a sustained way. Explanations that emphasize trust (Tobias-Miersch, 2017) and social identities (Min et al., 2008) elaborate on how social resources in a network can help facilitate collaboration, but they do not fully account for why organizational actors want to collaborate and what goals they want to achieve. Moreover, both cognitive and normative explanations seem to imply that actors share visions and normative expectations once equilibrium is reached, even though empirical work shows that most collaborative networks deteriorate over time. Even if organizations trust each other and share similar goals, how does their interdependence motivate them to continue collaborating over time?

2.2.5 | Joint Production and Goal-Framing Theory

To understand how organizational actors sustain their motivation to collaborate, we need a theory that combines motivational and cognitive processes. We build on goal-framing theory (Lindenberg, 2008b; Lindenberg & Steg, 2007) and joint production motivation (Foss & Lindenberg, 2013; Lindenberg & Foss, 2011) to explain sustained interorganizational collaboration. Figure 2.1 summarizes our

Figure 2.1

Conceptual Model Linking Interorganizational Governance Conditions to Joint Production Motivation
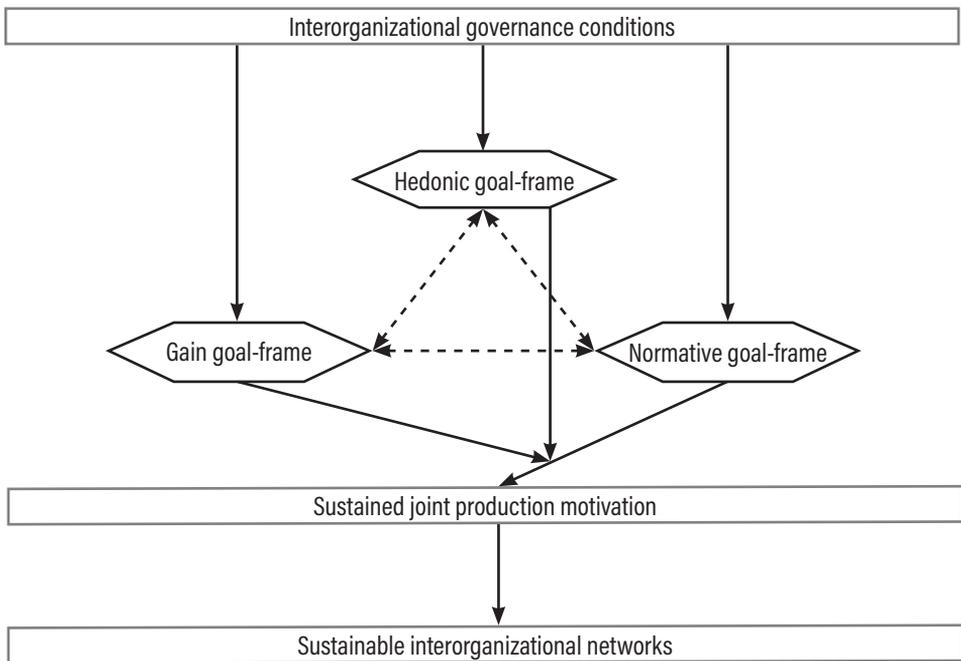
theoretical framework. This theory contributes to our understanding of sustainable collaboration in interorganizational networks because it (i) includes both cognitive and motivational processes on the level of organizational actors, (ii) is explicitly connected to governance strategies that aid the production of joint value, and (iii) includes the inherent brittleness of cooperation at its core.

Lindenberg and Foss (2011) define joint production motivation as "a special kind of motivation that is particularly geared to the fact that organizational members need to engage in collaborative activities such that organizations that tap into it would gain a performance advantage" (p. 500). By definition, joint production motivation is a specific motivation individuals have in which they want to work for the common good, rather than make decisions based on their benefits and costs alone. Analytically, the concept of joint production motivation applies goal-framing theory to contexts where individuals collaborate to produce joint value, such as organizations. Before exploring how joint production may manifest itself in interorganizational networks, we first introduce the main assumptions of goal-framing theory.

Goal-framing theory (Lindenberg, 2008b; Lindenberg & Steg, 2007) asserts that individuals perceive situations through goal-frames or mindsets. A salient goal-frame pushes specific aspects of a situation into the cognitive foreground. There are three overarching goals that can frame a situation: hedonic, gain, and normative. In the

hedonic goal-frame, individuals focus on immediate need satisfaction. For example, an organizational actor deciding whether to attend a network meeting that requires traveling to another city might, through a hedonic goal-frame, conclude that the inconvenience of participation outweighs the benefits, given the discomfort of travel and potential late return.

A salient gain goal-frame directs an individual's attention to how their actions will improve their future resources (or avoid future losses). In the example of attending a meeting, organizational actors could be aware of the possibilities that the meeting may offer to the organization, and decide to pursue those goals by attending the meeting. Any behavior geared towards potential improvement of economic capital or status will be made in a gain goal frame.

A salient normative goal-frame implies "a collective self, oriented toward acting appropriately [...] in terms of what is good for the collective goals" (Lindenberg & Foss, 2011, p. 505). Here, individuals act on what they believe they *should* or *ought* to do, rather than act in their own immediate interests. This goal-frame pushes norm-conformity and the obligation to contribute to collective concerns to the cognitive foreground (Kirgil, 2023; Lindenberg, 2023). In the previous example, when an organizational actor would attend an interorganizational network, despite not expecting their own organization to benefit immediately, this indicates the salience of a normative goal-frame. The organizational actor attends because of the expectation that their attendance may benefit the collective of the interorganizational collaborators.

Although there are three overarching goal-frames, only one goal-frame can be salient at a given moment. However, this salience is not static: goal-frames have shifting saliences, meaning that one goal may overtake another and become focal itself. The dynamics between shifting goal-frames is intrinsically linked to situational cues, which act as triggers, pushing a specific goal to the cognitive forefront (Steg et al., 2016).

The three overarching goal-frames differ in their a-priori strength, with the hedonic goal-frame being the strongest, and the normative goal-frame being most brittle. In order to remain salient, the normative goal-frame (and the gain goal-frame to a lesser degree) requires support from situational cues. Without supporting situational cues, actors are more likely to shift to a hedonic goal-frame, and without strong normative support, actors are more likely to perceive situations through a hedonic or gain goal-frame, with more egoistic behaviors as a result (Keizer et al., 2008).

Second, while only one goal-frame may be salient at a given moment, *background goals* can operate in the cognitive background. Background goals may bolster or undermine the salient goal-frame, depending on their alignment. For instance, if behavior from the normative goal-frame is enjoyable, it is supported by hedonic goals in the background, thus reinforcing the normative focus. However, if a

background goal becomes too strong, it might overtake the salience of the activated goal-frame. For instance, this occurs in collective action, when individual gain goals become so strong that they override the collective focus of the normative goal-frame (Arana & Wittek, 2016).

Given the inherent brittleness of the normative goal-frame and its importance for sustaining cooperation, organizational arrangements not only need to foster the salience of the normative goal frame, but ideally also align the hedonic and gain goals in the cognitive background. For example, preparing and attending a meeting of the interorganizational network may come with demands for some additional personal investments of time, effort and resources of participants. Where normative goal-frames govern the decision-making of individuals, the felt obligation to contribute reduces the perceived costs of participation. If the meeting also is known to yield useful insights for one's work, the event itself is enjoyable and the encounters with colleagues from other organizations are pleasant at a personal level, then hedonic, gain and normative motivations are aligned, with the result that contribution to and participation in the joint effort becomes more likely.

The difference in a-priori goal-frame strength and the conceptualization of background and foreground goals affords goal-framing theory an intricate analytical lens to study the interplay between hedonic, gain, and normative motivations that actors have. For organizational actors, this dynamic results in situations where the realization of short-term individual desires (rooted in the hedonic goal-frame) or the aim to improve one's future resources (rooted in a gain goal-frame) are weighed against the felt obligation to contribute to the collective good (rooted in the normative goal-frame). The delicate balance between the individual-oriented goal-frames and the group oriented normative goal-frame is denoted by Lindenberg's concept of "mild solidarity" (Lindenberg, 1988, 2015a). In situations of mild solidarity, goal-framing theory suggests that individuals act, and expect others to act, in accordance to their gain goal-frames. While these actors primarily seek personal benefits (as dictated by the gain goal-frame), the influence of the normative goals serves as a set of guardrails, guiding behaviors within socially acceptable or beneficial bounds. In such a situation, participants in a joint production are aware of and acknowledge that the primary motive of the involved stakeholders is to realize some benefit for themselves or their organization, i.e. gain (or the avoidance of losses) is considered a legitimate motive. At the same time, mild solidarity norms prescribe that the realization of unilateral gains should remain within the boundaries that allow the production of *mutual* benefits, and should not come at the expense of inflicting damage to the other participants. More specifically, respecting fairness norms is an important guiding principle in relations governed by mild solidarity.

2

The concept of joint production motivation was originally developed to analyze cooperation in intra-organizational settings, where lines of authority and the related authority to sanction are clearly defined (Lindenberg & Foss, 2011). Collaboration in interorganizational networks is different as there is no formal hierarchical entity that has the authority to enforce rules. Collaboration is entirely voluntary. The question is to what degree this condition favors or undermines the possibility to sustain the normative goal-frame. This study therefore reconstructs motivations behind collaboration in a robust and successful interorganizational network.

2.3 | Study Setting

To acquire a qualitative understanding of the experiences of organizational actors in interorganizational networks, we provide an in-depth case study of NetwerkZON, an interorganizational network that has been active since 1997. NetwerkZON operates at the intersection of vocational education and the health care sector in three provinces in the North of the Netherlands. The overarching objective of the network is to calibrate the newly-graduating health care workers skills and employability with the demands and needs of health care organizations (Zuidersma, 2012). To do so, vocational schools and health care providers collaborate in NetwerkZON to coordinate and develop internship programs in which students develop and strengthen their professional skills.

NetwerkZON and its organizational members operate in a sector characterized by a strong shortage of labor. While the demand for health care has vastly increased in the 25 years of NetwerkZON's existence, the amount of health care professionals working has not kept up with this increase (ZorgpleinNoord, 2020). This puts health care organizations in a precarious position, as they are consistently in need of more employees. Simultaneously, vocational schools may have difficulties obtaining internship positions at health care organizations, as resources such as supervision time in the organizations are scarce.

The shortage of labor creates a situation in which the organizations are highly interdependent. Involved are three types of actors: health care organizations, educational organizations, and students. The students are "exchanged" between schools and health care organizations in the forms of internships, which are essential in preparing them to the health care worker's professional practice (Teekens et al., 2023). Offering internships is resource-intensive for organizations, demanding time and effort to support the student. Such investments typically yield long-term benefits when interns become employees, but there is no guarantee interns will stay post-internship,

risking a loss on the investment and potential free-riding behavior. Educational institutions compete for these positions, as internships are legally mandated for student certifications. The challenge is how NetwerkZON maintains collaboration and prevents organizations from pursuing self-serving behaviors or exclusive agreements.

2.3.1 | Operative Functions NetwerkZON

NetwerkZON engages in three main operative functions in order to align the vocational education of students through internship positions with the future employability of care workers: (i) allocating internships, (ii) standardizing materials, and (iii) developing educational innovation. The first and foremost function of NetwerkZON is the allocation and coordination of almost all health care internships in the Northern provinces in the Netherlands. NetwerkZON offers a platform into which the five participating schools indicate how many students will follow an internship program in a particular period, and participating organizations indicate how many internship places are available at their workplaces. This function forms the core business of the organizational network, as organizations and schools consistently make use of the internship allocation function of the cooperative.

The second operative function of NetwerkZON regards the standardization of educational materials, including assessment forms. Once the internship allocation system started functioning on a large scale, it became clear to NetwerkZON members that mixed allocation brings forth a collaboration problem of a different order. With five different schools sending around interns to a wide variety of health care organizations, the organizations increasingly ran into problems of synchronization and differential evaluation. Not only did the five schools have different timelines and educational materials, but even within schools, a wide variety of internship forms and examinations existed. This variety of materials made the hosting of internships increasingly costly for health care organizations, who had to keep track of the internship timelines and the different types of assignments, feedback forms, and exam materials. The solution to the problem is the standardization of internships and internship materials, which means NetwerkZON functions as a medium through which the organizations and schools collaborate to achieve standardization.

The third function of NetwerkZON regards other educational innovation and knowledge sharing between participants. Internship standardization is an example of educational innovation mediated through NetwerkZON, but there are also many less forceful innovations that occur within and between the participants. As health care organizations and schools are constantly trying to increase efficiency and effectiveness of educational programs and to retain interns and employees, educational innovations form one of the core activities of the members of NetwerkZON. The described

innovations vary widely, from technical innovations regarding the use of particular types of equipment, bureaucratic innovations regarding the scheduling of internships, to learning innovations such as the creation of interprofessional learning networks and sequential internship programs.

2.3.2 | NetwerkZON Organization

The denomination "NetwerkZON" simultaneously signifies two different organizational forms. First, NetwerkZON is the name of the interorganizational network itself, including its members, the ties between them and the resulting structure. This network is a fluid collection of organizations and organizational actors, with unclear boundaries about who exactly constitutes as a member. Secondly, the organization NetwerkZON is the legal entity that governs the interorganizational network. In the terminology of Provan and Kenis' (2007), NetwerkZON functions as a Network Administrative Organization. This cooperative contains a program leader and approximately 5 employees, who streamline the daily functioning of the network. They organize meetings with the organizational members, prepare the meetings, set agendas, and organize and host the technological platform through which the internship allocation occurs. The organization receives its mandate and funding from the five participating vocational schools, who all financially support the administrative organization.

Besides the secretarial and technological support that NetwerkZON offers, NetwerkZON engages its organizational members through several recurring Platform Meetings. These platform meetings occur next to the operational functioning of the internship allocation processes, and deal with several subjects. Some of the platform meetings operate on a highly strategic level, containing organizational actors who are responsible for the educational policy in their organizations, while other platforms are of a more practical nature. For instance, the practical platforms deal with the exchanging of projections of internship positions in the coming year.

NetwerkZON is governed according to a design theory aimed to focus its participants towards reciprocal behavior. This is important, as the functioning of NetwerkZON is actively informed by this design theory by NetwerkZON's project manager and employees, and the theory guides functional choices regarding the operations of the network. The theory of reciprocal behavior for inter-organizational collaborations (Zuidersma, 2012, 2019) is aimed to encourage organizations to engage in behavior that benefits the collective, and discourages behavior aimed at status. The four conditions for reciprocal behavior are: mutual interdependence, multilayeredness (i.e. that organizations and individuals are connected to one another in multiple ways), an orientation towards the future, and knowing where to find each other (Zuidersma, 2019, p. 16).

2.4 | Methods

2.4.1 | Participants

The participants of our study are 15 organizational actors who regularly attend one or more NetwerkZON platform meetings. Six of the participants are employees of educational institutes, where most have functions as education developers and internship supervisors. Eight participants are employed by health care organizations, where they are internship supervisors or practical education developers. One participant was connected to NetwerkZON in an advisory function from a separate educational organization. Regarding the relation to NetwerkZON, we obtained a varied selection from the different platform meetings, with one member of its highest supervisory platform, four members of the strategic platform Innovation, two members of Platform Examination, and the remainder being members of one of the more operational platforms (i.e., Planning or Sectors). The majority (11) of participants are female, and all participants have a Dutch nationality. Table 2.1 summarizes the characteristics of the participants.

Table 2.1

Characteristics of the Participants and Their Organizations

	Interview	Pseudonym	Organization Type	Gender
1	1	Michelle	Elderly care	F
2	2	Paulien	Elderly care	F
3	3	Siegrid	Elderly care	F
4		Marijke	Elderly care	F
5	4	Sybo	Hospital	M
6	5	Nina	Mental health care	F
7	6	Thijs	Mental health care	M
8	7	Marla	Mental health care	F
9	8	Jos	Other	M
10	9	Marie	School	F
11	10	Lianna	School	F
12		Margreet	School	F
13	11	Ferry	School	M
14		Daniëlle	School	F
15	12	Lyan	School	F

Participants were invited to an interview via an email invitation distributed to all platform members of NetwerkZON via their organizational contact details. In the invitation, we stressed that participation was voluntary and that any data collected through the interviews would be anonymized and confidential. In addition, the invitation emphasized the autonomy of the academic research, to ensure participants understood that the data collection was not to evaluate NetwerkZON's performance as a goal in itself.

2.4.2 | Data Collection Procedure

We conducted semi-structured in-depth interviews with 15 organizational actors in order to develop a qualitative understanding of the motivations for their consistent collaboration in a long-running interorganizational network. Semi-structured interviews were appropriate for our research endeavors, because of the exploratory nature of the research questions, as we aimed to create an understanding of what the personal motivations were of the organizational actors (Hennink et al., 2011). The semi-structured nature of the interviews allowed for a fluid interplay between theoretically-informed prepared themes and themes that emerged from the experience of the participants. This interplay allowed us to inquire about themes that goal-framing theory predicted to be important in sustaining collaboration in interorganizational collaboration, while allowing space for motivations that the theory may not cover explicitly. The interview guide was constructed by including questions regarding the theorized antecedents of joint production motivation (Lindenberg & Foss, 2011, p. 504), while also explicitly including questions aimed to assess how the participants perceive their continued cooperation. As the interviews took place in the aftermath of the covid-19 pandemic, some questions also explicitly asked about the organizational functioning during this period. The translated interview guide is included in Appendix A.

Participants were offered the choice to have their interview in-person or online via Microsoft Teams. Out of twelve interviews, seven were done in person, and the remaining five were done online. Participants cited caution with meeting persons offline after the covid-19 lockdown as the main reason to opt for an online option. For the offline interviews, participants could indicate their preferred location. All offline participants preferred to meet at their organizations, so the interviews took place in several health care schools and organizations. The interviews were conducted in Dutch (the native language of both the interviewer and the participants). As six organizational actors indicated they preferred to have their interviews with two people, three of the interviews were done with two interviewees simultaneously. Interviews lasted 76 minutes on average. The study was approved by the Ethics Committee Sociology of the University of Groningen (reference code SOC-2021-S-0042).

As the interviewees were invited to participate via NetwerkZON, the demarcation between the researcher as outsider and interviewee as insider was addressed at the start of the interview. Regarding this positionality, we therefore attempted to create a safe space to express personal beliefs by stressing the anonymity of participation and explaining the distance of the interviewer from the organization of NetwerkZON. The interviewer therefore adopted explicitly an outsider perspective, inviting interviewees to explain their experiences and motivations in great detail.

The interviews were transcribed verbatim by the first author. The analysis of the interviews was executed in ATLAS.ti 23 for Windows (2023). Our analytical approach followed the procedures of thematic analysis outlined in Braun and Clarke (2006). This analytical method allowed us to uncover latent themes in the interviews, by staying close to the input of the participants while simultaneously offering a deductive theoretical lens. The first phase of the coding process involved generating initial codes inductively in the transcript corpus. We then cross-compared the codes in the interviews, in order to collate them into potential themes. The next step involved a more deductive, theory-driven approach, as we zoomed in on the emergent themes regarding motivation to collaborate in interorganizational networks. The final analytical step was to categorize the emergent themes into higher-order themes, which contain the separate motivations that interorganizational actors gave for their continued cooperation in NetwerkZON.

2.5 | Results

In our interviews about the experiences of organizational actors collaborating in NetwerkZON, seven different themes relating to the sustainability of collaboration emerged (Table 2.2). Three of these themes (coordinating action, flexibility, and structural redundancy) describe processes of reducing transaction costs in creating joint value. These processes indicate how the sustainability of interorganizational networks depends on streamlined and efficient collaboration, as the related processes strengthen the salience of the gain goal-frame. Four other themes (fairness, identity boundaries, legitimacy, and material proof of joint production) sustain the normative goal-frame, ensuring that the gain goal-frame of single organizations does not become too strong. The processes captured by these seven themes illustrate the balance between the gain and normative goal-frame in interorganizational collaboration. In the following, we first present the themes, discussing for each how participants described the endogenous process, and providing an interpretation of how it functions from a goal-framing perspective. All presented quotes are translated verbatim from Dutch to English by the first author.

Table 2.2

Resulting Themes, Sub-Themes, and Sub-Codes From the 15 Interviews

Theme	Sub-theme	Code
Coordinating Action	Internship Matching	Reducing costs
		Technological platform
	Information Sharing	Avoiding double work
		Passive participation
Flexibility	Institutional arrangement	Flexible application of rules
		Rigidity
	Institutional agency	Keeping own regulations
Structural Redundancy	Organizational safeguarding	Retaining contact
		Increasing connectivity
	Multilayeredness	Connectedness
Fairness	Fairness in distribution	Logic of equity
		Belief in the matching
	Fairness in the system	Student viewpoint
Identities	Geographical identities	Geographical comparison
		Friesland
		The North versus the Randstad
	Sectoral identities	Professional stereotyping
		Difference sectors
		Difference education and practice
Legitimacy	Internal legitimacy	Program manager as academic
		Organizations vs. the network
	External legitimacy	The network's own goals
		Political power
Material Proof	Internship Folder	Overcoming difficulties
		Ease in use
		Pride in example

2.5.1 | Motivations in a Gain Goal-Frame

Coordinating Action

One of the clearest results from the interviews is that NetwerkZON as coordination agency for the internships is important in the functioning of the health care organizations and schools. Although respondents seldom refer to the monetary aspects of their participation, the allocation system forms an efficient method for the allocation of internships that saves the internship coordinators and educators time and resources. Ferry, a coordinator of one of the large educational institutes, says: "*If I look at NetwerkZON, then it mostly is the Internship Matching that is clearest for us. You know, they organize the internship spots for us. Nice and clear*". The visibility of this function is aided by a technological online platform that all participating organizations and schools use in order to allocate their internships, which is hosted and carefully governed by the practical agency of NetwerkZON. The participants value the relative ease with which the internships are allocated, and recognize that the allocation of internships is something that has to happen either way. As Lyan says:

> "*The moment you don't have NetwerkZON anymore, you need to suddenly start organizing many other things. […] To abolish NetwerkZON is to bring to life another organization*".

The third operative function of NetwerkZON, in which information is shared regarding educational innovation, is a similar method of collaborating to reduce costs. The bottom-up approach to sharing information is mentioned by members of NetwerkZON (and particularly of the members who are part of the platform Innovation) as one of the key reasons they are part of NetwerkZON: in this way, they remain in the loop about what other organizations are doing, and they can evaluate their own plans by running it by the other organizational members in the platform. Of the three operative functions distinguished in the interviews, the function of information sharing requires the least commitment and is the most open-ended. This can also be seen by the passive participation that some network members describe. Marie, a teacher and coordinator at a school at the geographical fringes of NetwerkZON's area of operation, recognizes the passive character of her participation, indicating that she "*gets the invitations, and might read the minutes*". The continued mention of the value of NetwerkZON's information sharing seems to indicate the importance of a platform where people discuss matters relating to internships in health care in a less systematic manner.

2

Together, the internship allocation system and the information sharing that occurs during the informal meetings function as methods of reducing transaction costs for participating organization in NetwerkZON. They allow organizations to achieve their organizational goals by decreasing the costs of acquiring internships and developing educational innovations by pooling resources. For organizational actors, this means that the motivations to participate in NetwerkZON have a gain goal-oriented nature, where the gains of participation are often clear. The possibility of participating passively strengthens the gain goal-frame, as actors are allowed to make individual choices to participate or not.

Flexibility

An important aspect of the interorganizational collaboration that appears in the interviews, is the flexibility with which NetwerkZON functions. Many respondents describe how NetwerkZON has a number of baseline rules (e.g. the final number of interns that organizations get), but that along those lines, there is ample wiggle room for organizations to function as they want to. Sybo summarizes it: "*You remain autonomous. Everyone remains autonomous. And, you know... You are working towards the same goal: education. Creating Internships. High quality education*". Nina, internship coordinator at a mental health care organization, uses a vivid metaphor to describe how the organizations work together in NetwerkZON: "*We may all sprinkle our own sauce, but the meal is set*".

Not all participants perceive this flexibility, and when respondents talk about the rigidity of the rules, this often is coupled with a desire to decrease the intensity of collaboration in NetwerkZON. Thijs, a practical educator and internship coordinator at a mental health care provider, voices a complaint about the internship allocation system. He feels like the allocation system takes away any agency for the organization to hire who they believe to be appropriate for their organization. He tells a story about a student, who lived in the small village where the organization is housed, and who contacted him about a potential internship position. Reluctantly, Thijs had to decline the student, despite him being positive about the match, telling the student they had to go through NetwerkZON to get their internship. In his view, NetwerkZON then matched the student somewhere else, as to avoid preferential treatment.

What is surprising is that similar stories are told by different participants, but that they draw different conclusions. Sybo reported a story comparable to what occurred in Thijs's experience, but he experienced the conclusion positively, believing that this indeed was the fairest of possible outcomes. In two other instances, the participants found a different way out of the situation. In separate cases, Marla and

Siegrid detail how they managed to guide the student towards their organizations through direct contact with the internship allocation agency of NetwerkZON. Here, they managed to use direct personal contacts in order to find a way towards a favorable outcome.

The perceived consistent autonomy and the flexibility that the participants mention is a strong indicator of a gain goal-frame underlying the participation of organizations in NetwerkZON. The problem Thijs encountered when the rules were too strict for his organization to act according to its own preferences indicates a danger to the gain goal-frame, as here the gain of the organization was at stake. Therefore, it seems important to regulate the rules of the network in such a way that organizations perceive their participation as voluntary and flexible. Through flexibility, an interorganizational network may allow the gain goal-frame to remain strong, as too rigid rules may incite conflict, with opposing gain goal-frames in different organizations.

Structural Redundancy

Many participants mention how they themselves are connected to NetwerkZON in multiple ways (i.e., by attending multiple platforms), and how other in their organizations go to NetwerkZON meetings too. On the level of organizational actors, this suggests a potential driving force to collaborate in NetwerkZON might come from within the organization. Lyan describes the connections between their school and NetwerkZON as follows:

> *"In [a particular project], we have a teacher joining. We have a teacher joining the platform Maternity Care. There is one other… there are two others who are occupied with the internship Coordination. And at some other projects, some other teachers can be connected too. Next Thursday, for instance, there is a meeting about Care for the North. I cannot make it, but there are two teachers who can, and they will join. So I always wonder, like: "there is a meeting organized by NetwerkZON… Who of the teachers will join?". So it is not only… not only my party".*

In one of the interviews, one of the participants describes how they fell ill during the covid-19 crisis, which endangered their organization's participation in NetwerkZON.

"In February, new interns were supposed to arrive. I had just left the hospital. I opened my laptop in the middle of the night to hand the matter over to my colleagues, telling them: "The interns are coming. This needs to be handled". So, suddenly, my colleagues had to get involved with the internship allocation platform, with the placement of interns, and because of that we now agreed: every one of us is responsible for the supply of internship spots at their location, in order to supply NetwerkZON with internship positions. And so, now, when someone falls away, you will not be as vulnerable as we were in December."

These stories show the presence of multiple ties to NetwerkZON and their importance for the sustainability of the collaboration at the individual level. At the same time, they indicate the importance of understanding the organizational structure of collaborations in such interorganizational levels.

Figure 2.2 visualizes the organizational network of networks participating in NetwerkZON. The figure is based on the invitations that organizations receive for the different platform meetings of NetwerkZON. The figure contains circles, which refer to an organization. The green circles form the core of the network, comprising the five participating vocational institutes. Health care organizations are depicted in pink when they appear in both the second and third level, and blue when they appear in only the second level. Organizations are connected to each other by a grey line, indicating that organizations are co-invited to a platform meeting. The width of the lines indicates the number of actors who attend meetings jointly. The image depicts three different levels: at the top, we see the meeting with the highest strategic power: this is the meeting of the five school directors, who are the legal heads of the network organization. At the middle level, we see a wider network, that now includes health care organizations, who all attend the second-highest strategic meeting. At the bottom, we see the expansive network of organizations that attend the operational platforms of NetwerkZON.

Figure 2.2 illustrates that some organizations appear on all three levels, and that their connections on the third level are especially strong. This indicates they appear in multiple platform meetings together.

The multilevel structure with redundant ties contributes to the sustainability of the collaboration in the network in two ways. First, the fact that multiple actors from within one organization participate in NetwerkZON makes participation in the network a joint effort from the perspective of the organization. This allows organizational actors to frame their participation from the viewpoint of the organization, which shifts their perception away from the individual effort collaboration requires to the joint effort produced by the organization. The redundancy of connections from

Figure 2.2

Illustration of the Multilevel Interorganizational Network Structure of NetwerkZON
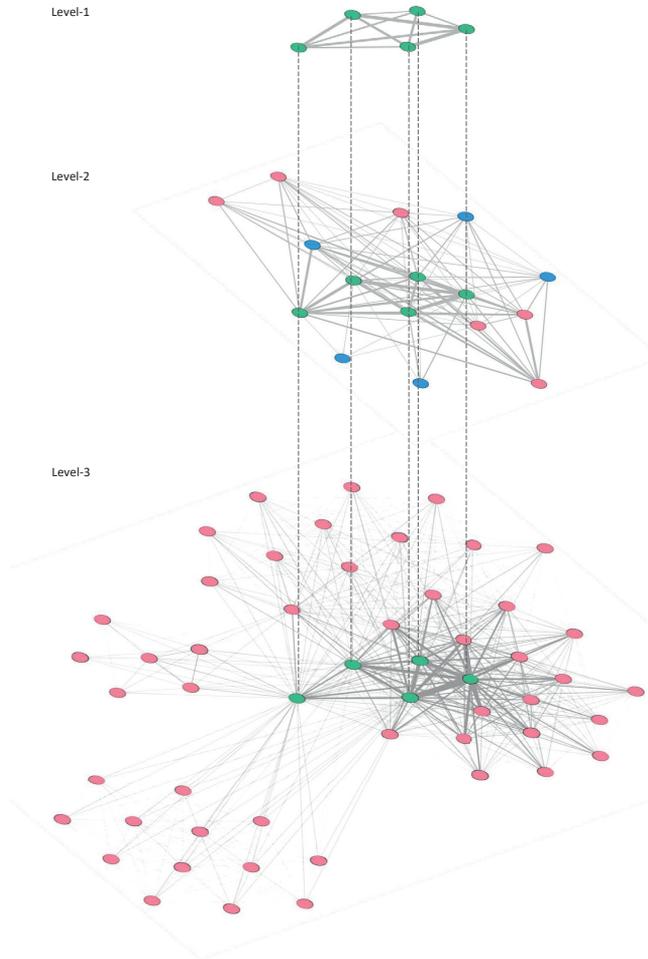
Note. This figure depicts the multilevel structure on three levels, ordered from highest-level strategic (level-1) to the most operational level (level-3). The nodes in the network are different organizations, and ties between organizations depict that organizations are invited to the same platform meetings. Tie width reflects the number of different platform meetings in 2023 to which organizations are co-invited, ranging from 1 to 9 platform meetings. Strictly speaking, this illustration is a 1-mode projection of a 2-mode network in which organizations are tied to events.

within an organization strengthens the organizational gain goal-frame, precisely by shifting the focus towards how embedded the organization is in the network. Second, the redundancy of ties seems to have a structural effect in the interorganizational network, as it strengthens the capacity of the network to adapt to adverse events. When multiple actors from one organization are connected to the interorganizational network, it allows the network to continue functioning even if a particular member leaves the network.

The previous three themes point to clear benefits that can be obtained by staying in the network. These benefits contribute to a salient gain goal-frame motivating organizational actor's continued collaboration in NetwerkZON. However, if only a gain goal-frame would be salient, this would increase the risk of individual organizational objectives overtaking the collective goals. To sustain cooperation in interorganizational networks it therefore is pivotal to keep up the joint production motivation. Doing so requires conditions that strengthen the normative goal-frame. In the interviews, four themes regarding the normative components of collaborations appeared, that strengthen the normative goal-frame.

2.5.2 | Motivations in a Normative Goal-Frame

Identity Boundaries

In descriptions of their participation in NetwerkZON, the interviewees often use particular social boundaries to position themselves in relation to others. Participants use these boundaries to explain their actions, and use identity arguments to describe their continued contribution. Geographical boundaries are often invoked as explanations why the network collaborates well. Simultaneously they are used to justify why particular actors feel like they did not have to contribute to the collective good. Next to that, disciplinary boundaries are drawn between the seven different "sectors" within the health care sector, and between "care" versus a less clearly defined other group of professionals.

NetwerkZON is situated in the northernmost corner of The Netherlands, and its organizational members are scattered around one of three provinces in the North (Groningen, Drenthe, and Overijssel). In the interviews, geographical boundaries are often invoked to reiterate the importance of continued collaboration between the network members, and the comparisons are made to two other geographical regions. The comparison that is made most often is to the Randstad, a conglomeration of densely-populated cities in the West of the Netherlands, including Rotterdam, Amsterdam, Utrecht, and Den Haag. Not only does this area of the Netherlands contain the largest share of its population, but also it houses most political power. The stereotype is that people in the Randstad are entitled and a little pedantic, and

that they do not care for any other region. Therefore, when the interviewees invoke their identity as "the North", they do so with pride, implying that they manage to collaborate impressively despite them being looked down upon by those in power. Sybo, an internship coordinator, tells with apparent pride:

> *"Whenever I tell them about [NetwerkZON], at the national meetings of health care organizations in Utrecht, they always say: "Wow. You did a really good job with that". And, yes, yes... then you see that they make some attempts at closer collaboration there, but that is... Then of course, you have might have three schools in just one city, to illustrate. There is more competition there... And for some reason, they cannot talk to each other easily. They really see themselves as competitors. And that is a shame. And we are the example that that is not necessary. That is does not have to be that way".*

Friesland appears as the other geographical comparison in the interviews. Friesland is a neighboring province in the North of the Netherlands, which is not included in NetwerkZON's area of operation. When Friesland comes up in the conversations, participants mostly treat it as a black box. While participants believe it would be logical for organizations in Friesland to become network members because of geographical proximity and perceived cultural similarity, the Frisian organizations are not interested in joining. Nina summarizes the sentiment briefly: "*Friesland is not really in NetwerkZON.... Frisians!*" The comparison to Friesland is often made to explain where the boundaries of NetwerkZON are geographically located, but while the line is clearly demarcated, it does not seem to invoke feelings of pride as does the comparison to the Randstad.

While geographical comparisons are used in the interview to describe the collective efforts of NetwerkZON and organizational members' continued participation in the network, a more nuanced comparison occurs when the interviewees explain why they sometimes did not involve themselves in a project of NetwerkZON. In such instances, the participants sometimes describe how they operate at the fringes of NetwerkZON, such as the more southern parts of the provinces. Sometimes, they take this argument even further, stating that NetwerkZON mostly puts its efforts into Groningen, the biggest city of the area. In this way, geographical locations are used as outsider arguments, which legitimize following an organization's own plan.

A second boundary that characterizes the descriptions of the participant's collaborative effort deals with sectoral identities. Similar to the use of geographical boundaries, sectoral boundaries are sometimes drawn in order to explain positive attitudes towards the collective, or even a disciplinary sub-group of the network, but also as an explanation why organizations opt to not coordinate their actions. The overarching professional category that the organizations in NetwerkZON describe themselves in is that of "health care professional". Participants describe how the care sector is characterized by hard-working individuals who have strong empathetic skills. Marla, a practical educator and platform member, describes this sectoral identity when she explains why organizations are participating in NetwerkZON:

> "And then you are not doing it only for our own divisions, our own organization, but for Care itself, we need to train people. That is the drive we have, together."

The *care* identity also gives rise to organizational feelings of exemplary behavior. This occurs particularly in the interviews with members of relatively larger organizations. As larger organizations, they argue, they have the responsibility towards the smaller organizations in care to carry the heavier weights. An example of this can be found in an interview with Marijke, who coordinates internship in one of the larger elderly care organizations in the region. During the first outbreak of the covid-19 pandemic, she tells of many interns who were forced to stop their internships due to restrictions in other organizations. After finding out about this news, Marijke immediately arranged for a plan for replacement internships at their own organization, so that these students could finish their programs as planned. She describes it with pride: "*We said: "We will continue with the vocational education and we will continue school." We did not stop anything. Even more so, we hired people, more interns, who were no longer welcome at the other organizations*". This illustrates how organizational members may invoke common professional identities in order to explain why contributions to the common good are continued.

A more nuanced professional boundary that is often drawn by the participants relates to the seven sub-sectors that subdivide care in The Netherlands. These seven subsectors are hospital care, mental health care, elderly care, youth care, maternal care, home care, and handicapped care. The subdivision is reified in the structure of NetwerkZON: each of these branches of care has its own platform meeting, where members meet regularly to discuss matters relating to their particular subdivision. Within each subdomain, the internship allocation system and the use of standardized

materials seems to differ slightly, as this allows for a more effective internship experience in different settings. The "broad education" that NetwerkZON aims to offer has as its basis the goal to have students gain workplace experience in several of these subdomains.

Besides this structural subdivision, the professional boundaries also play a role in creating social boundaries by which the participants explain their organizational behavior. The boundary of care is invoked when organizational actors describe their consistent contribution towards others in the same subdomain. On the other hand, it forms the basis of differentiation, and an excuse why organizations sometimes do not want to be involved in particular projects or meetings.

The geographical and sectoral identity arguments both function as mediums to emphasize the jointness of the collective effort. By explicating what organizational actors are *not* (e.g. not from the Randstad), they collectively create an identity that supersedes organizational identities. This joint social identity then provides cues for action geared towards joint production. When organizational actors perceive their group as one with collective goals, this brings collective action into focus. Reversely, these boundaries can also be used as legitimations of organizations' individual-focused behavior. These stories emphasize the importance of joint identities as conducive to the salience of a normative goal-frame, as organizational actors often use individual identity arguments to explain why they did not act in collective ways.

Fairness

A key condition for the functioning of the internship allocation is its perceived fairness. This fairness is present in the distribution of interns across schools and organizations, but also in the way that decisions are made in the platform meetings. This fairness often aligns to the size of organizations, as the participants recognize that some larger organizations have more to say. Ferry, an educational coordinator of one of the schools, describes this distinction between getting an opportunity to speak, and the actual act of doing so:

> "*I don't think that people are pushing their agenda, but there are always organizations that, when you look at their innovative capacities, are just further ahead than others. So, yes, you always have early innovators that are busy with devising new internship variants, for instance. So, they often play a larger role in those conversations. But that has nothing to do with "putting on bigger pants", or having to say more, as everyone gets the opportunity to say what they need to say".*

The belief in the fairness of the allocation underlines many of the arguments that the participants make on why they are participating in the network. The organizational actors seem to recognize the "rules and restrictions" the health care sector has to face, and they realize that collective action is necessary. Sybo, an internship coordinator, also stresses this aspect: the system is fair to all. This fairness appears as relational fairness, as organizations believe that the allocation occurs in an equal way across organizational participations. On a more ideological level, the system is also perceived to be fair to students, and in that sense, it contributes to a successful meritocratic system in which students will end up in the most effective places.

The following excerpt from an interview with Nina, a practical educator at a mental health care provider, shows the multiple facets of fairness in the internship allocation system:

> N: *I think it is in NetwerkZON's nature to ensure everyone gets the same chances. And the schools... they supply the students, right? And they can indicate: "This one shouldn't go to psychiatric care, or something like that". If necessary. And I believe NetwerkZON actually makes that possible for everyone.*
> Interviewer: *Yes.*
> N: *Without giving anyone preferential treatment. I like that as a starting point.*
> Interviewer: *Absolutely. But, also, I can imagine that organizations sometimes would like to be able to choose for themselves, right?*
> N: *Obviously. Yes. We also would only like to have only the interns that excel. Wouldn't it be nice, if we could select in that way? But, at the same time, we should not want that. The beautiful thing is that everyone is educated in a broad way. Let that be clear. And people can grow. You do not have to excel at school to excel at your internship.*

The fairness condition is essential for the sustained collaboration in NetwerkZON. Without the norm of fairness, both in its relational and ideological presence, the normative goal-frame would quickly deteriorate, and the organizational gain goal-frame would become salient. Recognition-based reward structures, identified as one of the antecedents of joint production motivation, therefore play a key role for sustaining a normative goal-frame in interorganizational collaboration. Based on the experiences of the participants, the rewards organizations acquire for their behavior need to be fair to the rest of the collective.

Legitimacy

Recently, the Network Administrative Organization of NetwerkZON has started complementing their bottom-up approach to educational innovation with more top-down efforts at adapting, implementing, and changing educational systems. By streamlining the collective efforts of the schools and organizations, NetwerkZON was able to acquire subsidies and grants from larger governmental bodies, in order to develop educational innovations. This has solidified the position of NetwerkZON as a governing body, and network members recognize the potential value of the network in this more *external* domain.

This recently developed focus on external aspects brings with it issues of opposition between internal and external legitimacy. When prompted to describe where the respondents believe NetwerkZON's future objectives are, some respondents indicate difficulties to do so. Lyan, an educational manager at one of the vocational schools, reflects on the issue:

> *"As far as I'm concerned, we could assess once again: What is the function and role of NetwerkZON? Because I don't really know, but that might also be my own problem. I don't know if they are talking about this among the directors... because... Because I believe NetwerkZON should be supporting, right?"*

The tension between NetwerkZON as an inwardly-focused organization and as a collective aimed outward is most salient in the descriptions of Thijs, an internship coordinator at a health care organization, who is quite vocal about his discontent. In his view, the organization of NetwerkZON has gone too far in its efforts to achieve external legitimacy. For instance, he shuns the large meetings to which all network members are publicly invited, describing them as mere instances where NetwerkZON and its members are keeping up appearances. He says:

> T: *Do you know the Emperor without Clothes?*
> Interviewer: *Absolutely.*
> T: *Well... That. I actually compare it to that a little. I think it really is something... You participate, because otherwise you don't belong, but in reality, you don't actually know at all what's in it for you.*

Thijs is the most outspoken case of the disconnect between the internal and external legitimacy, and while some doubts are raised about the current goals and objectives of the collective, most participants are also quite happy with NetwerkZON's new fundraising ambitions. Paulien, a head of education at a large elderly care organization, even mentions how they would want NetwerkZON to assume an even stronger function regarding "*how we as sector, as region, can be stronger in Den Haag* [the political capital of the Netherlands]".

Legitimacy plays an important role for the sustainability of the normative goal-frame in interorganizational collaboration. The stories of the participations show how the normative goal-frame of the collective should not be overtaken by the individual gain goal-frames of those who are leading the collective. One of the antecedents of joint production motivation, cognitive and symbolic management, therefore depends strongly on the perceived legitimacy of the actions of the collective. The goals that the collective strives for need to be consistently perceived as collective goals, as otherwise the individual motivations of organizations to produce value jointly will falter quickly.

Providing Material Proof of Joint Production

One story appears in many interviews, and it is a consistently positive narrative about NetwerkZON's second most important function: the standardization of materials. Participants all describe their satisfaction with the creation of the "Internship Folder", a standardized folder with internship assessment forms that are now used by all the internship organizations participating in NetwerkZON. Because of the increasing complexity of supervising multiple students from multiple years in multiple programs, organizational internship supervisors at some point realized that their evaluative work became too burdensome, and something had to change. Lyan, coordinator teaching at one of the schools, summarizes it:

> "*To reduce pressure on the care sector, they agreed back then to look closely at which examination instrument they are using. Because you can develop it yourself, you can buy it... and when you buy it, there are three or four different agencies where you can buy it. But we need some uniformity. So they [NetwerkZON] played a role with the Internship Folders. So that a student, irrespective of the school they attend in the North, appears at the organization with one instrument. Sometimes there are some differences, because as a school you make particular choices. You remain responsible. But there is a certain degree of coordination*".

The solution looks simple on the surface, as the "Internship Folder" is a collection of assignments, forms, and examination materials that students from all participating schools and programs use to a certain degree in their internship trajectories. However, participants from both schools and organizations describe that acquiring this solution was no easy feat. Jos, a participant in the project group who collaborated to create the internship folder, describes how contentious the project was at first:

> *"And when you talked about schools collaborating, well... That was like cursing in church, to say it bluntly. They'd say: "No, we have a completely different vision. And we see things completely differently." Everyone on their own island. And slowly, they are realizing, because of all kinds of reasons, that it might actually be easier if you just get together".*

For organizations, however, the standardization of materials was very urgent, as "*working together with four schools at the same time was a disaster, and practical educators went rabid*" (Marla). Sybo was involved in the creation of the Internship Folder, and provides an account of how the organizations formed a block opposing the schools, in order to force them to act:

> *"In the past, if you were at one department, and if you then had one student from one school and one from another, even if they followed the same program, the same year, their assignments were completely different. And at those departments, they thought: "What is this? I cannot see the forest for the trees!". So, then, as organizations, we said: "If this does not change, we will choose for one school". And in that way, we forced them to collaborate back then."*

Under the apparent threat of dismantling the cooperative network, schools caved and a project group was started, which contained members from each participating school, a number of the larger health care organizations, and an expert from a publisher of educational materials.

The Internship Folder is now consistently used by participating organizations and schools, and it often is mentioned as one of the great accomplishments of the network. A number of times, during the interviews, the interviewees actually got up in order to present a physical copy of the folder. This points to the importance of particular objects that signify a particular symbolic value: here, it perhaps reflects the

difficult path that collaboration in the past posed. Multiple participants vocally describe their pride in the creation of the folder, even though it came into being already over ten years ago. Having the material proof of joint production allowed participants to celebrate what their collaborative efforts resulted in.

2.6 | Discussion and Conclusion

Collaboration in interorganizational networks is brittle. Only a select group of interorganizational networks become effective (Turrini et al., 2009; Wind et al., 2021), and even less manage to remain effective over time (Getha-Taylor, 2019; Scott et al., 2018). This study offers an overview of different conditions sustaining collaboration over time from a goal-framing theory perspective. To ensure a sustainable production of value in an interorganizational network, their governance structures need to balance the salience of the gain and the normative goal-frame. The gain goal-frame is essential in interorganizational collaboration, as organizational actors will only collaborate sustainably when they continue perceiving the organizational benefits of doing so. However, the collaborative efforts need to be flanked by institutional arrangements that strengthen the salience of the normative goal-frame and suppress the gain goal-frame, in order to avoid individualistic behavior of organizations. Figure 2.3 summarizes the conceptual model linking the conditions of interorganizational collaboration, organizational actors' motivations, and sustainable interorganizational networks.

Empirically, our study investigated how different kinds of motivations of 15 organizational actors who participate in NetwerkZON, an interorganizational network that has successfully collaborated for nearly 25 years, contribute to its persistence and continued success. In our study, we identified two primary motivations driving participants: gain goal-framing and normative goal-framing. Under the gain goal-frame, participants highlighted the cost-effectiveness of joining NetwerkZON, efficient action coordination, and structural redundancy, which fostered organizational engagement and minimized negative externalities. While these gains are crucial, they must be balanced to avoid becoming the central focus. The normative goal-frame revealed motivations rooted in fairness of resource distribution, fostering joint identities, alignment of internal and external legitimacy, and tangible evidence of collaboration success, such as the Internship Folder, which exemplified the collective achievement.

The primary aim of this study was to understand how this particular interorganizational network managed to sustain itself over more than 25 years. The theories of goal-framing and joint production motivation served as sensitizing guiding concepts, highlighting the significance of different motivations to collaborate and conditions that sustain such motivations. Our interview guide (Appendix A) was

Figure 2.3

Conceptual Model Explicating the Governance Conditions that Lead to a Sustained Joint Production Motivation

```
┌─────────────────────────────────────────────────────────────────────┐
│              Interorganizational governance conditions                │
│      ·  Coordinating Action           ·  Identity Boundaries          │
│      ·  Flexibility                   ·  Fairness                      │
│      ·  Structural Redundancy         ·  Legitimacy                    │
│                                       ·  Material Proof                │
└─────────────────────────────────────────────────────────────────────┘

                          ⬡ Hedonic goal-frame ⬡

        ⬡ Gain goal-frame ⬡                ⬡ Normative goal-frame ⬡

┌─────────────────────────────────────────────────────────────────────┐
│                 Sustained joint production motivation                 │
└─────────────────────────────────────────────────────────────────────┘

┌─────────────────────────────────────────────────────────────────────┐
│                 Sustainable interorganizational networks              │
└─────────────────────────────────────────────────────────────────────┘
```

2
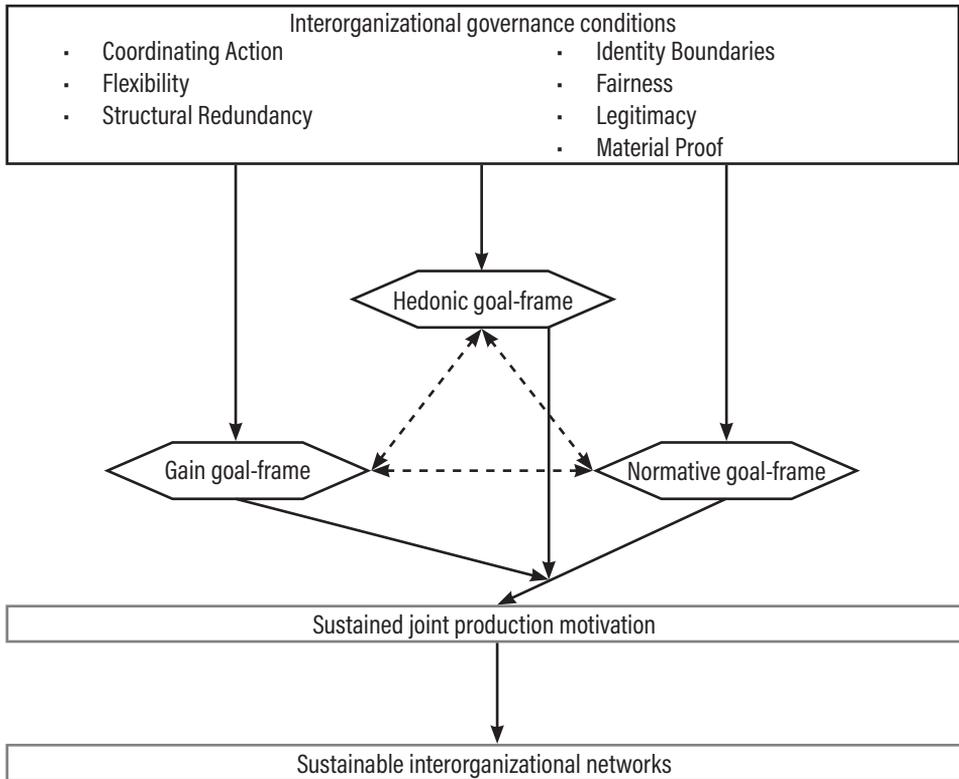
designed to invite respondents to describe their experiences with joint production in NetwerkZON. The experiences regarding collaboration can, as expected, be characterized as joint production motivation, as the actors described normative and gain-oriented experiences coupled with a strong sense of collectivity. More unexpected, then, was the fact that the antecedents of joint production motivation, as outlined by Lindenberg & Foss (2011) do not translate smoothly to interorganizational settings, as the uncovered conditions do not directly overlap with those theorized. Instead, the presence of the gain goal-frame in most of the respondents' stories points to the salience of a gain goal frame directed towards the realization of organizational (rather than inter-organizational) benefits.

We believe the *balance* of gain and normative goals is key to addressing this duality. Our empirical analysis shows that the gain goal-frames play an explicit role in the explanations informants gave for their continued participation, but that institutional arrangements curb this goal-orientation by strengthening the normative goals in the cognitive background. This implies a form of *mild solidarity*, which Lindenberg (1988,

2015a) defines as a relationship in which the participating actors legitimately strive for the realization of their own benefits, but unlike in a market relation characterized by cut-throat competition, they still adhere to fairness norms and have some concern for the other party's welfare. For business contexts, this distinction has been described as arm's length versus embedded ties (Uzzi, 1997). Such normative concerns temper the unbridled realization of benefits at the expense of collaboration partners. But such solidarity considerations remain in the cognitive background, because otherwise the collaboration might continue, but value-creation will stagnate (Kim et al., 2006). Sustainable joint production in interorganizational networks, therefore, should combine a salient gain goal-frame with normative goals operating in the background. In this way, normal operations in the network can be aimed at organizational benefits, as long as these operations do not harm the network. Normative considerations, then, keep organizational gain-seeking at bay, by constraining such behavior when this would result in high costs or risks for the network as a whole.

A second relevant discovery is the conspicuous absence of hedonic goals in the motivations that our respondents articulate. Although goal-framing theory suggests that hedonic goals may help sustain collaboration by functioning as a supporting background goal, hedonic considerations remained largely latent in our respondents' responses. While hedonic motives were mentioned, for instance when participants noting the congeniality of meetings, these references were sparse. It is possible that this network has managed to marginalize hedonic motivations, prioritizing gain and normative goals. Alternatively, this absence might reflect the phenomenon of "managerial discourses", where hedonic considerations are deemed incongruent with organizational parlance (Heras-Saizarbitoria & Basterretxea, 2016). Our findings suggest the importance of suppressing hedonic goals into the cognitive background, as hedonic goals did not appear in the articulations of the participants in this interorganizational network. Certainly, more research on this matter is necessary to assess whether hedonic background goals are not latently present.

Our study set out by discussing how collaborate advantage theory and social capital explanations on their own would not suffice in explaining organizational actor's motivations to collaborate in interorganizational networks. By delving into the motivations our participants offered, our delineation of the conditions that lead to either a gain or a normative goal-frame parallels these two strands of literature, in which the collaborative advantage points to reason to collaborate (the gain goal-frame) and normative considerations function as a check to ensure the gain-seeking behavior does not hurt collaborative partners. The theories of goal-framing and joint production motivation actually allow for an analysis of the interplay between these separate but interdependent arguments for collaboration, as they both play a role in sustaining the interorganizational network. Solely considering collaborative advantage

or social capital proves inadequate in unpacking sustainable collaboration dynamics, as Getha-Taylor (2019) also showed. Our theoretical framework offers a comprehensive method to discern these two strands of literature, and explains how organizational actors might be incited towards enduring collaboration.

There are a number of limitations to this study, that necessitate further research into the foundations of sustainable interorganizational networks. First, while sustainability entails a longitudinal process (Bornemann & Strassheim, 2019), the empirical methods used in this study were cross-sectional. Although we asked organizational actors about their experiences over a longer time period, the interviews took place in a relatively short period of time. Using a longitudinal study design would not only allow future researchers to assess how motivations of interorganizational actors change or develop over time, but also enable them to assess how the influx of newcomers and leavers of organizational networks affects the collaboration between organizations.

Second, this case study allowed us to research in-depth the motivations of participants of one interorganizational network, but we cannot know how well the elicited themes apply to collaborations in different interorganizational networks. Notwithstanding the thematic saturation observed throughout our interviews, more research is needed to assess the generalizability of the motivations we uncovered.. Based on the alignment of our findings with the perspective outlined in goal-framing theory, such comparative research endeavors would offer fruitful insights into the important subject of sustainability in interorganizational networks.

Chapter

3

Shared Understanding and Task-Interdependence in Nursing Interns' Collaborative Relations

A Social Network Study of Vocational Health Care Internships in The Netherlands

A Social Network Study of Vocational Health Care Internships in The Netherlands

Abstract

Shared understanding between collaborators is a key element of delivering successful interprofessional care and a main challenge for vocational education concerns nurturing such understanding among students. This study assesses how nursing students perceived different levels of shared understanding in their collaborations with others in vocational internships. We analyze the collaborative networks of interns to examine whether individual factors (attitudes, perceptions of collaborative cultures, and motivation) or relational factors between collaborators (task-interdependence, cooperation frequency, and interprofessional and hierarchical roles) affect shared understanding among 150 Dutch nursing interns and their collaborators (n=865). Theoretically, we stress the importance of focusing on collaborative relations in interprofessional care settings. Multilevel models distinguish two levels in explaining the variation in shared understanding, nesting collaborative relationships within individuals. Results indicate merely 37.4% of found variation of shared understanding could be attributed to individual-level factors (variation between interns), while 62.6% of variation is found within interns, showing that shared understanding differs substantially between the collaborations one intern engages in. Multilevel models reveal that task-interdependence strongly predicts shared understanding in inter- and intraprofessional collaborations. We conclude that focusing on collaborative relations is essential to foster shared understanding in vocational internship programs, and that health care organizations should pay explicit attention to task-interdependence in interns' collaborations.

Keywords

3.1 | Introduction

In order to deliver effective health outcomes, health care workers increasingly engage in interprofessional collaboration that crosses professional and organizational boundaries (World Health Organization, 2010). The increase in prevalence and intensity of collaborations between different professions has launched *interprofessionalism* as one of the key competencies of the modern health care professional (Interprofessional Education Collaborative, 2016). The growing importance of interprofessionalism is reflected in its increased inclusion in educational programs for health care workers (Grace, 2021), with many programs including practical internships in their curricula (Roczniewska et al., 2020). By exposing students to the day-to-day functioning of health care professionals, internships are a nurturing ground for several collaborative competencies that are difficult to emulate in other traditional school-like settings (Sides & Mrvica, 2016).

Shared understanding among collaborators plays a particularly critical role in the process of professionalization of health care workers (Zerden et al., 2021). In an interprofessional collaborative relationship this means that two collaborators are consciously aware of each other's professional backgrounds and the practices and goals they bring into the collaboration (Olson & Brosnan, 2017; Walsh et al., 1999). The opportunity to develop shared understanding with collaborators with different expertise in internship programs directly feeds into the intern's competency regarding the roles and responsibilities of health care professionals (Lewitt et al., 2018). Despite these advantages, relatively little is known about how such interns develop shared understandings with collaborators and how shared understanding varies among different collaborations (Franklin et al., 2015; Pugsley et al., 2021).

We studied shared understanding in health care interns' collaborative relationships, examining how shared understanding is shaped by characteristics of collaborating individuals. The main mechanism we expected to explain shared understanding in collaborative relations is task-interdependence. We define task interdependence as the extent to which an individual needs the effort, competence and skills of one or more other individuals to be able to complete their tasks. The more interns perceive a collaborative relation to be task-interdependent, the higher their shared understanding with that collaborator will be. We assessed the collaborative relationships of a sample of first-year nursing students (*n*=150) participating in a 20-week internship program in the Northern Provinces of The Netherlands in 2018. Using social network survey data, we investigated how shared understanding in health care interns' collaborative relations is affected by characteristics of the collaborative relation and characteristics of the health care intern.

We first describe our theoretical approach to collaborative relations, and theorize how shared understanding in collaborations connects to individual and relational characteristics. We developed hypotheses on the relation between shared understanding and characteristics of the collaborative relations and characteristics of the intern. Following the methods section, we present the results of our model predicting shared understanding between interns and their collaborative partners. The paper concludes with a discussion.

3.2 | Theory and Hypotheses

3.2.1 | A Relational Perspective on Shared Understanding in Collaboration

To assess how shared understanding differs across various collaborative relations, our study explicitly distinguishes individuals and the collaborations in which they engage. Our argument is that one intern may experience different levels of shared understanding across different collaborative relations.

Figure 3.1

Illustrations of Two Intern Ego-Networks

Ego-network 1   Ego-network 2
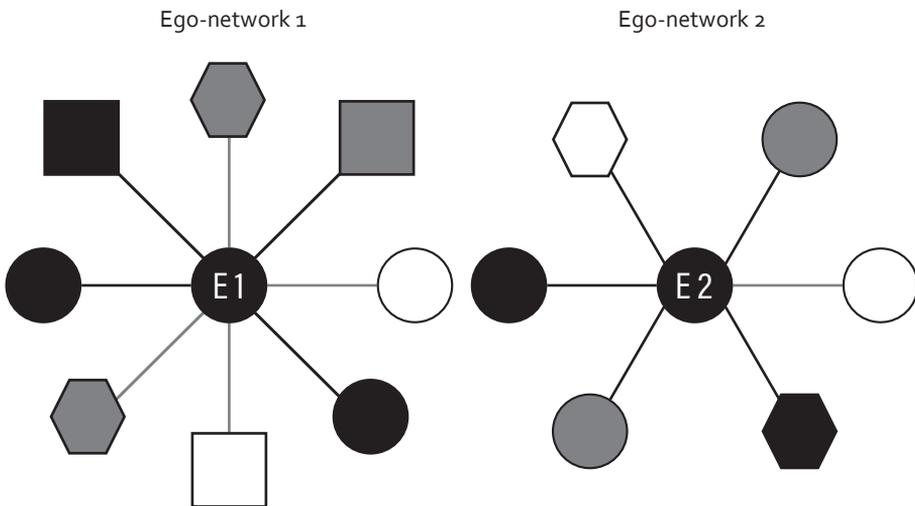
Note. This figure shows two intern ego-networks, with Ego 1 (E1) and Ego 2 (E2) in the middle of their respective collaborative networks. Alter shapes denote their role in the organization, alter shades denote professional background. Ties are shaded by degree of shared understanding (black = high shared understanding, gray = lower shared understanding).

We employ a network-theoretical lens that allows us to analyze individuals and collaborations as separate, though interconnected, entities (Borgatti & Halgin, 2011). In network-analytical terms, we looked at interns' *ego-networks*, consisting of the intern (*ego*), the collaborators (*alters*), and the nature of those collaborative relations. Figure 3.1 depicts the ego-networks of two interns. Collaborators are represented as different shapes, indicating their role in an organization, and the shape's shade represents professional background. The collaborative ties are the lines between the focal intern and the collaborators. Visually represented, we aim to explain the presence of high shared understanding ties (black). To illustrate, in ego-network 1, interprofessional collaborations (shaped differently) are characterized by a lower level of shared understanding. The intern in ego-network 2 reports higher levels of shared understanding across their collaborators. Our network-analytical lens allows us to distinguish whether such variation in shared understanding can be explained at the level of the relation (as ego-network 1 seems to suggest) or at the level of the individual intern (for instance, is it individual motivation that explains the difference between ego-network 1 and 2?).

Taking the *collaborative relation* as the unit of analysis allows for a fine-grained assessment of how individuals from different backgrounds and roles create and maintain mutual shared understanding. In this study, we identified how task-interdependence between nursing interns and their collaborators affects shared understanding, while controlling for frequency of contact. In addition, we examined how the embeddedness of different interns in social roles and professional backgrounds affects their shared understanding. We investigated whether relationships that cross professional or hierarchical boundaries differ in their shared understanding.
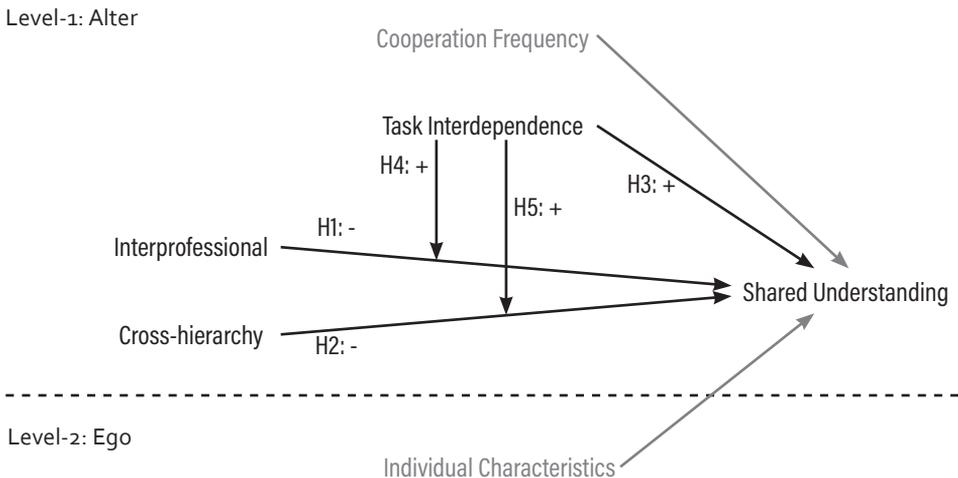
Figure 3.2
Theoretical Model of Shared Understanding

Level-1: Alter

Level-2: Ego

Table 3.1

Hypotheses tested in this study

	Hypothesis
H1:	The more a relation between two individuals qualifies as interprofessional cooperation, the lower the level of shared understanding.
H2:	The more a relation between two individuals qualifies as crossing hierarchical boundaries, the lower the level of shared understanding.
H3:	Task-interdependence will positively affect shared understanding in interns' collaborative relations.
H4:	The effect of task-interdependence on shared understanding will be stronger in interprofessional collaborative relations than in intraprofessional relations.
H5:	The effect of task-interdependence on shared understanding will be stronger in collaborative relations across hierarchical boundaries than in collaborative relations between interns.

Simultaneously, our network model accounts for individual-level factors that may affect one person's overall level of shared understanding in internship situations. Figure 3.2 represents our overarching theoretical framework explaining shared understanding in a collaborative relation, and Table 3.1 contains the hypotheses we tested.

> **H1:** The more a relation between two individuals qualifies as interprofessional cooperation, the lower the level of shared understanding.

Regarding interprofessional relations, individuals prefer to connect to others they perceive as more similar to themselves. This "homophily effect" (McPherson et al., 2001) can be found in many social situations (Curry & Dunbar, 2013), including the health care workplace (Creswick et al., 2009; DiBenigno & Kellogg, 2014). Homophily occurs across several types of social and symbolic boundaries in the workplace (Lamont & Molnár, 2002), and is found for both intraprofessional collaboration (Shoham et al., 2016) and collaborations across hierarchical boundaries (Cott, 1997). People find it easier to understand and put into context the behavior of others who they perceive as similar to themselves (Caza et al., 2018).

Shared knowledge backgrounds may also explain why shared understanding in intraprofessional collaborations might be higher than in interprofessional collaborations (Hogg, 2000). As professional educational programs socialize students into the roles, functions, and performances of a profession (Grace, 2021), certain carriers of social meaning, such as the use of jargon laden language or professional

problem-framings, are shared by professionals in the same disciplines (Langley et al., 2019). Because of these empathizing effects and shared knowledge backgrounds, we expect the degree of shared understanding between interns and co-workers to be higher if both are in the same profession, compared to being in different professions.

H2: The more a relation between two individuals qualifies as crossing hierarchical boundaries, the lower the level of shared understanding.

Besides the effect of interprofessional collaborative relations on shared understanding, cross-hierarchies in collaborations also play a crucial role. A relatively recent development in the field of health care is the increase of joint internship programs in which multiple interns are explicitly working together in a workplace (Grace, 2021; Tynjälä et al., 2021). While such collaborative student learning shows pedagogical potential, it is important to recognize the different mechanisms underlying collaborative learning in student-student and student-professional collaborations (Sloane et al., 2021; Tai et al., 2017).

While research on collaborations between interns is sparse, a survey of the literature suggests that interns and professionals frequently have difficulty developing consensus on the appropriate roles and functions in organizations (Naidoo et al., 2017; Ross et al., 2018; Sheehan et al., 2005). In markedly hierarchical relations, where one individual has power over another, this formal differentiation hampers the development of shared understanding and empathizing (Cott, 1997; Fox & Comeau-Vallée, 2020). Additionally, interns often strive for the approval of supervisors and professionals in the organization (Pugsley et al., 2021), sometimes experiencing that their work is not seen by their supervisors (Naidoo et al., 2017). On the contrary, students embedded in horizontal relationships will find it easier to understand their peers than students embedded in hierarchical relationships with professionals (Bakker & Akkerman, 2019; Lamont & Molnár, 2002).

H3: Task-interdependence will positively affect shared understanding in interns' collaborative relations.

Following many efforts to enhance interprofessional skills in health care workers (see Franklin et al., 2015; Johnson & O'Connor, 2008), internship programs often aim to increase interns' hands-on experience with interprofessional collaborations. Yet, how exactly does collaboration lead to shared understanding?

Task-interdependence has a strong history in organizational sciences as an explanatory concept for the strength and success of collaborations, with many studies showing complex relations between perceived group structures, tasks, goals, and rewards (Runhaar et al., 2014; Wageman, 1995). Van der Vegt and Van de Vliert (2005)

find compelling evidence that individuals are more likely to help others (even out-group members), when their tasks are perceived to be interdependent. Task-interdependence is a functional characteristic of a collaborative relationship, with clear implications for the value of such collaborations: if one person's outcome depends on another person's cooperation, the first person has an incentive to cooperate with the other (Raub, 2021).

In situations in which two individuals' tasks are interdependent to reach particular goals, both individuals have a regulatory interest in the other's behavior (Heckathorn, 1988; Markon et al., 2017). Given this regulatory interest, individuals are more inclined to gain more accurate knowledge about that person's behavior (Shimizu et al., 2022). In other words, the functional interdependence of collaborations is *cognitively mediated* (Lindenberg, 1997, 2015b): in groups in which tasks are interdependent, we expect individuals to invest in understanding those people with whom they perceive an interdependence. This mechanism, therefore, predicts that interns, rather than learning simply through interacting in internship organizations, would be more goal-oriented in their collaborative relationships. As a result, interns would be more motivated to develop shared understanding particularly in collaborative relations they perceive to be task-interdependent.

Two insights regarding task-interdependence in interprofessional collaboration are essential to fully understand its importance. First, task-interdependence does not only mean you depend on another person's actions, but also that their tasks are dependent on your behavior. As such, task-interdependence can have a strong motivational effect on health care workers (Teekens et al., 2021), who recognize that only through joint effort can optimal patient care be achieved (Reeves et al., 2016). Second, task-interdependence is not merely a functional characteristic of a collaborative relationship, as it also needs to be cognitively experienced by the collaborators (Johnson et al., 2003). Although many opportunities for joint benefits in collaborations between health care workers may appear, collaborators might only engage in interprofessional relationships when they perceive their tasks as interdependent (Frenk et al., 2010).

> **H4:** The effect of task-interdependence on shared understanding will be stronger in interprofessional collaborative relations than in intraprofessional relations.

Although we expect shared understanding to be lower in interprofessional collaborations, we hypothesize task-interdependence might play a moderating role in situations that cross professional boundaries. Given that interprofessional collaboration promises to offer several collaborative benefits, an increase in task-interdependence will make the relationship more useful in the experience of the collaborating parties. Following the argument that functional interdependence is

cognitively mediated (Lindenberg, 1997, 2015b), the realization that the collaborators' tasks are intertwined will increase their motivation to understand how the other works (Baik et al., 2018; Pomare et al., 2019). Therefore, we expect interns will be motivated even more to develop shared understanding in collaborations with professionals from other professional backgrounds with whom they have task-interdependent relations (Schot et al., 2019).

While we hypothesize task-interdependence to affect shared understanding in all collaborations, we expect that interprofessional collaborations offer more opportunity for task-interdependence to function. The reasons for this are twofold. First, the shared understanding will, from the start, be higher between intraprofessional collaborators because of joint socialization and experience in educational programs. As educational programs accustom students to professional expectations, roles, and practices (Zerden et al., 2021), this gives intraprofessional collaborators a head start on sharing understanding. As work in health care organizations is highly interdependent (Barr, 1998; Frenk et al., 2010), smooth collaboration between individuals from different backgrounds is key (Shimizu et al., 2022). Following the motivated cognition argument (Lindenberg, 2015b), we expect students will be motivated to develop shared understanding in collaborations in which they recognize the additional value of the workings of other professionals to complete their job satisfactorily (Schot et al., 2019).

> **H5:** The effect of task-interdependence on shared understanding will be stronger in collaborative relations across hierarchical boundaries than in collaborative relations between interns.

Similar to the interaction effect proposed in Hypothesis 4, we expect task-interdependence to moderate the relationship between shared understanding and crossing hierarchical boundaries in collaborations. Authority structures present in work teams often work best when the hierarchical superior's behavior is perceived as useful and meaningful by the subordinate (Lindenberg, 1997; Lindenberg & Foss, 2011). When the behavior of the intern and the supervisor/professional is task-interdependent, we expect that interns will be more likely to see the added value of the other, while simultaneously being cognitively motivated by the situation to contribute to the common good. Therefore, hypothesis 5 runs parallel to our argumentation on task-interdependence moderating the effect of crossing professional boundaries.

3.3 | Method

3.3.1 | Empirical Setting

Data were collected in the health care sector in the Northern provinces of the Netherlands, in collaboration with the interorganizational agency NetwerkZON, which functions as a central actor in the organization and allocation of health care internships among several institutions in the region. In that role, NetwerkZON has changed the content of internships for students following an education at *Middelbaar beroepsonderwijs*-schools (educational programs for upper-level secondary vocational education, consisting of 1- to 4-year programs offered to students after completion of their high school curricula (see Renold et al., 2018, p. 32)). Several of these organizations now offer internships in so-called "learning networks." These learning networks explicitly aim to be interprofessional and interorganizational by containing members from different professional backgrounds and organizations. The goal of such learning networks is to explicitly foster learning among all participating members, based on a design theory developed by Zuidersma (2012). Given the learning networks' combination of interprofessional collaboration and explicit focus on learning, the setting offers a fitting opportunity to assess shared understanding among interns and their collaborators.

The present article deals with one particular type of learning network, in which first-year nursing students participate in a 20-week internship to acquire clinical and practical insights into their future occupation. These students follow their internship programs in different organizations (e.g., hospitals, nursing homes, mental health care organizations), while collaborating on joint assignments and presentations in school, aiming to increase interprofessional collaborative capacities at an early stage.

3.3.2 | Data Collection

The study included all nursing students who participated in a learning network internship organized by NetwerkZON in the academic year of 2018-2019 (*n*=150). This study was approved by the departmental Ethics Committee at University of Groningen (ECS-190410). Data were collected in collaboration with NetwerkZON and participating schools and health care organizations. Participants were first informed of our research purposes through an information letter distributed by a coordinator of the learning network. The information letter included the purposes of the study, the

research procedure, and an indication of when a member of the research team would join the interns' learning network meeting to distribute the survey. The information material clearly stressed that participation was optional, and that interns would not be disadvantaged if they refused to participate.

Participants completed a tablet-based network questionnaire in Dutch. The questionnaire was programmed in Qualtrics (Provo, UT, 2005). To ensure the highest possible response and completion rate, the questionnaire was installed on tablets. The researchers attended learning network meetings at health care organizations around Groningen, between April and June in 2019, where each participating intern was handed a tablet to answer the questionnaire. Respondents could raise questions during the data collection when necessary. The average completion time was just over 18 minutes. All names were anonymized after carefully checking for duplicate alter names for interns.

3.3.3 | Measurement and Control Variables

The questionnaire was developed by the research team for the empirical setting of "learning networks" in the Netherlands, in collaboration with the director of NetwerkZON and in consultation with two internship supervisors in health care organizations. We first ran a pilot-study on two sub-learning networks, after which we calibrated the survey to ensure the data would be comparable across interns from different professional backgrounds. To temper the length of the questionnaire, most variables were measured with one-item five-point Likert-type scales. Only intrinsic motivation was measured using a validated scale from Ryan and Connell (1989).

Our network survey followed the convention of ego-network data gathering, by using a name-generator first and questions on the relations afterwards. The name-generating questions asked interns to nominate up to eight network members with whom they have discussed matters relating to work in their internship organization. Students were not required to fill in a name, although they were nudged to enter at least one name if they attempted to skip the question. The upper limit of eight alters was chosen to avoid overburdening the respondent, while giving ample room to mention relevant collaborative partners (following Merluzzi & Burt, 2013). Sample statements from the survey are featured in Table 3.2.

Our main argument is that shared understanding differs across the set of an individual's collaborative relationships, and that a focus on individuals alone does not suffice. To convincingly make this argument, we need to isolate the effects inherent to the interns' collaborative relations from explanations rooted in potential individual factors. Therefore, we include three key individual characteristics in our models: motivation, attitudes, and perceptions of a collaborative culture in the organization. We include motivation, because student outcomes such as grades, participation, and

Table 3.2

Operationalizations, Measurements, and Descriptive Results of Concepts

Level	Concept	Item	Question	Min.	Max.	Mean	SD.
Level-1 (Alter)	Shared understanding	5-point Likert-type scale	When we are discussing matters related to work, [alter's name] and I find it easy to understand one another	1	5	4.04	.76
	Interprofessional Relation	Dichotomous	To which of the following professions does [alter's name] belong? (0 = nursing, 1 = other)	0	1	0.40	-
	Cross-hierarchical Relation	Categorical	Which role does [alter's name] have in your internship?: Student	0	1	0.10	-
			Supervisor in organization	0	1	0.24	-
			Supervisor in school	0	1	0.04	-
			Colleague	0	1	0.62	-
	Task interdependence	Two item 5-point Likert-type scales	How important is [alter's name] for you to finish your work?	1	5	2.74	0.89
			How important are you for [alter's name] to finish their work?				
	Cooperation frequency	5-point Likert-type scale	How often do you collaborate with [alter's name] in a regular week?	1	5	2.60	0.94
Level-2 (Ego)	Interprofessional Attitude	5-point Likert-type scale	I believe that by collaborating with colleagues from different professions I will provide better care to my patients	1	5	4.18	0.63
	Belief in collaborative culture	5-point Likert-type scale	In my internship organization, colleagues from different professions collaborate closely to provide better care to the patients	1	5	4.15	0.90
	Motivation	Sixteen item 5-point Likert scale	Scale from Ryan & Connell (1989) (α=.82)	1.69	5.00	3.49	0.46
Level-2 (Ego)	Network Size	Count	Count of the amount of alters mentioned	2	8	7.30	1.33

attendance often strongly depend on student's individual motivation (Ganotice et al., 2021). Evidence indicates that internship situations are no different in this respect (Sides & Mrvica, 2016). The second individual characteristic is the intern's interprofessional attitude, being their internalized disposition towards working with individuals from other disciplines to reach particular goals (Curran et al., 2008). We include this individual characteristic to ensure our models control for a generalized willingness to collaborate with workers from different disciplines (Pugsley et al., 2021; Sumiyoshi et al., 2020). The third individual characteristic accounts for the intern's perception of the collaborative culture present within their organization. In interprofessional care settings, research points towards the importance of organizational collaborative cultures to instigate and nurture successful collaboration (Carney et al., 2019; Pollard, 2008; Schmitt et al., 2013). We include the intern's perception of the extent to which interprofessional collaboration occurs frequently in their organization to ensure our models control for the potential alternative explanation that students follow the perceived norms in their internships.

Frequency of collaboration is included to check whether we are simply measuring exposure effects alone. Potentially, shared understanding in collaborative relations grows out of a familiarity with other individuals in the organization, regardless of task-interdependence (Hofhuis et al., 2018). This exposure mechanism would occur when shared understanding grows from witnessing another individual's behavior often, without the relation necessitating a particular task at hand. We disentangle the concept of task-interdependence from cooperation frequency to assess how shared understanding can grow in collaborative relations.

The last control variable in our model is a structural variable counting the size of an intern's collaborative network. We include network size to estimate the levels of shared understanding when interns have more or fewer collaborative partners. This allows us to check whether there is an effect of the size of the student's reported network on the shared understanding in their collaborative relations.

3.3.4 | Data Analysis: Multilevel Modelling

Due to violations of the independence assumption, regular regression analyses were not appropriate for hierarchical data structures. Rather, following Snijders et al. (1995) and Van Duijn (2013), we conceived our data points as a multilevel structure, with relations to alters (level-1) nested in egos (level-2). This is possible because the ego-networks themselves are independent from one another.

Figure 3.3 shows a visual representation of a traditional ego-network depiction next to the nested multilevel data structure. On the left, the ego-network from Figure 3.1 is depicted again. On the right-hand side, the same ego-network data is represented in multilevel model structure. This multilevel model allows for the variance of the

Figure 3.3

Representation of One Ego-Network as Traditional Ego-Network and Multilevel Model

Traditional ego-network depiction

Multilevel Model

Level-2 (ego)

Level-1 (alters)
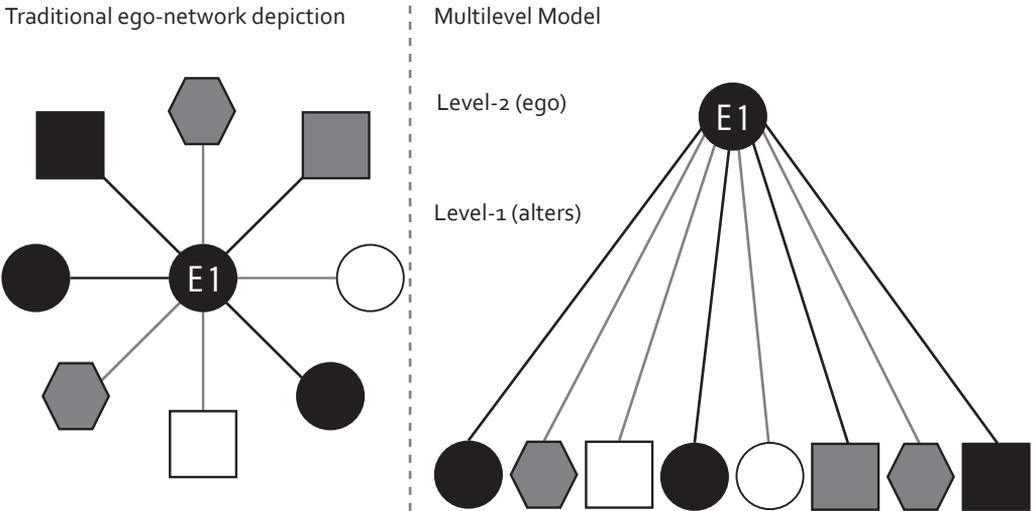
dependent variable to be divided over the two levels, explaining some of the variance of shared understanding as a characteristic of the relationship, and the remaining variance as a characteristic of ego. We estimated our models using the `lmer`-package in `R`, and used a step-wise approach to elicit the best fitting model. As some models contain interaction terms, the continuous variables were mean-centered.

3.4 | Results

From the 150 interns who participated in the learning networks, 135 completed the questionnaires (90.0% completion rate). Our final data consist of 135 egos, who on average reported 6.86 alters, adding up to a dataset of 865 alters. Table 3.2 presents the descriptive statistics regarding the variables measured at the ego-level.

Table 3.3 contains information on the reported alters. Out of 865 reported alters, 49 relations were shared among egos, indicating some ego-networks are connected through collaboration with a shared alter. Therefore, our data violated the assumption of independence slightly. However, as alternative cross-classified models that acknowledge the interdependence fail to converge, we continued with models without cross-lagged effects.

Table 3.4 contains the results of the analyses. To assess whether a multilevel structure is appropriate for the nature of the sampled data, we first estimated an empty model. This model distinguishes between the variance of shared understanding found at the ego-level (0.218) and the alter-level (0.365). These values allowed us to calculate

Table 3.3

Descriptive Counts of Alters in Ego-Networks

Alters	Distribution of Number of Reported Alters	Min	Max	Mean	SD
Total Count		2	8	6.41	1.78
Roles					
Interns		0	4	0.64	0.90
Supervisors in Organization		0	7	1.51	1.11
Supervisor in School		0	2	0.23	0.52
Colleagues		0	8	4.02	1.98

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the Intraclass Coefficient (0.374), a measurement of the proportion of the variance that is found at the ego-level. This score indicates that 37.4% of the variance of shared understanding could be attributed to individual-level factors, while 62.6% of variation was found within interns, showing that shared understanding differs substantially between collaborations one intern engages in. Our empty model thus indicates that distinguishing relational from individual factors in explaining shared understanding is essential, as both levels affect the final scores that interns report.

Model 1: Relational Characteristics as Fixed Effects

In Model 1, we added all relational characteristics as direct fixed effects. We assessed the general effects of hierarchy, interprofessionalism, cooperation frequency and task-interdependence on shared understanding. The proportion of remaining variance at the ego-level decreased from .365 to .314. Model 1 is an improvement on the empty model (χ^2 = 121.52 , df = 6, p < .001). Although we found no difference in the degree of shared understanding between collaborations with interns, organizational supervisors, and colleagues, the model shows a negative, significant effect of supervisors in school on shared understanding. Moreover, cooperation frequency and task-interdependence have positive significant effects.

Model 2: Interactions on the Relational Level

Model 2 introduces several interaction terms of the relational (level-1) variables. The model fit is not a significant improvement (χ^2 = 12.51, df = 9, p = .186). Most of the model effects remain the same. The only notable difference is that the effect of collaborations with organizational supervisors

has become significant. The only significant interaction effect pertains to task-interdependence in collaborative relations with colleagues, with its positive sign indicating that task-interdependence has a more positive effect in collaborations with colleagues than in collaborative relations with interns.

Model 3: Intern Characteristics as Fixed Effects

Model 3 introduces characteristics of the student and network size as fixed effects. We included interprofessional attitudes, perceptions of the collaborative culture in the organization, motivation, and network size as level-2 variables. This model is an improvement compared to previous models, as the deviance decreases to 1,636.61 (χ^2 = 12.78, df = 5, p = .026). The effects of previous variables remain similar. Only the interaction effect of cooperation frequency for collaborations with school supervisors changes, as the negative effect in this model turns significant (b = -0.27, p =

Table 3.4

Estimated Coefficients for the 2-Level Random Intercept Models for Alters (Level-1) and Egos (Level-2)

Fixed Part	Model 0 B	SE	Model 1 B	SE	Model 2 B	SE	Model 3 B	SE	Model 4 B	SE
Intercept	0.02	0.05	0.02	0.04	0.00	0.41 ***	0.01	0.04	0.01	0.05
Alters (Level-1)										
Intern: reference category				ref		ref		ref		ref
Supervisor in Org.			0.07	0.09	0.23	0.11 *	0.23	0.11 *	0.19	0.11
Supervisor in School			-0.60	0.13 ***	-0.53	0.16 ***	-0.54	0.16 ***	-0.60	0.15 ***
Colleague			0.05	0.07	0.20	0.10	0.20	0.10	0.17	0.10
Interprofessional			-0.04	0.05	-0.04	0.05	-0.04	0.05	-0.02	0.04
Cooperation Frequency			0.09	0.02 ***	0.10	0.03 ***	0.10	0.03 ***	0.10	0.02 ***
Task interdependence			0.19	0.03 ***	0.20	0.03 ***	0.19	0.03 ***	0.20	0.04 ***
Interactions (Level-1)										
Org. Supervisor * TI					0.16	0.11	0.16	0.11	0.15	0.11
School Supervisor * TI					0.28	0.17	0.30	0.17	0.33	0.17
Colleague * TI					0.22	0.10 *	0.21	0.10 *	0.18	0.10
Interprofessional * TI					-0.01	0.05	-0.01	0.05	-0.02	0.05
Org. Supervisor * CF					-0.11	0.08	-0.10	0.07	-0.10	0.07
School Supervisor * CF					-0.25	0.14	-0.27	0.14 *	-0.29	0.13 *
Colleague * CF					-0.03	0.06	-0.03	0.06	-0.04	0.06
Interprofessional * CF					-0.04	0.05	-0.04	0.05	-0.07	0.05
TI * CF					0.03	0.03	0.03	0.03	0.01	0.03
Egos (Level-2)										
Interprofessional attitude							0.17	0.07 *	0.16	0.07 *
Collaborative culture							0.10	0.05 *	0.07	0.05
Motivation							0.13	0.09	-0.07	0.09
Network (Level-2)										
Network size							-0.06	0.03 *	-0.06	0.03 *
Random part										
Alter (Level-1 residual variance)	.365	.604	.314	.560	.312	.559	.312	.559	.283	.532
Ego (Level-2 residual variance)	.218	.467	.216	.464	.218	.467	.187	.433	.197	.444
Ego TI Variance									.058	.241
Deviance	1790.70		1669.18		1656.67		1636.61		1608.44	

Note. Shown values are the unstandardized B coefficients, predicting the response variable Shared Understanding.
* Significant coefficients are marked by: *p<0.05, **p<0.01, ***p<0.001.

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.046). Given that the negative coefficient of this interaction is larger than the positive coefficient of the direct effect of task-interdependence, this model predicts that cooperation frequency with school supervisors has a net negative effect on the shared understanding with supervisors.

Of the intern's individual characteristics, interprofessional attitude and perceptions of the collaborative organizational culture are significant predictors of shared understanding, both with a positive effect. Individual motivation does not significantly affect the predicted shared understanding in collaborations. The negative and significant effect of network size indicates that with an increase in intern's network size, the predicted level of shared understanding decreases.

Model 4: Random Slope for Task-Interdependence

In our final model, we included a random slope for task-interdependence. This means that we analyzed how the strength of the effect of task-interdependence differed between interns. Adding this random slope makes for a significantly better model fit, with a deviance of 1608.44 (χ^2 = 28.71, df = 1, p < .001). The random slope allows each intern to have their own effect size of task-interdependence on shared understanding. In Figure 3.4, we plot each intern's effect size (fixed and random taken together) of task-interdependence on shared understanding, ordered by the

Figure 3.3

Representation of One Ego-Network as Traditional Ego-Network and Multilevel Model
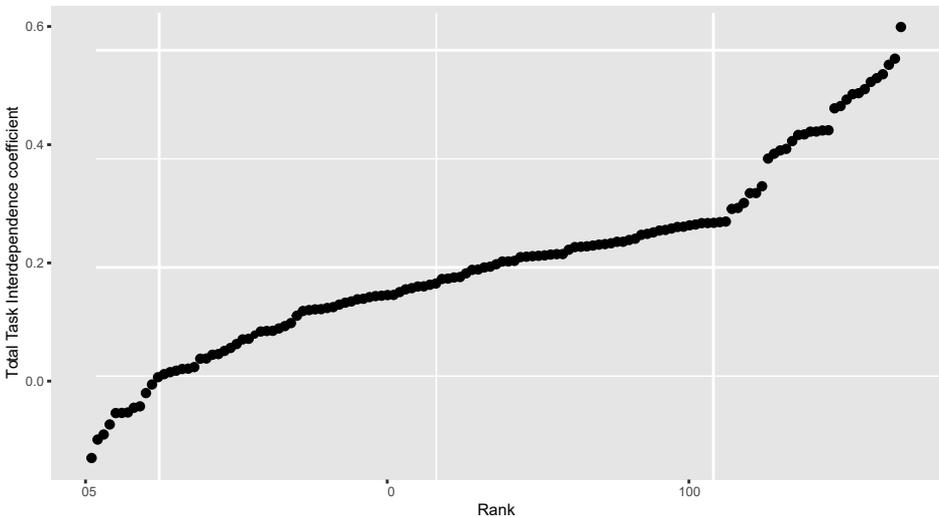
Note. This ordered plot shows the total effect (fixed plus random) effect of task interdependence on shared understanding per intern, from the strongest total negative effect to the strongest total positive effect. The dashed line indicates a null effect.

strength and direction of the effect. For the majority of interns, task-interdependence positively affects understanding: most of the cases are above the null-coefficient line. Nevertheless, there is a small sub-group of interns for whom task-interdependence has no, or even a negative, effect on shared understanding.

With this random slope, we find the most accurate model fit. Most effects found in previous models remain, with the main effects of task-interdependence and cooperation frequency being positive and significant predictors of shared understanding. The majority of interaction effects hypothesized in H4 and H5 were not found: only cooperation frequency in collaborations with school supervisors interact negatively. The net predicted effect of task-interdependence in collaborations with school supervisors is no longer positive, as seen by adding the coefficients of the direct effect (b = 0.20) and interaction effect (b = -0.29) together. This indicates that the effect of cooperation frequency on shared understanding differs for supervisors in schools: meeting with interns more regularly does not increase shared understanding for teachers as it does for collaborators in the internship organization. On the individual level, the only remaining significant predictor of shared understanding is an intern's interprofessional attitude, with both motivation and organizational culture returning non-significant results. The final effect we found is a network effect, with interns naming more collaborators reporting lower levels of average shared understanding.

3.5 | Discussion

This study reveals the importance of collaborative relations in preparing students for the interprofessional practices of health care work. Interprofessional collaboration has often been studied as an individual trait (e.g., Dellafiore et al., 2019; Reeves et al., 2016; Stadick, 2020; Ulrich et al., 2019), and sometimes as a characteristic of a team (Spitzer-Shohat et al., 2018), but empirical researchers seldom examine the collaborative relation *between* health care workers (see Pomare et al., 2019; Shoham et al., 2016; Simpson et al., 2020 for exceptions). However, theoretical work often distinguishes individuals from their collaborations (Abu-Rish et al., 2012; D'Amour et al., 2005; Walsh et al., 1999), indicating the need for empirical assessments of the relational nature of interprofessional collaboration.

Nursing interns reported variation in the shared understanding across their collaborators that cannot be explained by individual characteristics of the interns alone. The forecasted differences in shared understanding between interprofessional versus intraprofessional collaborations (H1) were not found. These results are relevant in light of increasing attempts by health care organizations to increase the incidence of interprofessional education in work settings (Grace, 2021). The insignificance of the effect hints that interns do not necessarily find it easier to understand others they perceive as having a similar professional background (cf. Tai et al., 2017).

However, Tynjälä et al. (2021) pointed out that such collaboration requires sufficient supervision from professionals within organizations, and further research is necessary to understand under which organizational conditions collaborative student-learning thrives.

Regarding the different roles (H2), the only significant finding is that shared understanding was lower when collaborating with a supervisor compared to collaborating with another intern. The distance between teachers and internship organizations often reflects that interns experience their internship as disconnected from their educational curricula (Deketelaere et al., 2006; Naidoo et al., 2017). The negative interaction effect of cooperation frequency and school supervisor relations suggests a solution would require more than increasing contact between interns and supervisors. Increasing the perceived interdependencies between teachers and interns may help to improve the connection between vocational education and workplace professionalization.

In all models, task-interdependence (H3) had a positive and significant effect on shared understanding in interns' collaborations, even when including cooperation frequency as a control variable. The hypothesized interaction effects of collaborations crossing professional (H4) or hierarchical (H5) boundaries were not found. Nevertheless, the consistently positive direct effect of task interdependence in collaborative relations indicates that internship supervisors and program designers could focus on making this feature of collaborations salient for the interns in order to nurture shared understanding. Professional learning occurs in situations that closely resemble real work settings, in which students realize how their behavior affects organizational processes (Ceelen et al., 2021; Ng et al., 2012; Shimizu et al., 2022). Our study shows a potential path towards developing such a sense of impact on the organization, as interns' understanding of others is boosted in situations where they perceive their collaborative relations as task-interdependent (corroborating qualitative insights from Visser et al., 2019). This finding invites educational practitioners to actively emphasize to interns how their work affects the work of others. To do so, Sy (2017) showed evidence that workplace team meetings may affect student awareness. The Centre for Interprofessional Education (2022) offers materials that aid in building assignments for student-professional collaboration. We echo the point of Barr et al. (2005) that interprofessional education has to be interactive.

Our models include several individual characteristics, namely motivation, interprofessional attitude, and perception of the organizational culture. The positive and significant effects of interprofessional attitudes on shared understanding are in line with previous empirical research (e.g., Pugsley et al., 2021; Sumiyoshi et al., 2020). Surprisingly, we did not find significant effects of intern motivation and perceptions of organizational culture on shared understanding in interns' relations. We believe our shift in focus, moving from the individual to their collaborations, may explain these

results. Given the well-documented positive effects of motivation on several behavioral outcomes in health care (Ganotice et al., 2021; Ng et al., 2012), and the often-found effects of organizational culture on interns' behavior (Carney et al., 2019; Lewitt et al., 2018), we interpret our results as an indication that shared understanding varies among collaborators *despite* these general individual-level effects. This variation implies a potential avenue towards increasing shared understanding for both motivated and less-motivated interns, as increasing the perceived task-interdependence seems to strengthen the shared understanding among collaborators for almost all interns, regardless of their individual motivation or perceived organizational culture.

Future researchers might strengthen the relational line of reasoning by improving upon some of this study's limitations. First, this study uses information that originated from the nursing interns only, while not measuring the perceptions of their collaborators. Including the perception of both parties might elucidate the interns' progress more accurately than their own perceptions of that progress (Pollard et al., 2005). Second, our study is cross-sectional, limiting our capacity to make causal claims about the relation between task-interdependence, shared understanding, and individual characteristics. Nonetheless, the aim of the study was not to establish causal links between the theoretical concepts, but to demonstrate the crucial role of a relational lens with regard to shared understanding in students' internship collaborations. Finally, the conclusions may be specific to the Dutch context, and research in other countries might help identify any cultural specificities.

3.6 | Conclusion

We set out to uncover how shared understanding in health care interns' collaborative relations is affected by characteristics of the collaborative relation and characteristics of the health care intern. We analyzed the collaborative networks of interns to examine whether individual factors (attitudes, perceptions of collaborative cultures, and motivation) or relational factors between collaborators (task-interdependence, cooperation frequency, and interprofessional and hierarchical roles) affected shared understanding among 150 Dutch nursing interns and their collaborators (n=865). Our results indicate that task-interdependence, above and beyond cooperation frequency and individual characteristics, may enhance shared understanding in interns' collaborative relations, regardless of whether these collaborations cross hierarchical or professional boundaries. This study shows the potential of theoretically and empirically assessing interprofessional learning on a relational level. As nursing interns report the highest levels of shared understanding

in relations characterized by high levels of task-interdependence, this study indicates internship design might benefit from a focus on improving the salience of the tasks that interns perform together with professionals from both their own, and other, professional backgrounds.

3

Chapter

4

Shaping Resilience

How Work Team Characteristics Affect Occupational Commitment in Health Care Interns During a Pandemic

Abstract

The covid-19 pandemic has strained organizational systems, with the health care field particularly affected given sudden surges of demand and changes of policy. The pandemic showcases the need to understand how social systems can be resilient to such external shocks. Drawing on "joint production motivation" theory, this article offers a theoretical framework linking a social system's resilience with individual behavior. We examine a population strongly affected by the outbreak of the covid-19 pandemic: nursing students participating in internship programs before and during the crisis. Of the 141 nursing students in our sample, 23% opted to continue their internship. Four characteristics of work teams (collaborative contact, shared understanding, task interdependence, and collaborative organizational cultures) are hypothesized to explain students' continued occupational commitment during the crisis. Results from binomial logistic regression analyses show task interdependence and intrinsic motivation positively affect the decision for continued participation in internship programs during the pandemic.

Keywords

4.1 | Introduction

The resilience of social systems, such as a country's health care sector, strongly depends on the willingness of its participants to keep contributing to the common good, particularly in times of external shocks. During the covid-19 pandemic, many accounts described health care workers showing commitment to their occupational duties, for instance by working overtime and risking their own health in potentially life-threatening situations (Chew et al., 2020). However, such solidarity among professionals should not be taken for granted, as there are also reports of health care workers refusing to work due to the pandemic (e.g. National Law Review, 2020; NL Times, 2020). In the context of global crises and given the increase in risks and disasters of various nature (Cutter, 2018; Van Bavel et al., 2020), it is of vital importance to understand how social systems can be made more resilient through the promotion of occupational commitment, and under which conditions an individual's commitment remains unchanged if circumstances suddenly deteriorate.

This study sheds light on the problem of social resilience in the health care sector by investigating the occupational commitment of nursing students participating in vocational internships before and during the covid-19 pandemic. Our target population was offered a choice either to stop participating in their internship program without repercussions on their vocational training, or to continue working. Only 23% of students (n=141) continued their internship. The choice to continue working indicates occupational commitment in a unique way, as students are not subject to formal requirements as in a labor contract.

Our main claim is that (dis-)continuation of the student's internship is mainly a function of specific collaborative organizational design principles present in the students' internship environments, being *collaborative contact*, *shared understanding*, *task interdependence* and *collaborative organizational culture*. Drawing on a framework developed in the field of organization science, we use "joint production motivation theory" (Lindenberg & Foss, 2011) to explain how the structure of a student's collaborative relations in an organizational environment keeps students committed to the organization. While many studies have looked at individual level characteristics, such as intrinsic motivation (Rockmann & Ballinger, 2017) or reward systems (Lee & Puranam, 2017) to explain organizational commitment, our explanation adds to the understanding of professional commitment by emphasizing the importance of organizational, collaborative conditions. We argue that the more an individual's work environment strengthens the salience of joint production motivation through collaborative contact, task interdependence, shared understanding, and collaborative organizational culture, the more likely the system will be resilient against external shocks, such as produced by the current pandemic.

The next section outlines the theoretical background. This is followed by a sketch of the research design, a presentation of the results, and a discussion.

4.2 | Theory

4.2.1 | Joint Production Motivation and Social Resilience

Joint production motivation entails an individual's willingness to collaborate with others to achieve a common goal (Lindenberg & Foss, 2011). The concept of joint production motivation originated in management theory, as "a special kind of motivation that is particularly geared to the fact that organizational members need to engage in collaborative activities such that organizations that tap into it would gain a performance advantage" (Lindenberg & Foss, 2011, p. 500). While there are many factors that explain organizational performance, organizations with structural conditions that foster joint production motivation are expected to have superior performance, because its members are willing to forego individual needs to contribute to a common good. In addition, we argue that organizations with such structures will instigate higher levels of persistent commitment in the face of "unknown" external threats, which in turn increases the general level of resilience of a cooperative system.

Resilience is an open-ended concept, as there are different potential threats to a social system (Miller et al., 2010; Norris et al., 2008). At the core of social resilience lies "the capacity of individuals or groups to secure favorable outcomes [...] under new circumstances, and, if need be, by new means" (Hall & Lamont, 2013, p. 13). As such, social resilience at least contains persistability, i.e., the amount of change and disturbances a system may endure without falling apart (Holling, 2001). Only by persisting can other forms of resilience (e.g., adaptability and transformability) come forward (Matzenberger, 2013). We conceive of a social system's resilience as its capacity to absorb disturbances despite external shocks while continuing to create value. This definition allows us to analyze the early responses to the covid-19 outbreak in the field of health care, where immediate action was required to deal with increasing demand and changing rules.

To understand how organizational conditions can incite joint production motivation in individuals, it is necessary to briefly introduce its underlying cognitive goal-framing theory (Lindenberg, 2001, 2008b), which explains how individuals' personal conceptions of appropriate goal-seeking behavior is affected by contexts. Goal-framing theory constitutes the backbone of joint production motivation (Lindenberg & Foss, 2011), as it details how an individual's perception of a situation leads to different forms of behavior, either aimed at achieving individual goals, or at benefitting a social group (Lindenberg & Steg, 2013). Briefly, goal-framing theory is a cognitive social theory positing that individuals perceive situations through overarching

goal-frames. These goal-frames guide individual behavior by defining perception of what goals are appropriate to pursue. Goal-frames are particularly powerful cognitive tools, working as "salient overarching goal[s] that dominate an individual's mindset in a given situation" (Arana & Wittek, 2016, p. 767). There are three overarching goals that can frame a situation: hedonic, gain, and normative goals (Lindenberg & Steg, 2013).

When an individual perceives a situation through a hedonic goal-frame, their cognitive emphasis is on the immediate fulfillment of their personal needs. In such situations, it is possible and appropriate to "do as one pleases", without thinking about the future or the consequences on other people. Alternatively, the gain goal-frame is still an individualistic mindset, but one focused on the future. Action is oriented towards gaining an advantage, not immediately, but later in time. Many individual actions are performed within this frame, for instance, investing in study programs or maintaining a healthy diet. Finally, the normative goal-frame emphasizes to "act appropriately". For example, where solidarity norms are salient, this implies forgoing the possibility to realize a personal benefits in order to improve the well-being of others, or to avoid harming them. Whichever one of these three goal-frames is salient for an individual at a given moment is an innately social phenomenon (Keizer et al., 2008). Goal-frames are "contagious", as individuals imitate the behavior of others (Aarts et al., 2004).

Goal-framing theory explicitly explains how cooperation can or cannot be maintained under changing external circumstances, because it incorporates an account of the interplay of goal-frames. First, the goal-frames have different levels of a-priori salience: without situational nudges, individuals default to the hedonic goal-frame, while the normative goal-frame is the most brittle and in need to be constantly strengthened through situational cues (Keizer et al., 2008). Secondly, while one goal-frame will always be most salient, the other goals are still active in the background. For the normative goal-frame, this means it can be strengthened if individual goals align with common goals, and falter quickly if goals conflict (Lindenberg, 2008b).

Analytically, joint production motivation explains when individual goal-frames overlap or strengthen the achievement of organizational goals because they motivate individuals to work towards the organization's interests (Lindenberg & Foss, 2011). In goal-framing terms, individuals will be most strongly motivated to contribute to joint production when they achieve joint goals, and when their individual rewards do not incite too much competition within work-teams.

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4.2.2 | Adapting Joint Production Motivation to Healthcare Education Settings

In its original formulation, four antecedents are supposed to instigate joint production motivation in employees: team and task interdependence, cognitive and symbolic management, recognition-based reward structures, and knowledge-based authority design (Lindenberg & Foss, 2011, p. 504). As our investigation deals with different actors (students instead of employees) in different contexts (vocational socialization instead of regular work-place settings), we adapt the theory of joint production motivation to reflect these differences. Settings of vocational socialization differ from regular organizational settings in two ways: first, in these internship programs, reward systems are much less pronounced than they would be in regular work-place settings. While the original theory details how to make sure individual incentives are aligned with corporate goals, interns do not receive monetary rewards for their labor and work for a (pass or fail) grade at the end of their internship. This means the third antecedent of joint production motivation (recognition-based reward structures) is less relevant for student internship settings. Second, students participate in internship programs to learn and, consequently, are more dependent on colleagues than regular employees would be. This means the agency of students is lower, while also making the dependence of students on others in the organization higher than standard work-place settings. The small role of agency in student internships diminishes the impact of knowledge-based authority design on a student's willingness to collaborate.

To still paint a full picture of work team characteristics that may affect the joint production motivation of students, we focus on the two more relevant antecedents: team and task interdependence, and cognitive and symbolic management. We divide team and task interdependence into two separate aspects, being *collaborative contact* and *task interdependence*. By doing so, we cover both the relational structure of a work team (with whom people can work), and the content of such collaborative relations (how interrelated the cooperation within these relations is). The presence of symbolic management is divided in *shared understanding* and a *perceived collaborative organizational culture*, with the former covering cognitive aspects shared between individuals, while the latter deals with more general perceived norms within the workplace.

Collaborative contact

Joint production motivation depends on the "jointness" of a team endeavor. The structural necessity for such jointness is exposure to different kinds of individuals with distinct professional roles who cooperate in a work team. Contact with other colleagues and students may increase a student's awareness of potential collaborators,

with this knowledge leading to a student feeling more knowledgeable and capable. Particularly in internship environments, students are motivated to learn more in situations where their working social capital increases (Bridges et al., 2011; D'Eon, 2005). Borrowing from the network concept of structural embeddedness, we believe students who are better connected within their organizations will both receive more social cues as to what is appropriate behavior, and will experience more social control towards showing that behavior (Allen & Shanock, 2013). Hence, the perceived presence of other colleagues on the work floor will strengthen the salience of the normative goal frame.

Task interdependence

Lindenberg and Foss describe the "perceived functional links towards joint production" (2011, p. 502) as an essential antecedent of joint production motivation. This means not only that individual tasks in a work team need to be interdependent, where everyone's behavior contributes to the common goal, but also team members consciously perceive this interdependence. In vocational learning environments, we expect students to be more motivated when they realize their contribution to the common good (Runhaar et al., 2016). However, a difference with profit-driven collaborative relations is that students are in a more dependent position and therefore the effects of dependence on others will affect joint production motivation to a lesser extent. Nevertheless, we expect students who perceive their role in achieving common goals as larger to be more motivated to contribute to such goals, while students who believe they cannot contribute anyway will be much less inclined to do so.

Shared understanding

Symbolic management works through two different paths. Shared understanding refers to the fact that joint production motivation requires clear and common goals in an organizational team (Runhaar et al., 2014), as this allows individuals to understand and consequently cooperate toward goals. Shared understanding occurs on both a group-level (Septer, 2017) and a dyadic level (Beugelsdijk et al., 2009), where individuals co-construct the meaning of their cooperative relation. In a learning environment, we believe students are socialized into understanding what the goals and functions of other individuals are (Bleakley, 2013), and therefore we envision this shared understanding to be an essential aspect of a student's joint production motivation. As goal-framing theory predicts that relational signaling is a very strong mechanism through which normative goal-frames can be strengthened or undermined (Lindenberg, 2003), we expect that dyadic understanding between students and colleagues is an essential avenue through which joint production motivation can be instigated.

Collaborative organizational culture

Collaborative organizational culture is the fourth work team characteristic we investigate, and the second element of the presence of symbolic management in a work team. In addition to the structural mechanisms that may predict joint production motivation, there is also a cultural aspect to cooperation within work teams (Ancelovici, 2013; Pérez et al., 2004). Srivastava and Banaji (2011) show that individuals who perceive their organizational culture as collaborative internalize the norm for cooperation, and there is evidence for a similar process occurring with students in vocational training programs (Pollard, 2008). Building, again, on the assumption that (normative) goal-frames are contagious (Aarts et al., 2004), we expect perceived collaborative organizational cultures to positively affect students' joint production motivation. Here, we argue that students may internalize norms of cooperation through the perception of other individuals behaving normatively, even if this does not necessarily reflect the way in which these students perceive their own working relations (Hindriks, 2019).

Although this is study is aimed at investigating how work team characteristics may instigate joint production motivation and in turn affect the resilience of a social system, intrinsic motivation cannot be ruled out as an explanation of individual commitment to professional roles. Extant work has shown more intrinsically motivated students are consistently more willing and able to attain particular educational goals (for a review, see Taylor et al., 2014). As our research question deals with work team characteristics, which we expect to instigate a joint kind of motivation in interns, it is pivotal to ensure that what we are investigating is not simply intrinsic motivation. While there are theoretical overlaps between intrinsic motivation and joint production motivation, goal-framing theory offers a useful distinction: while the former still remains an intra-individual reasoning to want to pursue a particular goal, joint production motivation occurs when the normative frame is more salient in an individual (Lindenberg & Foss, 2011). To show the distinct benefit of measuring joint production motivation, we thus include intrinsic motivation as a control variable into our analysis.

4.3 | Materials and Methods

We test our hypothesis about the effects of four characteristics of work teams that incite joint production motivation in interns and whether they predict the decision to continue with the internship in a sample of nursing students (n=141) who participated in vocational internships in health care organizations in the Northern Netherlands. The selected group of students are uniquely situated for researching how the covid-19 crisis has impacted joint production motivation, as during this timeframe the students had to decide whether they wanted to continue or stop their internship. The students were initially contacted, and agreed to participate in a three-

wave survey-based panel study that follows them through their internship program. The original survey contained 24 questions, and was administered between the 2nd and 15th of March 2020. The response rate was 62%. Of 182 received responses, 41 contained invalid data. Therefore, our final n is 141.

Immediately after completion of Wave 1, the students' programs were disrupted due to precautionary measures for covid-19. After a week of having to remain at home, schools and health care organizations agreed that the decision whether or not to continue their internship program must be left to the discretion of the students. A student's decision to continue or dis-continue the internship (without any repercussions with regards to educational progress and results) is this study's outcome variable (measured dichotomously (0=quit, 1=continued)).

Our survey was designed to elicit ego-network data from our participants, to gauge with whom the students collaborated in their internships and how they perceived these relationships. We asked students to map their own collaborative networks by listing at most five other students and five professional collaborators with whom the student had worked with during their internship.

Collaborative contact

We divide collaborative contact into two parts: collaborative connections with other interns and collaborative connections with professionals in the organizations. For both, we include the count of reported alters as a proxy for how tightly connected a student was in their internship. For both counts, the survey allowed a maximum of five names.

Task interdependence

For each reported alter, students were asked to rate how strongly that person was dependent on the student's work. Their answers could range from "not important at all" to "very important". We measure task interdependence by taking the mean level of reported task dependence across all collaborative partners.

Shared understanding

For each reported alter, students were asked on a 5-point scale how strongly they felt they understood what the other did in their daily work, from "not at all" to "very strongly". As our measurement of shared understanding, we then calculated each student's mean level of reported understanding across all reported collaborative partners.

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Collaborative organizational culture

We measure perceived organizational culture by asking students how cooperative they experience their environments. The questionnaire contains two items ("In my internship organization, colleagues from different professions cooperate with one another smoothly", and "…I see employees enjoy daily lunches together"), on a 5-point Likert scale, of which we calculated the average.

Intrinsic motivation

In order to distinguish the concept of joint production motivation from intrinsic motivation, we include a scale of intrinsic motivation, using Ryan and Connell's intrinsic motivation scale (1989). It consists of nine 5-point items (e.g. "I am doing my best at my internship because I enjoy doing it", or "…I want to understand the subject"). Cronbach's α=0.86, indicating the scale is reliable.

4.4 | Results

4.4.1 | Descriptive results

Table 4.1 shows descriptive results for our dependent and independent variables. Out of the 141 surveyed interns, 32 decided to continue their internships (23%), with more than three quarters (77%) of students making the decision to stop. For our independent variables, students on average named approximately 4 other students with whom they cooperated, and around 3.5 other colleagues. Given that students were asked to report at most five persons in each category, we believe these means show most students indeed find themselves part of a collaborative working environment. In those environments, students report an average shared understanding of 3.5 on a five-point scale, while task dependence has a lower mean score of 2.0. These findings indicate that students do report to have gained quite some knowledge of the professional work of those around them, while perceiving their own contribution to the collaborative effort as weaker. The collaborative organizational culture averages a score of 3.76, and the control variable of intrinsic motivation has a mean of 3.56. Bivariate correlation scores indicate that the number of students and colleagues have different relations with levels of shared understanding of task interdependence: the number of colleagues that students report significantly correlates with mean shared understanding, collaborative culture, and intrinsic motivation, while these bivariate relations are not present for the number of students who are named as collaborators.

Table 4.1

Descriptive Results (n=141) and Pearson's r Bivariate Correlation Coefficients.

Variable	Mean	SD	Min	Max	1	2	3	4	5	6	7
Continuation	0.23	-	0	1	1.00	.044	.074	.163	.033	.154	.216 **
Collaborative student contact	3.95	1.66	0	5		1.00	.136	-.086	-.195 *	-.131	-.039
Collaborative colleague contact	3.55	1.66	0	5			1.00	.049	.240 **	.264 **	.219 **
Mean task interdependence	2.00	0.78	1	5				1.00	.172 *	-.001	.060
Mean shared understanding	3.52	0.78	1	5					1.00	.242 ***	.399 ***
Collaborative culture	3.76	0.85	1	5						1.00	.318 ***
Intrinsic motivation	3.56	0.65	1	4.89							1.00

Note. Significant correlations are marked by: *p<0.05, **p<0.01, ***p<0.001.

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Binomial Logistic Regression Results

To assess the effects of joint production motivation on students' decisions to continue or leave their internship, we perform a binomial logistic regression analysis, as our dependent variable is dichotomous. The reported logit-coefficients are the change of the predicted log-odds of a student continuing their internships. Additionally, we report the Average Marginal Effect for our independent variables, which approximate the predicted change in the probability of internship continuation with each 1-point step in the independent variable (Williams, 2020). We present two models, the first including only the joint production motivation predictors, and the second including our control variable, intrinsic motivation.

Model 1 includes five predictors referring to the four joint production motivation variables. Of those five, the two predictors pertaining to collaborative contact do not significantly alter the log odds of continuing the internship, nor does the shared understanding students report. The other two variables, mean task interdependence and organizational culture, have a positive and significant effect on the predicted odds of internship continuation.

Model 2 adds a control variable for intrinsic motivation. The variable added to the model significantly predicts the odds of a student continuing their internship. By exponentiating the predicted coefficient (-0.939), we find a score of 2.56. This means that with every increase of 1 point on the motivation scale, the log-odds of a student continuing their internship increases by 2.56. The AME indicates a more tangible value: with each 1-step increase, the likelihood of internship continuation is predicted to increase by 15.2% By including a measure of intrinsic motivation, the effect of organizational culture decreases to a score that is only marginally significant, with the other variables remaining insignificant. However, mean task interdependence continues to have a positive and significant effect on the log-odds of internship continuation. When we exponentiate the coefficient (0.591) of mean task interdependence, our model predicts a 1-point increase on the average perceived task interdependence leading to a 1.81 increase in the likelihood of a student continuing their internship. In AME terms, we find each 1-point increase of task interdependence, increases the predicted probability of a student continuing their internship with 9.6%.

4.5 | Conclusion

In this article, we conceive of the covid-19 crisis as an unanticipated external shock testing a social system's capacity for social resilience. We expected that systems geared towards joint production motivation would be more persistent. We argue those organizational structures that make joint production motivation more salient in

Table 4.2

Binomial Logistic Regression Results with Average Marginal Effects and Logit-Coefficients.

	Model 1				Model 2			
	AME	Estimate	SE		AME	Estimate	SE	
Collaborative student contact	0.023	0.136	0.144		0.025	0.154	0.154	
Collaborative colleague contact	-0.005	-0.028	0.152		-0.013	-0.085	0.158	
Mean task interdependence	0.092	0.543	0.275	*	0.096	0.591	0.290	*
Mean shared understanding	-0.008	-0.047	0.296		-0.045	-0.277	0.313	
Collaborative culture	0.100	0.586	0.299	*	0.089	0.546	0.323	~
Intrinsic motivation					0.152	0.939	0.406	*
Intercept		-1.261	0.225	***		-1.359	0.244	***
AIC		146.28				142.29		

Note. Significant correlations are marked by: ~p<0.10, *p<0.05, **p<0.01, ***p<0.001.

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individuals foster occupational commitment, and, in turn, a stronger social resilience. To develop the argument empirically, we extend joint production motivation theory to learning environments, using goal-framing theory to develop antecedents particular to vocational internship contexts.

Our main claim is that occupational commitment of students in vocational internship programs is mainly a function of specific collaborative organizational design principles present in their learning environments. During the covid-19 pandemic, precautionary measures were installed, and students were presented with the choice to (dis-)continue their internships. We consider the decision to continue cooperating in these situations as an indicator of occupational commitment.

Our findings indicate team task interdependence and intrinsic motivation positively affect the odds of occupational commitment in students. Other theorized predictors of joint production motivation, shared understanding and collaborative contact, had insignificant effects, though there are hints that more positive collaborative organizational cultures may increase the odds of students' internship continuation during a crisis. Altogether, our findings seem to suggest that the field of health care would benefit most from internship programs that stress students' additional contribution to the common good, while also suggesting the frame of cooperation within organizations is an important cognitive factor for generating joint production motivation.

A major limitation of this study is caused by its small sample size, which precluded a more fine-grained analysis of the interplay between individual motivation and joint production motivation. While we include intrinsic motivation as a control variable, it could be argued that it rather acts as a moderator: the salient of the normative goal-frame may be stronger for intrinsically motivated students. The sample size of the present study unfortunately does not allow for more complex models including moderating variables.

Additionally, we did not assess the effects of potential feedback loops that may occur when groups of individuals influence one another in their decision-making, with joint production motivation potentially plummeting once some individuals start showcasing more selfish behavior (cf. Arana & Wittek, 2016). Lastly, our research is limited by its focus on the "internal" networks of students in their internship environments, while student's decision-making also is affected by more external social relations, such as friends and families. Future research is needed to both analyze the interplay between such social spheres, while also assessing how both networks, both internal and external to organizations, shape the perceived dangers and norms that are present in dire situations of external shocks.

Conceiving of organizational systems as interacting individuals, whose joint production motivation is contagious, boosting the motivation of other members of the organization, may help explain why, when facing an external shock like the covid 19 pandemic, some organizational units in the health care sector have shown more persistent commitment and resilience than others.

4

Chapter

5

Competing Norms and Shifting Saliences

How Norm Beliefs Affected Behavior Among Dutch Health Care Interns During the Covid-19 Lockdown

Abstract

A social norm clearly pre- or proscribes which kind of behavior is (not) appropriate in a given situation. However, there are situations in which two competing norms apply, meaning that two opposing types of behavior are both legitimate in a situation. This study assesses a situation of potentially opposing norms, as health care students were offered a choice to continue working or to stay at home during the first lockdown following the covid-19 pandemic in the Netherlands in 2020. Theoretically, we use goal-framing theory to argue how competing norms may shift in salience as a result of variations in the strength of four dimensions of personal beliefs (sociality, normativity, disjointedness, and interdependence). Empirically, we surveyed 55 interns about their social norm perceptions, and employed Qualitative Comparative Analysis to uncover patterns in beliefs that lead to normative outcomes. The pathways to work continuation indicate the importance of normative beliefs in strengthening disjoint norms, combined with strong interdependence perceptions. The pathways to staying at home show how conjoint norms require less buttressing, and that perceived normative ambivalence also favors the conjoint norm. Altogether, these results show the importance of assessing the varieties of beliefs underlying norms in situations of ambivalence.

Keywords

5.1 | Introduction

Social norms are important to elicit and sustain individually costly contributions to collective goods, in particular when formal sanction opportunities are weak or absent (Burke & Young, 2011; Fehr & Schurtenberger, 2018). As "standards of behavior that are based on widely shared beliefs how individual group members ought to behave in a given situation" (Fehr & Fischbacher, 2004, p. 185), norms often provide clear indications of the appropriateness of certain types of behavior. However, there are situations in which more than one more norm may apply, such that it may be equally legitimate to follow either of them. The kind of behaviors pro- or prescribed by these different norms may even conflict; one norm may require people to "do X", while another norm may require them to "don't do X".

For instance, Boivin et al. (2008) describe how Canadian family physicians perceive competing norms of following medical protocols versus including patients in shared decision-making, facing a choice between two opposing, but justifiable courses of action in their practice. Holmelin (2019) uncovered how competing norms affected Nepalese families in farm management, as families had to navigate among conflicting gender expectations regarding decision-making responsibilities. Here, traditional gender hegemony and modern development ideology offered two sets of competing norms through which people could legitimize the allocation of decision-making rights for the farm. A third example of competing norms is presented by James-Hawkins et al. (2019). They describe how men in the U.S.A. perceive choices related to contraception. Men grapple with two competing norms: those advocating equal responsibility and those emphasizing women's bodily autonomy. These norms often clash, especially when it comes to decisions about contraceptive use. At the level of the individual, the presence of such competing norms creates the dilemma of which of the two norms to follow.

Previous research on competing norms is still relatively limited. In one of the first empirical sociological studies on how conflicting norms affect individual behavior, Stouffer (1949) found large variations in individual beliefs, expectations, and perceptions concerning the degree to which a specific behavior is approved by different reference groups. Only a handful of subsequent studies actually investigated behavior in the face of two competing norms, and the related empirical evidence is inconsistent. Building on the distinction between descriptive and injunctive norms in norm focus theory (Cialdini et al., 1990), Smith et al. (2012) found that, when individuals perceive an incongruence in what people actually do (a descriptive norm) and what people are expected to do (an injunctive norm), their own inclination to comply with the norm decreases. McDonald et al. (2014) study conflicting descriptive normative beliefs as they may result from membership in different ingroups (e.g., energy saving behavior of the members of one's household may differ from the energy saving behavior of the

members of one's local community). They argue and find that, rather than impeding the behavior in question (as found by Smith et al., 2012), perceived descriptive norm conflict actually favors it, as the conflict increases the salience of the importance of their own contribution. The importance of variations in the relative salience of competing norms is also highlighted in Robinson et al.'s (2015) experiments on beliefs about agents' intentions behind norm violations (the so-called Knobe-effect, see Feltz (2007)). Taken together, research on competing norms highlights the importance of disentangling variations in the salience of individual beliefs supporting the norms in question.

Current theorizing so far lacks a behavioral theory that can explain such variations. Building on goal-framing theory (Lindenberg & Steg, 2013), our study sketches such an explanatory framework, and provides some explorative empirical testing. Goal-framing theory has previously been used to explain environmentally-friendly behavior (Lindenberg & Steg, 2007; Steg et al., 2016) and the spread of disorder (Keizer et al., 2008; Lindenberg et al., 2021). We argue and empirically demonstrate goal framing theory's added value when it comes to explaining which norms individuals adhere to in situations of competing norms.

This empirical study differs from previous research on competing norms in several important ways: it is conducted within an organizational setting (which introduces dilemmas related to interdependence and joint production), its competing norms were induced by an external shock, and its behavioral outcomes were directly visible.

We investigate a group of first-year nursing interns (n=55) in the North of The Netherlands, who were participating in an internship program in the first half of 2020. During their health care internships, the first covid-lockdown occurred in the Netherlands, with the resulting lockdown restrictions forcing people homebound. While most professions were forced to work from home in The Netherlands during the lockdown, on-site work was deemed essential for some professions (Janietz & Werfhorst, 2020). Health care workers, for instance, by and large continued working on-site. For health care interns, the situation became ambiguous. In the uncertainty of the first weeks of the covid-19 crisis, secondary vocational schools in three northern Dutch provinces jointly communicated to these first-year interns that they could stop or continue their internship participation, without it having any consequences for their formal educational progress. The formal rewards and sanctions (i.e., grades, institutional certifications) of following the internship program disappeared. Therefore, this group of health care students faced a normative dilemma: they could follow the norm to stay at home (like most individuals regardless of their occupation at the time), or the norm to continue providing health care. Both norms were equally legitimate. Out of 55 students, 18 (33%) decided to continue their internship and be physically present at their internship workplace, while the others decided to stay at home.

Our study explains how personal beliefs about social norms and the related behaviors may have influenced students' decision to stay at home or go to work. Doing so, we enrich the relatively neglected study of competing norms, and resolve some of the theoretical gaps and inconsistencies in current theorizing by offering a goal-framing explanation of behavioral choices. In addition, by including the framework of contrasting norms in our analysis, we complement the burgeoning literature on norm-compliance during the covid-19 pandemic (e.g. Hensel et al., 2022; Mallinas et al., 2021; Martínez et al., 2021). Although the aim of our study is not to map the reactions to the covid-19 pandemic itself, the situation did afford us the opportunity to assess how an external shock created normative ambiguity.

In the following, we first outline our theoretical argument. We then contextualize the empirical setting of this study, and describe the data collection and method of analysis. After the results section, we offer our conclusions and end with the discussion section.

5.2 | Theory

5.2.1 | Goal-Framing Theory

Goal-framing theory (Lindenberg & Steg, 2007, 2013; Steg et al., 2016) is a theory of human behavior according to which individuals perceive situations through three overarching goal-frames that guide decision-making processes. Unlike other theories of norms, an explicit core principle of goal-framing theory are the dynamics between shifting overarching goals, and the conflicts between mindsets an individual may experience in a particular situation. It therefore is particularly useful for explaining decision-making processes in situations of conflicting norms.

Goal-framing theory is a cognitive theory stressing that situational contexts frame the goals that individuals pursue (Lindenberg & Steg, 2013). By framing the goals that individuals strive for, contexts influence how individuals perceive and select information, and how they act on that information. The theory distinguishes three overarching goals (Lindenberg & Steg, 2007). The *hedonic* goal-frame points individuals towards goals regarding the satisfaction of needs in the moment, in order to "feel better right now" (Steg et al., 2016, p. 181). To illustrate: A student hearing their alarm clock in the morning who has a strong hedonic goal-frame would be particularly aware of the coziness of their bed, thereby being more inclined to turn around and ignore the alarm. The *gain* goal-frame deals with resources and brings into focus the future states of individuals. These resources can be both material and social: behavior aimed at increasing one's status also falls in this goal-frame (Liobikienė et al., 2020). If a gain goal-frame were salient for the student from the previous example, they might think of losing their internship position if coming too late. The *normative* goal-frame brings

into focus the social collective of which the individual is a part, as well as behavior that is appropriate in that particular context. When the normative goal-frame is particularly salient, a student can be acutely aware of how their timely appearance would benefit the patients they are tending to at their internship organization.

The three overarching goal-frames are not equally strong, but differ in their a-priori salience, with the hedonic goalframe being the strongest, and the normative goal-frame being the most brittle. Physiological stimuli such as comfort and adrenaline draw an individual's attention towards the fulfillment of immediate needs, thereby increasing the salience of the hedonic goal-frame (Lindenberg, 2008b, p. 675). Ignoring the urge to give in to such needs requires cognitive effort. The normative goal-frame, on the other hand, is brittle by its very nature, and needs constant situational buttressing to remain salient. Social cues are essential to trigger normative behavior, as otherwise one of the goal-frames related to individual goals will take over.

One of the key insights of goal-framing theory is that goals can be simultaneously salient to different degrees. While only one goal-frame can be in the foreground at one moment (the "focal" goal-frame), other "background goals" may be operating at the same time (Lindenberg & Steg, 2007). As motivations are seldom completely homogeneous, and contexts often provide conflicting signals potentially triggering multiple goals (Dóci & Vasileiadou, 2015), there is an intricate interplay of the *shifting saliences* of goals. For instance, individuals who go to work primarily for increasing their resources in the future do so from a focal gain goal-frame. If the working conditions for that person are comfortable, hedonic goals may be operating in the background, offering a type of support for the retention of the gain goal-frame. In other words, background goals can provide support to the focal goal-frame, as long as they do not conflict with it or become the focal goal-frame themselves. Given the brittleness of the normative goal-frame, it is often essential that it is sustained by the hedonic and gain goals operating in the cognitive background.

Shifting Saliences in Beliefs About Norms

The argument of shifting saliences of goal-frames is key to our understanding of how individuals will follow social norms in situations of competing norms. The core of our argument is that when individuals are confronted with two competing and equally legitimate norms and the related behavioral alternatives, they will follow the norm that is most salient to them. The question then becomes which conditions influence the salience of a norm. Following Lindenberg (2008a) and others (McDonald et al., 2014; Smith et al., 2012), we argue that beliefs about the degree to which one's social environment adheres to the norm are key factors influencing the salience of a norm. To be precise, we distinguish four dimensions on which the social normative beliefs can differ in strength.

Table 5.1

Classification of (Non)-Normative and (Non-)Social Beliefs

	Non-social beliefs	Social beliefs
Non-normative beliefs	Factual beliefs	Empirical Expectations
Normative beliefs	Personal normative beliefs	Normative Expectations

Note. This table is reproduced from Bicchieri (2017, p. 12)

Social Versus Non-Social Beliefs

Bicchieri (2005, 2017) introduced a useful categorization of individual beliefs (Table 5.1). These beliefs are located on two dimensions: one regarding their (non-)social nature, and one regarding their (non-)normativity. The first dimension differentiates between non-social beliefs and social beliefs, and these beliefs differ in the degree to which they include expectations about the behavior of others. Social beliefs are beliefs about the social world around an individual, and therefore include expectations about the behavior of others. Non-social beliefs are beliefs that individuals have about reality outside of the behavior of others: these are beliefs that are perceived as factual realities, or beliefs that regard personal norms. The distinction makes clear that individuals may have a belief about what they *themselves* ought to do (an injunctive, personal norm), which can differ from the belief of what *others* ought to do (an injunctive, social norm).

Normative Versus Non-Normative Beliefs

Social beliefs can differ in the degree to which they are normative. Personal beliefs are non-normative when they evaluate behavior without adding a normative component, in a sense that they are either perceived as *facts* or *empirical expectations* about the behavior of others (in other terminology called *descriptive norms*). Normative beliefs are either personal normative beliefs on how a person themselves should act, or a social normative belief that others also believe one ought to act in a particular way. Bicchieri (2005) argues that only in the case that a belief is both social and normative, we can truly speak of a social norm.

From a goal-framing perspective, the extent to which a particular type of behavior is perceived as normative will play a strong role in the salience of a particular norm. Empirical expectations have been repeatedly shown to have a strong pull towards the gain goal-frame, when normative and empirical expectations do not align (Bicchieri & Xiao, 2009; Kölle & Quercia, 2021). When individuals perceive the behavior

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of others as "simply" an empirical expectation about social reality, this would not offer any cognitive cues towards the normative goal-frame (Andrighetto et al., 2015). Alternatively, seeing others persistently perform normative behavior would be a strong social cue that would increase the salience of the normative goal-frame.

Conjoint Versus Disjoint Beliefs

A third relevant dimension of personal beliefs deals with the target groups and beneficiary of norms. Coleman (1994, pp. 247–248) analytically divided social actors involved with norms in two classes, with the target group being those individuals whose actions are pro- or prescribed by a norm, and the beneficiaries are those actors who benefit from it. When the two groups overlap, and the individuals whose behavior is affected by the norm are also the individuals who benefit from their behavior, a norm is *conjoint*. When the actors who are affected by the norm are not those who benefit from their actions, the norm is *disjoint*.

A problem inherent to disjoint norms, where targets and beneficiaries differ, is the increased likelihood of free-riding, because the costs of norm conformity are incurred by another group (Rauhut & Winter, 2017). When targets and beneficiaries are part of the same social group (conjoint norms), chances for compliance are higher, as individuals following the norm derive some benefit from following the norm. From a goal-framing perspective, this distinction therefore points towards the more brittle nature of the normative goal-frame when disjoint norms are present in a situation. Alternatively, in situations of conjoint norms, the normative goal-frame is more easily supported, as there is a potential gain goal that may function in the background.

Interdependence Versus Independent Beliefs

The fourth dimension of individual beliefs regarding norm-following behavior concerns the individual's beliefs about interdependencies with others. Individual beliefs about how one's behavior will impact a situation consistently affects their contribution to a common good (Balliet & Lindström, 2023). The salience of interdependencies is particularly important in situations of joint production, where individuals collaborate to create some kind of joint value, such as in workplace teams. Lindenberg and Foss (2011) argue for the importance of team and task design as important functional precursors to increase the salience of the normative goal-frame in organizations. In order to increase their joint production motivation, functional interdependence between organization members needs to be complemented by cognitive interdependence (Lindenberg, 2015b), for example through shared group identities and collective understandings of a situation (Foss & Lindenberg, 2013).

Particularly in contexts of joint production, the salience of functional and cognitive interdependencies can be a strong antecedent of a normative goal-frame. When individual beliefs regarding interdependencies are strong, they are more likely to perceive a situation through a normative goal-frame. Beliefs about strong cognitive interdependence are likely to increase conformity to norms regulating contributions to joint productions.

5.2.2 | Conflicting Norms

The four dimensions of personal beliefs about norms do not exclude each other: individuals can hold different combinations of these beliefs. From a goal-framing perspective, the strongest support for a normative goal-frame will occur in situations where a norm is particularly salient to an individual. We therefore predict a normative goal-frame would be strongest, and a norm can overcome a competing one when norm perceptions are rooted in high degrees of sociality and normativity, when a norm is conjoint, and when individuals perceive a situation as cognitively and functionally interdependent. Goal-framing theory also predicts that a normative goal frame can be supported by a gain-goal in the cognitive background, meaning that a norm would prevail if complying with it allows to achieve both a gain and a normative goal.

This demarcation of dimensions also allows us to theorize the ways personal beliefs influence behavioral choices when norms conflict in a social situation. More specifically, we predict that the more beliefs in these four dimensions converge around a specific norm, the more likely an individual is to select that behavior than the alternative competing norm. Conversely, the likelihood of an action alternative increases when there are ambivalent beliefs. Note that this analysis of underlying beliefs regarding two potentially competing norms also implies that, whereas at the surface level both norms can be equally legitimate and applicable (and hence represent a situation of competing norms), at the deeper level of individual beliefs the underlying ambivalence may be far less pronounced or even absent.

5.3 | Field Setting and Research Design

Our empirical analysis of competing norms, personal beliefs, and behavior in organizational settings focuses on Nursing students participating in an internship program in health care organizations in the Northern Netherlands. These students follow such internship programs as part of their vocational training education to become nurses. This particular sample comprises first-year Nursing students who were to participate in a 4-month program in which they worked in a health care organization

for about two or three days per week. Originally, our research plans were to track the experiences of these interns during their internships, with three waves of surveys sent out to the students during the entire internship trajectory, from February 2020 to July 2020.

Then, in the beginning of March 2020, the Covid-19 pandemic hit the Netherlands. On March 12th, national safety measures were instated, and people were advised to work from home as much as possible. Although any help in the health care organizations was needed, amidst the uncertainty of the safety measures, the nursing students in our sample received a letter from their schools on March 13th. This letter informed the students that their internship programs were (potentially momentarily) halted. Five days later, the students received another letter, which offered the students an open choice: students could choose to continue their internship programs, but they were also allowed to stay at home and continue homeschooling from there. The choice, the letter stressed, was personal, and continuing to work was completely optional: refraining from participation would not lead to any disadvantage with regards to the educational program. According to the organization monitoring the internships, 55 students (18.6%) of the 295 students decided to continue their internship program.

To assess the role personal beliefs and social norms played for the behavior of this sample of interns, we therefore distributed another survey among the initial sample. Both students who quit and those who continued their internship were surveyed in April 2020, when we asked students to describe the situations in the final days of their internship organizations. We received 55 complete surveys (response rate: 18.6%). From this sample, 18 continued their internship (32.7%), indicating the continued students were more likely to complete their surveys.

5.4 | Methods of Analysis

Our analytical strategy needs to be able to assess the interplay of four different factors: the potential presence of two social norms (possibly differing across social groups), and the personal beliefs regarding the normativity, the conjoint or disjoint nature of those norms, and the functional and cognitive interdependencies that may be present in the context. Qualitative Comparative Analysis (Duşa, 2018; Rihoux & Ragin, 2008) is particularly well-suited for this purpose because it was developed for small sample sizes and allows for different combinations to explain the outcome (the so-called *equifinality principle*). QCA uses a combination of set logic and Boolean algebra to assess (a) how different factors are overlapping or unrelated (that is, assessing how often combinations occur in empirical reality), (b) whether particular conditions are necessary or sufficient for particular outcomes (how strongly one factor determines the outcome variable), and (c) whether there are specific combinations of factors that lead to particular outcome variables. Combinations that co-occur with

an outcome are referred to as *recipes* (e.g. Heyse et al., 2021; Raab et al., 2013). Given that personal beliefs, perceived social norms, and levels of organizational commitment were measured on an ordinal scale, we perform a *fuzzy-set* QCA, in which cases are rated on a scale from 0 to 1. In the following, we describe how we measured and calibrated our variables into these 0-1 fuzzy set scores.

5.4.1 | Measures

Behavioral Outcome: Internship Continuation

The behavioral outcome we model is that of a student continuing or quitting their internship during the covid-19 pandemic. The outcome is measured as a binary variable, with 0 indicating a student quit their internship program, while a 1 indicates the student continued. Transformation of these scores was not necessary, as they are already within the 0/1-spectrum.

Personal Normative Beliefs

To measure the student's personal beliefs about the nature of particular behavior during the covid-19 pandemic within their internship organizations, we asked students to rate their agreement with two statements, saying "I find it important to stay at home/continue working" respectively. The items were measured as 5-point Likert scale items, from 1 (very unimportant) to 5 (very important).

As fuzzy-set QCA (fsQCA) analysis does not allow for set memberships exactly on the junction of 0 and 1, scores of 0.5 are impossible to include in fsQCA models. This means we could not symmetrically transform the scores from 1 (a set score of 0) to 5 (a set score of 1), because option 3 would be exactly at the average. Given the unequal distribution of the lower regions, we decided to transform the scores as follows: students indicating they find continuing to work either very "unimportant" (1) or "unimportant" (2) score a set membership of personal belief of 0. The "neutral" (3) response category received a score of 0.33, whereas the "important" category received a score of 0.67. Interns indicating that work continuation was "very important" to them (5) score a perfect set membership of 1. The same method was applied to the personal belief about staying at home.

Social Norms: Normative Beliefs

To measure the several levels of beliefs about appropriate behavior in a situation, we followed Bicchieri's (2017) step-by-step model to empirically measure the behaviors represented in Table 5.1. We measured the beliefs and experienced behaviors regarding two types of behavior separately: that of continuing to work during a pandemic and that of staying at home to stop the spread of the pandemic.

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Table 5.2

Set Membership Values for Work Continuation for Students

	Social Beliefs: I expect students to continue working during this covid-19 pandemic.				
	1: Strongly Disagree	2: Disagree	3: Neutral	4: Agree	5: Strongly agree
1: Strongly disagree	0	0	0	0	0
2: Disagree	0	0	0	0	0
3: Neutral	0	0	0	1	1
4: Agree	0	0	1	1	1
5: Strongly agree	0	0	1	1	1

Normative beliefs: Work continuation is an important value for other interns

As norms deal with both personal ideas of what is right, and with expectations about others' behaviors and beliefs, our questionnaire explicitly differentiated between the two dimensions. For each potential norm, respondents received one question measuring their normative expectation ("Other students in my internship organization find it important to continue working") and one question about their empirical expectation ("Other students in my internship organization continued to work during the pandemic"). Both items were measured on a 5-point Likert-type scale, with 1 indicating "low" and 5 indicating a "high" score.

As the structure of social norms, as outlined in Table 5.1, consists of both empirical *and* normative expectations, we measured the presence of the social norm of work continuation and staying at home by categorizing students' answers into two dimensions. Table 5.2 shows respondents' set membership scores for the social norm "work continuation". To qualify as a social norm, students need to perceive it as *both* social and normative. A score of 1 in Table 5.2 therefore corresponds to the right-lower corner in Table 5.1, denoting the belief that a social norm is present. The norms of continuing to work and staying at home were measured separately, so respondents receive scores on both measurements.

Conjoint and Disjoint Norms

The two norms we measure differ in the extent to which they are conjoint and disjoint. The norm to *stay at home* during the pandemic is a conjoint norm because the targets of the norm (students) are also those who benefit from the behavior it prescribes: staying at home reduces their individual risk of getting infected by the

Covid-19 virus. The norm to *continue working* is a disjoint norm, because the targets (students) whose behavior it governs differ from the beneficiaries, i.e. the organization and the patients. For the student target group, we therefore have a clear differentiation between a disjoint and a conjoint norm.

However, the intern population is not the only relevant group of actors that may have influenced the beliefs about the appropriateness of behavior (Dannals & Miller, 2017). Given that the students are working in internship organizations, they collaborate and interact with a number of professionals who are employed by the health care organization. As the other relevant group within the organization, the behavior of the professionals may have also shaped the perceptions of the interns. Therefore, we also measured students' perceptions of the behavior and beliefs of the professionals they worked with.

Interdependence Versus Independent Beliefs

Two variables measure the student's interdependence beliefs regarding their work at the internship organization. As stated earlier, the students participated in a survey about their internship organizations a few weeks into their internship programs, just before the Covid-19 pandemic forced the students to reconsider their choices of doing their internships. In this first wave of data, we attempted to map the students' collaborative network in their internship, to assess how collaborative relations change over time, and how they affect the student's learning outcomes and workplace motivation. This data now allows us to assess how embedded the students felt within their organization's collaborations, and how much they felt they contributed to the organization.

In the original survey, we asked students to name several of their collaborators in a *name-generator* question. We asked them to mention up to n=5 students and n=5 professionals with whom they collaborated. Later in the survey, we asked about the student's perception of the nature of collaborative relations for every one of the names mentioned. To measure *task interdependence*, students indicated how important they felt they were for that specific person to be able to carry out their work (outgoing task-interdependence) on a scale of 1 (very unimportant) to 5 (very important). Using the same answer categories, *incoming task-interdependence* captures how important that person was for them to carry out their work. We coded a collaboration as strongly task interdependent if the scores for *both* incoming and outgoing task interdependence were higher than 3. Given the relatively low number of respondents reporting more than n=5 highly task interdependent ties, we set n=5 ties as the maximum set membership of 1. Tie frequency was recoded in 0.2 steps (i.e. students reporting no tie received a score of 0, students reporting n=1 tie receiving a score of 0.2, students reporting n=2 ties receiving a score of 0.4, etc.).

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The same procedure was applied to code *shared understanding*. On a 5-point scale (1 (1=strongly disagree, 5=strongly agree) students indicated to what degree they (dis)agreed with the statements "When I talk to [this person], they understand what I mean" (outgoing understanding) and "When I talk to [this person], I understand what they mean" (incoming understanding). Again, ties that had both a reported incoming and outgoing understanding higher than 3 were coded as high shared understanding. The aggregation procedure was identical to the transformation of the task interdependence scores.

Table 5.3

Descriptive Results

	Code	Min.	Max.	Mean	SD
Outcome variable					
work Continuation	*C*	0	1	0.33	0.47
Personal belief					
continuing Work is important	*BW*	0	1	0.48	0.37
staying Home is important	*BH*	0	1	0.43	0.28
Perceived Norms					
continuing Work for Students	*NWS*	0	1	0.29	0.46
staying Home for Students	*NHS*	0	1	0.42	0.50
continuing Work for Professionals	*NWP*	0	1	0.82	0.39
staying Home for Professionals	*NHP*	0	1	0.05	0.23
Interdependence					
Task Interdependence	*TI*	0	1	0.36	0.41
Shared Understanding	*SU*	0	1	0.65	0.40

5.5 | Results

5.5.1 | Descriptive results

Table 5.3 provides the descriptive scores for each of our measured variables. 33% of the interns in the sample continued to work. The mean scores for personal beliefs regarding work continuation (0.48) and staying at home (0.43) require additional explanation. Set membership on both variables is coded as 0 when a student reported this norm as "very unimportant" or "unimportant", 0.33 when the belief was "neutral", 0.67 when the belief was "important", and as 1 when the belief was "very important". The average for the personal belief that work continuation is 0.48 therefore indicates that the students' average beliefs are between "neutral" and "important". The average of the personal belief in staying at home (0.43) also is in between "neutral" and "important", but the personal belief is slightly less prevalent than the belief in the continuation of work.

Whereas 82% of students perceives a social norm to be present for professionals to continue working, only 5% indicate that the norm of staying at home holds for professionals. That is, in the perception of students, there is no normative ambivalence for professionals in the health care sector: they should and do continue working during the crisis. This is different for students. 29% of students perceived the social norm for students to continue working, while 42% reported that a social norm to stay at home for students was present in their internship organizations.

Before turning to our full-fledged QCA Analysis, it is useful to visually inspect the data and the overlap of conditions. Figure 5.1 depicts a Venn-diagram that delineates the different norms that are present according to students in the internship organizations. We see four different *pill shapes* that overlap to certain degrees. The first pill, in the bottom left corner, is labeled "*NWS*" (indicating the perceived *Norm of Working for Students*). The pill-shape above and slightly to the right, is labeled "*NHS*" (indicating the perceived *Norm of staying Home for Students*), and one further to the right is "*NWP*" (perceived *Norm of Working for Professionals*). The last pill is "*NHP*" (perceived *Norm for staying Home for Professionals*).

A white color of a sub-shape in the overlap of pills indicates that the combination of these conditions does not occur in our empirical data. For instance, we find here that almost the entire area of the "*NHP*" pill is white, except for two shapes at the right-most boundary in pink. This means that students who perceived the *Norm to stay Home for Professionals* did not simultaneously perceive the *Norm to Work for Professionals* (the entire overlapping area is white), nor the *Norm to Work for Students* (similarly white).

Figure 5.1

Venn Diagram Depicting Configurations of Norm Beliefs for Students and Professionals
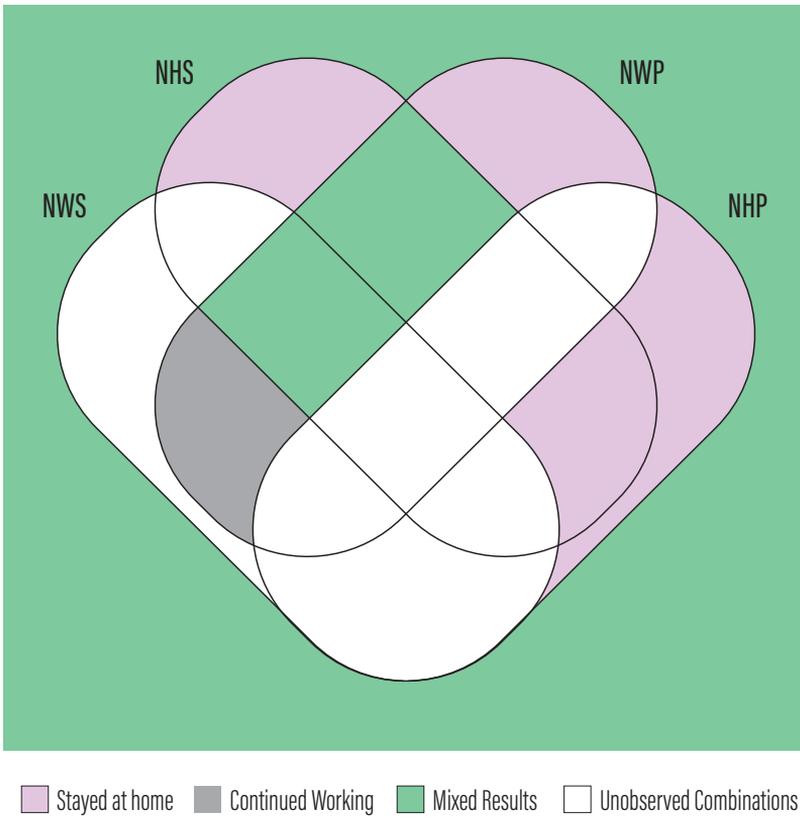
The other three colors indicate that the data empirically appear in these configurations: at least one student provided answers that fit in that exclusive area. The coloring now denotes the presence of the outcome variable (*work Continuation*), with pink indicating the students did not continue their work. Grey indicates that students with this configuration of answers did continue their internship, and green shows that the configuration of conditions contains both students who quit and who continued their internship. Note that the coloring does not provide information about how *many* students are present within one particular configuration of conditions. The one grey cell indicates that students who perceive the *Norm to Work for Students* and for *Professionals* continued their internships. However, these cells also indicate there is some normative ambivalence in our dataset. One cell (in green) contains both the *Norm to Work for Students* (*NWS*), the *Norm to stay at Home for Students* (*NHS*) and the *Norm to Work for Professionals* (*NWP*). In addition, there are students who perceived the *Norm for Students to stay at Home* (*NHS*), while professionals were

perceived to have the *Norm to continue Working* (*NWP*). Lastly, the surroundings of the Venn-diagram are green: there are students who did not mention a single norm to be present, neither for students nor professionals, of whom some continued to work, while others quit.

5.5.2 | QCA Results

Fuzzy-set QCA analysis offers a method of analyzing the configurations present in the data, following a formally defined but similar procedure as our visual assessment in Figure 5.1. It first creates an overview of all empirical data in the form of a Truth Table, determining how often each combination of factors appears in the data, and how often those combinations lead to a particular outcome variable. Here, an important decision is to assess how consistent the scores need to be within one cell to be considered a *successful* recipe for the outcome variable. While 0.75 is a reference point for this consistency score (Rihoux & Ragin, 2008), QCA analysts recommend a careful calibration of such scores, based on breaking points present in the distribution of consistency scores in the data. Given that our consistency scores have a gap between 0.67 and 0.84, we opted to continue with the breaking point score of 0.75.

After the creation of the Truth Table, fsQCA follows a procedure called minimization, in which an algorithm searches for patterns in the data. In its most parsimonious edition, this `Quine–McCluskey` algorithm searches for combinations of data that lead to the outcome variable, while including the *empty* spaces in the empirical data (Duşa, 2018). This means that our analysis does not a-priori assume that the white spaces (as shown in Figure 5.1) are an impossibility, but that these configurations may exist in reality, even if they do not exist in our empirical data.

Continuing Work

Our data show two recipes that are associated with the continuation of working at the internship organization during the Covid-19 pandemic:

$$C = NWS * (TI * nhs + BW * ti * SU)$$

The formulation of the recipes follows the conventions of Boolean algebra and set theory. Capitals indicate that a condition is present, while lowercase letters indicate its absence. The multiplication symbol denotes that two conditions need to occur together, while the plus-symbol denotes the OR-operator. Table 5.4 provides an overview of the two recipes.

Table 5.4

Recipes Towards Work Continuation During the Covid-19 Pandemic

	Recipe 1	Recipe 2
Formula	$C = NWS * TI * nhs$	$C = NWS * BW * ti * SU$
Inclusion	0.959	0.924
Coverage	0.289	0.223

A key characteristic of QCA is that it allows for equifinality, meaning that the method has the capacity to find several pathways to one particular outcome. Regarding the choice to *continue Working*, our analysis indeed shows there are two different recipes related to the decision to continue working. Both recipes have in common the presence of the salient *Norm to Work for Students* (*NWS*), but differ in the *beliefs* that go together with the norm. Importantly, neither recipe contains perceptions of competing norms.

The first recipe for *work Continuation* combines the presence of the perceived *Norm to Work for Students* (*NWS*), with the absence of the *Norm to stay Home for Students* (*nhs*), and adds *Task Interdependence* (*TI*), which together lead to a student continuing with their internship. The inclusion score is high (0.959), and the coverage score of 0.289 indicates that 28.9% of the students who *Continued* followed this pathway. The second recipe combines the presence of the *Norm to Work for Students* (*NWS*) with the personal *Belief that Work is important* (*BW*) and the presence of *Shared Understanding* (*SU*) in situations when the *task interdependence* (*ti*) is absent. The inclusion once again is high (0.924), and the coverage indicates that 22.3% of students that Continued followed this pathway.

The only commonality in both recipes is the presence of the perceived *Norm to continue Working for Students* (*NWS*), which can be seen as a necessary condition towards the continuation of working during a pandemic. This is in line with goal-framing theory, as the normative expectation students have is social and normative, the strongest form of belief. However, the norm to continue working is disjoint, so it requires extra support. In the first recipe, the normative ambivalence is reduced by the fact that the norm to stay at home is in the cognitive background, and therefore not salient. The norm to work is strengthened further by *Task Interdependence* (*TI*) beliefs regarding the work the students performed at their internship organizations. The second recipe, on the other hand, shows what happens when task interdependence beliefs are absent. In this recipe, *task interdependence* (*ti*) is replaced by a strong *Personal Belief that work is important* for the student (*BW*), and a strong cognitive interdependence in the form of *Shared Understanding* (*SU*).

Staying at Home

Concurring with good practices in QCA, we also ran our analysis with the *negation of work continuation* as the outcome variable (now written with a lowercase "*c*", as in: *not Continued*). Given the higher prevalence of "not continuing the internship" in our dataset, we increased the consistency score breaking point at 0.90. The formula we get from this analysis is:

$$c = bw * NWP * nws * (BH * ti + SU * nhs) + NHS * (nwp + BH * NWS) + BW * BH * su$$

This formula is more complex than the first formula, but it offers five different recipes characterizing students who stayed at home (see Table 5.5). The first three recipes (R1, R2, and R3) favor the stay at home beliefs, while the last two recipes (R4 and R5) reflect normative ambivalence. Recipe 1 and 2 relate to students who do *not personally believe work is important* (*bw*) and who do not see a *norm to work for students* (*nws*), while perceiving the *Norm to Work for Professionals to be present* (*NWP*). Additionally, Recipe 1 contains students who find *staying Home personally important* (*BH*), while not perceiving high *task interdependence at the organization* (*ti*). Recipe 2 substitutes those two factors for students who do report high *Shared Understanding* (*SU*) in the internship organization, but who do also not perceive a *norm to stay at home for students* (*nhs*). The second recipe indicates that students, while understanding the colleagues working at the organization, still need to perceive a norm for students to continue to work in an organization in times of crisis.

Recipe 3 finds that students who perceived the *norm for students to stay at home* (*NHS*) simultaneously with the absence of the *norm to continue working for professionals* (*nwp*) did not continue to work at their internship positions. Given the pervasiveness of the norm for working for professionals (80% of students perceived the presence of that norm), the absence of the norm for even professionals perhaps means that the students themselves did not have to continue working either.

Recipe 4 and 5 both contain situations of competing norms. Recipe 4 is the only pathway in our analysis that explicates social normative ambivalence, as this recipe contains the students that perceive simultaneously the *Norm to continue Working for Students* (*NWS*) and the *Norm to stay at Home for Students* (*NHS*). The last ingredient of this recipe is the *personal Belief that staying at Home is important* (*BH*), which then pushes students to opt for staying at home. This recipe therefore points to the importance of the distinction between disjoint and conjoint norms, as students who perceive the presence of both norms opt for the behavior that is less risky for them.

The fifth recipe contains students who reported ambivalence in their personal beliefs, as they reported both the *personal belief in the importance of continuing to work* (*BW*) and the *personal belief in the importance of staying at home* (*BH*). When students reported these competing personal beliefs, the absence of *shared*

Table 5.5

Recipes Towards Staying at Home During the Covid-19 Pandemic

	Recipe 1	Recipe 2	Recipe 3	Recipe 4	Recipe 5
Formula	$bw * NWP * nws$ $* BH * ti$	$bw * NWP * nws$ $* SU * nhs$	$NHS * nwp$	$NHS * BH$ $* NWS$	$BW * BH$ $* su$
Inclusion	0.950	0.910	1.000	1.000	0.839
Coverage	0.171	0.090	0.081	0.036	0.111

understanding (*su*) in the organization triggered students to stay at home. This indicates that a number of students perceived competing non-social beliefs. The competing behaviors were perceived as a conflict between personal normative beliefs that did not regard the possible behavior of others. Interestingly, this recipe points to the absence of shared understanding, and therefore of cognitive interdependence in the organization, as the pathway to students' decisions to stay at home in a situation of competing personal beliefs.

5.6 | Conclusion

This study set out to sketch an explanatory framework that explicates how personal beliefs about norms function in situations of competing norms. Although norms usually are predictable guides for social behavior, particular situations may occur in which two conflicting norms apply simultaneously. The question then becomes how individuals choose a type of behavior, when two equally legitimate norms provide contradictory directions. To answer this question, we propose a novel framework built on goal-framing theory (Lindenberg, 2008b; Lindenberg & Steg, 2007) and Bicchieri's theory of norms (Bicchieri, 2005, 2017). We argued that norm following behavior depends on the salience of a norm, meaning that individuals perceive cues from their environment that will bring into focus a particular type of normative behavior. We then differentiate four dimensions along which personal perceptions about norms may differ that play a role in supporting the salience of a norm.

Our study examined the normative ambiguity faced by health care students (n=80) during the unprecedented covid-19 pandemic. Presented with two normative options—staying home to prevent virus spread or continuing their work in healthcare settings—67% chose the former, while 33% persisted in their internships. Our first conclusion echoes the early findings of Stouffer (1949), namely that personal beliefs regarding norms in potentially competing normative situations show large variations and appear in several configurations. While some students very clearly perceived one of the behavioral outcomes as the clear norm, others perceived the exact opposite to be

occurring. On the surface level, both norms therefore indeed seemed to be legitimate and applicable for these students, indicating that the situation contained conflicting norms. However, our results also show that at the individual level, the underlying ambivalence may be far less pronounced or even absent. For only 3 students, the two normative beliefs were simultaneously salient, but our results show that even for these students, personal beliefs guided students to favor the choice to stay at home. This descriptive finding points to the importance of distinguishing underlying personal beliefs and perceptions about norms in situations of competing norms.

How did these beliefs lead students to one of the behavioral outcomes? The first norm we studied was the normative behavior of continuing to work during the pandemic. As a disjoint norm, we expected the students' beliefs on the other three dimensions to be crucial for the salience of the norm to continue to work. The two recipes that our QCA analysis offers for work continuation fit this conceptualization. The first recipe then showed how, in the absence of the perceived opposite norm to stay at home for students, the perceived task interdependence in the organization provides enough cues for this norm to be salient. The second recipe replaces the task interdependence (which is now absent), with the social interdependence (in the form of shared understanding) and a personal belief that work continuation is important. For this disjoint norm, this leads us to two main conclusions. First, neither recipe allows for normative ambivalence. This indicates that the salience of a disjoint norm decreases when another norm is also present in a situation. Second, we show how the salience of the interdependence dimensions may play a key role in supporting a disjoint norm, indicating the importance of perceptions of joint production in the creation of collective goods. Importantly, the decision to continue work requires both the absence of a competing norm perception, and the salience of interdependence beliefs.

The configurations of beliefs that lead to the behavioral outcome of staying at home are more varied, but broadly can be categorized in two groups. The first group captures students who strongly perceived the norm to stay at home. Recipe 1, 2, and 3 clearly favored the choice to stay at home, with recipes 1 and 2 both explicitly requiring the absence of a personal belief that working was important and an absence of the normative dimension. Interestingly, these recipes do require the norm to continue working for professionals in the organization, shifting our attention towards the distinction between disjoint and conjoint norms again. The students in this recipe explicitly differentiate themselves from the normative behavior of professionals. This finding may also explain Recipe number 3, which combines the presence of the perceived norm to stay at home for students with the absence of the norm to continue working for professionals. When members of the more conjoint group (professionals) then did not adhere to the norm, this signaled to the students that they also ought not.

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The second group of recipes is interesting as they contain ambivalence. In Recipe 4, students actually perceive the importance of the norm to continue working and the norm to stay at home simultaneously. In that case, it is the personal belief that makes the difference, as it allows here students to decide to stay at home. This mirrors the point made for the recipes leading to work continuation: when the normative beliefs are ambivalent, the disjoint norm is weaker than the conjoint norm. Recipe 5 includes students who are ambivalent in their own personal beliefs: they simultaneously believe it is important they continue working and stay at home. However, given the absence of shared understanding with their collaborators in the organization, they then decide to stay at home.

Altogether, these results show the fruitfulness of the goal-framing approach as a framework to analyze situations in which norms compete. As personal beliefs about the social and normative dimensions of behavior, perceptions of the extent to which a norm is conjoint, and perceptions of interdependence vary widely among students in similar situations, this study shows how the combinations of these factors function in creating particular behavioral outcomes. We show how the dimension of jointness becomes particularly important when students perceive normative ambivalence, as disjoint norms are more brittle than the conjoint norms which combine a normative goal-frame with a background gain goal. For the disjoint norm to remain strong, interdependence considerations become particularly important in order to strengthen its salience.

This study has two main limitations. First, the data about norm perceptions were collected several weeks after students had made their decision whether or not to stay at home. The post hoc data collection was a necessary approach due to the unforeseen nature of the external shock, but might come with the risk that students' answers, rather than capturing their actual perceptions at the time, reflect their retrospective legitimation of their behavior. Nevertheless, the wide variety of answers regarding the beliefs about norms suggests that such a bias, if present in our data, is weak. Future research may overcome this limitation by collecting longitudinal data before, during and not too long after periods of normative ambivalence.

Secondly, the sampling strategy that was used during data collection was not completely random. In the general population of health care interns, only 18% continued with their internships during the Covid-19 pandemic. However, this group is overrepresented in our sample, where it constitutes 33% of the students. This indicates that perhaps the students who continued their work were also more inclined to participate in our survey. Therefore, the recipes in our analysis offer valid results for the group of students who are more likely to participate research during the covid-pandemic. A potential target group missing in our analysis therefore constitutes interns for whom the Covid-19 pandemic and restrictions impacted them in such a way that they were either unable or unmotivated to participate in our survey.

In sum, we showed that which of two competing norms will be followed can be explained by the interplay of four characteristics of norms: their perceived sociality, normativity, disjointedness, and interdependence. Although the separate effects of the social and normative dimension have been researched extensively (Bicchieri, 2005, 2017; Bicchieri et al., 2020; Bicchieri & Xiao, 2009), the brittleness of disjoint norms has been documented before (Rauhut & Winter, 2017), and interdependence beliefs have also been shown to affect norm-following behavior, goal framing theory allows to synthesize these dimensions, offering an improved micro-foundation of norm-following behavior in situations of competing norms.

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Chapter

6

Conclusion

6.1 | Introduction

Governments, formal organizations, and managers increasingly engage in interorganizational networks to deal with complex societal problems that require multiple stakeholders to cooperate across organizational boundaries (Agranoff, 2006; Ansell & Gash, 2008; Kickert et al., 1997; Raab et al., 2015; Shumate et al., 2022). Although an expansive literature has developed to explain the functioning of interorganizational networks in its wide variety of forms and scopes (Lecy et al., 2014; Shumate et al., 2023; Turrini et al., 2009), one of the major remaining questions is what makes interorganizational networks sustainable (Getha-Taylor, 2019). As networks "may represent a volatile form of organization, with short life cycle effects" (Ferlie & Pettigrew, 1996, p. 98), empirical research finds that most interorganizational networks indeed fail to become sustainable over time (Fredericksen & London, 2000; Scott et al., 2018).

In order to contribute to our understanding of what makes collaboration in interorganizational networks sustainable, this thesis investigated under what conditions individual actors at different levels of an interorganizational network can be motivated to collaborate together in order to create joint value. We defined sustainable cooperation as the extent to which a collective is able to remain resilient to changes and continue creating value over longer time periods (Wittek, 2022b). This definition distinguishes two separate dimensions that together make collaboration sustainable: *collaborative resilience* and *shared value-creation*.

We developed and empirically tested a goal-framing theory (Lindenberg, 2008b; Lindenberg & Steg, 2007) of interorganizational network sustainability. It integrates previous theories on interorganizational networks (Getha-Taylor, 2019; Kenis & Provan, 2009; Shumate et al., 2023) and norm-following behavior (Bicchieri, 2017; Lindenberg, 2008a), and takes into consideration the multilevel nature of interorganizational networks.

In four empirical studies, we investigated the motivations and decision-making processes of actors involved in NetwerkZON, an interorganizational network operating in the health care sector in the North of the Netherlands. The main aim of the interorganizational network is to create enough opportunities for health care students to follow high-quality internship programs in the health care organizations in the region (Zuidersma, 2019). Before formulating our general conclusions, we first briefly summarize the findings of each empirical study, which are also summarized in Table 6.1.

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Table 6.1

Summary of Lessons and Evidence from the Empirical Chapters (II-V)

	Who	DV	Explanatory Variables	Data	Lessons learnt
Chapter 2	Organizational actors in NetwerkZON	Sustained motivations to collaborate in an interorganizational network	Governance conditions (inductive)	Interviews with 15 interorganizational actors	Interorganizational networks thrive under weak solidarity: conditions favor the gain goal-frame, but normative conditions necessary to keep the gain-goal in check
Chapter 3	Students participating in health care internships	Shared understanding in collaborations	Task interdependence; cooperation frequency; discipline; role; individual characteristics	Survey with 150 students, about 865 relationships	Task interdependence predicts shared understanding in interprofessional collaborative relations of health care interns
Chapter 4	Students participating in health care internships	Internship continuation during the pandemic	Task interdependence; intrinsic motivation	Survey with 141 students	Task interdependence and intrinsic motivation predict organizational commitment during an external shock
Chapter 5	Students participating in health care internships	Internship continuation during the pandemic	Personal beliefs; norm beliefs; (dis)(con)joint norms; interdependence beliefs	Survey with 55 students	Personal beliefs, normative beliefs, and task interdependence vary widely in situations of competing norms. Interdependence beliefs key in increasing organizational commitment

6.2 | Empirical Studies

Study I. Joint Production Motivation in Interorganizational Networks

The sustainability of interorganizational networks depends on both the network's ability to create value for its stakeholders and the network's collaborative resilience (Wittek, 2022b). To govern interorganizational networks sustainably, the institutional arrangements of the network need to be conducive to sustain joint production motivation in its members (Lindenberg & Foss, 2011; Wittek, 2022a). The first empirical chapter of this dissertation studies the inner workings of NetwerkZON, an interorganizational network that has been operating since 1997. By analyzing in-depth interviews with 15 organizational actors who participate in network decision-making, we reconstruct the conditions that they believed explained their consistent participation in the network. The research aim of this study was to investigate which conditions organizational actors identify to explain their motivations to collaborate sustainably in an interorganizational network.

Our findings uncover seven themes that NetwerkZON participants identified as shaping their motivations to contribute to the network consistently. Three of these themes relate to motivations in a gain goal-frame: organizational actors emphasized the benefits that participating in NetwerkZON offered their organization, by decreasing coordination costs of coordination. The second theme described the flexibility that the participants experienced in their collaboration. Third, participants experienced the structure of the interorganizational network in such a way that its redundancy increased their organizational commitment to the network.

The other four emergent themes support the normative goal-frame. The first theme relates to the perceived procedural fairness of the network, which allows organizational actors to recognize that other organizational actors are in similar positions as themselves. Second, through interactions in the network, a collective identity is created around shared social boundaries, such as geographical location and professional stereotyping. Third, participants discussed the internal and external legitimacy of the interorganizational network, pointing towards the delicate balance between focusing on internal matters and the improvement of network-level outcomes. The fourth theme consisted of the importance of physical proof of joint production efforts, in the form of joint folders that almost all participants use in their daily practice in the organization.

The striking result from our analysis of the motivations of organizational actors to collaborate in interorganizational networks is the strong salience of themes in the gain goal-frame, which are flanked by other normative considerations in the form of fairness, legitimacy, and social identities. While our theoretical framework and interview guide were explicitly aimed towards uncovering the antecedents of joint production motivation (Lindenberg & Foss, 2011), the emergent themes did not

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directly align to determinants we expected to find, such as recognition and expertise-based decision-making processes. Instead, our findings indicate the importance of *mild solidarity* (Lindenberg, 2015a, 2023) in interorganizational collaboration. When social relations are characterized by mild solidarity, this indicates a dynamic interplay of gain and normative goal-frames, to such a degree that norms restrict opportunistic behavior, while participating parties acknowledge that they are legitimately acting in a gain goal-frame. The importance of mild solidarity in the interactions between organizational actors in this interorganizational network implies that ideal network governance is able to incite gain-oriented motivations in its participants, while ensuring that ample institutional arrangements are in place that soften the gain-orientation in moments of conflict.

Study II. Shared Understanding and Task-Interdependence in Nursing Interns' Collaborative Relationships

The second empirical study in this dissertation moved to a different level of interorganizational collaboration. In this study, we investigate how health care interns develop shared understanding with their collaborators, i.e., other students, professionals and teachers, in internship organizations. This setting is a step away from the managerial, organizational actors whom we interviewed in the previous study. Instead, the Nursing students in this study signed up for an internship program, and went to their internship organization in order to acquire professional experience in preparation for the labor market. Thus, although their internship programs fully take place within the interorganizational network of NetwerkZON, and NetwerkZON was responsible for the placement of these interns in different health care organizations, the findings of this study for interorganizational sustainability are on a completely different level of analysis.

In this study, we aimed to uncover how shared understanding in health care interns' collaborative relations is affected by characteristics of the collaborative relation and characteristics of the health care intern. The rationale behind this study, and its link to interorganizational sustainability, is the expected relation between health care interns' early shared understanding with professionals from different disciplines and their capacities to collaborate across professional boundaries when they enter the workforce after completing their educational program. With interprofessionalism being an essential competence of the modern health care worker, internship positions are often considered the earliest opportunity to nurture this competence in professional careers.

Drawing from theories of joint production motivation and goal-framing, this chapter tests the hypothesis that task-interdependence is the main condition through which interns develop a shared understanding with collaborators from their own and differing disciplines. We argue for the need to adopt a relational lens of

internship collaboration, rather than considering collaboration as a characteristic of an individual alone. Our results indicate that most interns indeed experience variations in shared understanding across their relationships with collaborators. Our final analysis includes 150 nursing interns, who report 865 collaborative relations in their internship organizations. Multilevel models reveal that task-interdependence significantly explains shared understanding in both inter- and intraprofessional collaborations, and that students do not report substantial differences between collaborating with professionals or collaborating with other students who are doing an internship in the organization.

This study emphasizes the importance of a relational perspective on the experiences of students in internship programs. Our results imply internship supervisors and program designers should focus on making the task-interdependent nature of collaborations salient to interns in order to nurture shared understanding. Rather than having interns participate in the organization in a passive way, their learning is boosted in situations where they perceive relations as being task-interdependent. Additionally, our results indicate lower levels of shared understanding in relations between students and school supervisors. A solution would require more than merely increasing contact between interns and school supervisors, instead necessitating increasing perceived interdependences between teachers and interns. Altogether, this chapter shows the importance of creating a task-interdependent environment in which students can collaborate with others, in order to develop their interprofessional skills.

Study III. Shaping Resilience

The next two studies in this dissertation shifted the focus towards organizational resilience. As the outbreak of the Covid-19 pandemic shocked the world and the country, students, supervisors, school teachers, and policy-makers in NetwerkZON suddenly found themselves in uncharted territory. Where the previous chapter dealt with slow processes, in the sense that the hypothesized process of nurturing interprofessional skills in interns and their later functioning in the labor market would span several years, the Covid-19 pandemic introduced a very urgent and immediate shock, necessitating organizations to show immediate resilience.

The third study in this dissertation took the external shock of the Covid-19 lockdown as an opportunity to research organizational resilience. Originally, we designed a longitudinal study mapping the development of collaborative relations of interns in health care organizations. Based on insights from social network analysis and goal-framing theory, we intended to assess how student learning networks would change as students gained more experience in organizational settings, and in the first months of 2020, we managed to collect a first wave of data among health care students, with 141 valid responses. March 2020 however carried with it the first lockdown in the Netherlands, and our intern population initially received the message

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that their internship programs were momentarily discontinued. A week later, the interns were informed that they were allowed to continue their internship program, but that all students would receive credit for their internship program regardless of their continuation or not. Despite there being no formal reward for continuation, 23% of the students continued their internship.

The research question of this chapter is: Under which conditions are nursing interns more committed to continuing work in their organizations during an external shock? Based on our original survey, we discerned four organizational design principles that may affect student decisions to continue their internship or not, being collaborative contact, shared understanding, task interdependence and collaborative organizational culture. Through a logistic regression, with internship continuation as the outcome variable, we modelled the effects of the four organizational conditions, finding positive effects of team task interdependence and intrinsic motivation. Shared understanding and collaborative culture show non-significant effects.

This chapter illustrates how organizational design principles may affect organizational resilience in times of external shocks. Even for individuals for whom there were no formal incentives or sanctions, organizational prior experiences frame the choice to remain committed to the organization. In particular, the degrees to which task interdependence and intrinsic motivation are salient in organizational settings predict the decision to continue working in an organization.

Study IV. Competing Norms and Shifting Saliences

The final empirical study in this dissertation delves deeper into the experiences of the interns during the outbreak of the Covid-19 pandemic and the weeks leading up to the first lockdown in the Netherlands. Although study III indicated a number of work conditions that would lead to organizational commitment, we suspected that perhaps more normative considerations may have played a role in shaping student's decisions. As the first period of the lockdown was one of ambiguity in the field of health care—pitting the norm to stay at home versus the norm to continue working—we wondered how students experienced the situation in their internship organization, and how they may have been influenced by their organizational surroundings. Therefore, we asked the question: How do personal beliefs about social norms and the related behaviors influence students' selection between two ambivalent normative courses of action?

To investigate the normative ambiguity in the interns' situation, this study combined insights from goal-framing theory and joint production motivation theory (Lindenberg & Foss, 2011) with Bicchieri's theory of norm beliefs (Bicchieri, 2005, 2017). Combining these theories led to the hypothesis that different or competing norms may differ in their salience. This implies that which norm will be salient and subsequently guide behavior depends on the degree to which cues from the social environment

strengthen it. We then differentiated four dimensions along which personal perceptions about norms may differ that play a role in supporting the salience of a norm: social versus non-social beliefs, normative versus non-normative beliefs, conjoint versus disjoint beliefs, and interdependence versus independence beliefs.
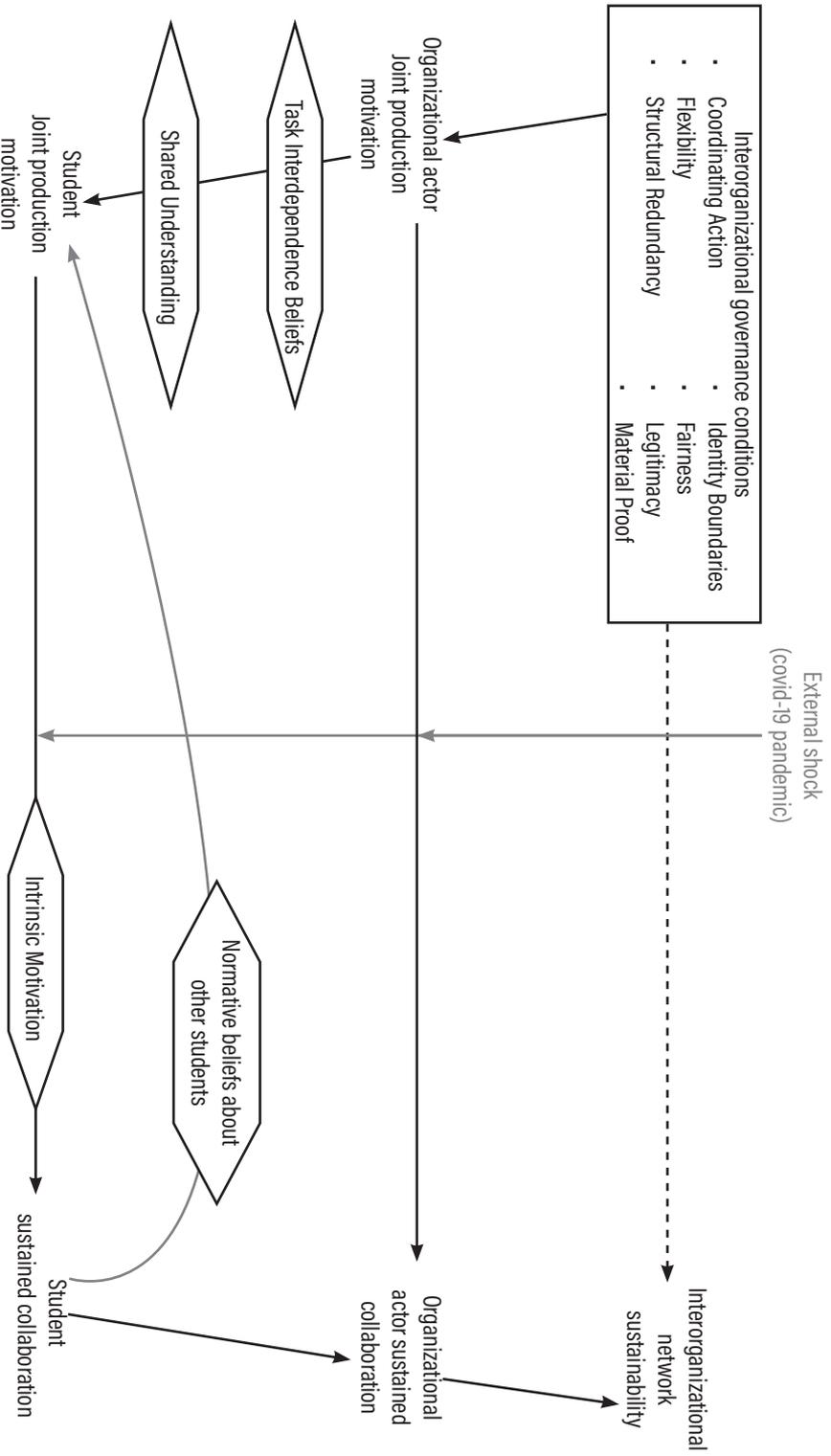
Empirically, we surveyed the same intern pool that formed the population of Study III. In this retrospective survey, the students were asked to report on their experiences during the final weeks of their internship. In particular, the questions were modelled on Bicchieri's empirical assessments of norms, differentiating personal normative beliefs, empirical expectations, and normative expectations of the behavior of other students and professionals. In the end, our analysis included 55 valid returned questionnaires. Despite the potential normative ambiguity of the situation, only 3 students actively perceived normative ambiguity, meaning that both norms were equally salient to them. To assess whether there were different recipes that lead to either internship continuation or the choice to stay at home, we ran two different Qualitative Comparative Analysis-models. The results of the analysis are striking: the two recipes that lead to continuation of internships both involved a salient norm to continue working, but occurred in combination with perceptions of either cognitive or functional interdependence with others at the internship organizations. The recipes explaining staying at home are more diverse, with many students reporting the salient norm to stay at home. Additionally, the students who experienced active normative ambiguity by having both salient norms of work continuation and staying at home, ultimately decided to stay at home, perhaps indicating how norms need to align with personal preferences in situations of ambiguity.

6.3 | General Conclusions

The aim of the research in this thesis was to understand what makes an interorganizational network sustainable over time. To explain the sustainability of interorganizational networks, we investigated under what conditions individual actors at different levels of an interorganizational network can be motivated to collaborate together in order to create joint value. The empirical research questions we answered thus dealt with the relationship between interorganizational network governance, the strength of goal-frames and joint production motivation, individual collaborative behaviors, and interorganizational network sustainability (see Figure 6.1).

A first conclusion from these studies is the importance of differentiating the levels in which interorganizational participants may be operating. The organizational actors that actively participate in interorganizational decision-making from study I find themselves in very different contexts than the students who are following their internship in the same health care organizations. As a result, the motivations, goals, and conditions that lead to their eventual behavior differ strongly. The empirical results

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Figure 6.1

Conceptual Model of This Dissertation, Complemented with Empirical Findings

Interorganizational governance conditions
- Coordinating Action
- Flexibility
- Structural Redundancy
- Identity Boundaries
- Fairness
- Legitimacy
- Material Proof

Organizational actor
Joint production motivation

Task Interdependence Beliefs

Shared Understanding

Student
Joint production motivation

Intrinsic Motivation

Normative beliefs about other students

External shock
(covid-19 pandemic)

Interorganizational network sustainability

Organizational actor sustained collaboration

Student sustained collaboration

from Study I indicate quite abstract normative considerations (Lindenberg, 2008a) that play a role in the long-term collaboration of organizational actors. Here, three governance conditions affect the gain goal-frame directly, with four conditions acting as normative goals in the background. The explanatory mechanisms on the level of the interns relate not necessarily to the *interorganizational* governance conditions, but rather on how *organizational* governance conditions affect the goal-frames of interns. At the organizational level, our results show that the mechanisms behind workplace motivation in the intern population are more direct. At this level, interns' goal-framing of the situation depends on their perception of task interdependence and shared understanding in collaborative relationships. This dissertation demonstrates that, in order to create a full micro-theoretical explanation of interorganizational sustainability, differentiating between these levels and uncovering the potentially differing mechanisms that lead to joint production motivation is essential.

Second, regarding the antecedents of joint production motivation (Foss & Lindenberg, 2013; Lindenberg & Foss, 2011), all four studies in this dissertation point towards the importance of interdependencies. The first theme that is mentioned by organizational actors in Study I deals with the recognition that organizations are interconnected, and that explicit collaboration therefore is cheaper than doing the same work alone. In the studies regarding the students, we show that students who perceive strong task interdependence not only have higher levels of shared understanding with their collaborators (Study II), but that these students also show stronger organizational commitment (Study III). In times of normative ambiguity, the functional and cognitive interdependencies in organizational settings play decisive roles in shaping their decision to stay at home or to continue working (Study IV).

The importance of task interdependence in motivating individuals to produce joint value is perhaps the most consistent finding in the empirical studies in this dissertation. Task interdependence consistently appears as a foundational condition towards joint value creation, shared understanding, and organizational resilience. This implies that interorganizational networks seeking sustainable collaboration could prioritize designing roles and processes that emphasize interdependent tasks, as these prove to encourage mutual collaborative efforts. This might not only benefit the effectiveness of a collaborative effort in the moment, but also contribute to its sustainability by making salience the collective joint production motivation in the network.

Third, the studies on student learning in this dissertation indicate the importance of a relational lens in understanding professional education. As collaborating is inherently a relational process, empirical studies about interprofessional education could benefit greatly from understanding collaboration as something that is shared between individuals, rather than something that a student does alone. Study II models this relational variation most explicitly, but Study IV also

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shows marked differences between the influences of norm beliefs regarding social roles: whereas the norm beliefs about students function effectively in a number of the recipes leading to the decision to stay at home, the perceived norms for professionals barely influenced their decision-making.

The striking results that follow from adopting a relational perspective to student learning, organizational commitment, and interorganizational collaboration indicate the importance of acknowledging collaborative relations, both in education and in organizational governance. As this thesis shows that the way that professionals and students learn and collaborate is strongly influenced by those around them, this suggests a rethinking of current educational practices is in order. By not including the dynamics between interns and professionals, current educational policies might be missing a potential avenue to increase vocational learning and professional commitment.

Taking a step back from the immediate results from the four empirical studies, the overarching thread in this dissertation is about interorganizational sustainability. Two types of threats to collaboration were discerned in this thesis: endogenous, and exogenous threats. Endogenous threats to sustainable collaboration deal with decay from within. Our study on joint production motivation in interorganizational networks (Study I) shows the potential danger of collaborative decay that occurs when goal-frames are not aligned towards sustainable cooperation. We find that an institutional arrangement nurturing mild solidarity is essential in sustaining organizational participation in the network, as organizations work towards common gains, while normative underpinnings ensure the gain-oriented behavior of organizations does not hurt the collective as a whole.

The Covid-19 pandemic provided us with a unique opportunity to analyze the impact of a large external shock on the functioning of an interorganizational network. Our empirical studies were designed in 2017, when a pandemic was mostly a storytelling device in movies and dystopian literature. Nevertheless, the theoretical frameworks of goal-framing (Lindenberg & Steg, 2007; Steg et al., 2016) and joint production motivation (Lindenberg & Foss, 2011) were well-suited to make sense of this unprecedented situation. By applying these theories to a setting of interorganizational networks, we were able to ascertain under which conditions both organizational actors and their interns could be motivated to collaborate and to continue collaborating even in dire situations. In order to really understand the sustainability of a collective, we believe the studies contained within this dissertation convincingly show the importance of knowing which individuals collaborate, with whom, and which motivations they have to collaborate.

6.4 | Limitations, Loose Ends, and Further Research

The empirical research in this dissertation offers a comprehensive case study of one particular interorganizational network, as we draw our data solely from employees and students working within the organizations participating in NetwerkZON. Generalizability of the findings to interorganizational networks (with similar purposes) in other countries and sectors is limited by contextual factors, such as resource munificence and cultural contexts. NetwerkZON operates in the Netherlands, an affluent country with a strong history of social benefits. Given that resource munificence is found to be a key exogenous factor in network functioning (Cristofoli & Markovic, 2016; Shumate et al., 2023; Turrini et al., 2009), this limits the generalizability of these results to situations where health care is offered in relative wealth. However, resource munificence is not solely defined by the availability of financial resources but also includes other factors, such as having an available and flexible labor force (Austin & Seitanidi, 2012). The region where NetwerkZON operates is under significant pressure as its population in the northern part of the Netherlands is ageing, and the workforce is diminishing. Hence, NetwerkZON finds itself in a highly competitive environment that has the potential to be challenging for organizations.

The research in this dissertation is geographically situated in North-Western Europe. Consequently, it should be interpreted within the context of the extensive European and US-based academic studies on interorganizational networks. In a literature review, Bergenholtz and Waldstrøm (2011) report that 62.7% of scholarly work originates from Europe or the US, while only 11.7% of the articles have authors affiliated with research institutes in Africa, Asia, Australia, or South America. The remainder of the articles are characterized as international, indicating joint affiliation across countries. This discrepancy indicates a core task of interorganizational scholarship is to widen its scope, and to assess whether mechanisms work differently across the globe. Work on interorganizational networks operating on a global scale offers at least some indication that tailor-made theories are necessary, as intercultural differences are a key hurdle to overcome in global collaboration (Griffith & Harvey, 2001). The work in this thesis offers no empirical conclusions regarding this matter, but the goal-framing and joint production motivation frameworks may be helpful in understanding different motivations across national boundaries.

Another potential limitation of the generalizability of our findings is the specific sector of operation for NetwerkZON. Interorganizational networks are common in healthcare provision due to the interdependent nature of tasks and roles within healthcare (Scheaff & Schofield, 2016). Study I highlights that participants in NetwerkZON recognized their shared identity as healthcare workers as a driving force for collaboration. Although the potential benefits of interorganizational collaborations in health care are large, and empirical research shows health care workers are often

aware of these advantages (Hardin et al., 2017; Karlsson et al., 2020; Supper et al., 2014), this does not mean collaboration therefore is easily achieved or sustained. There is substantial empirical evidence of instances in which healthcare workers did not collaborate successfully (e.g. DiBenigno & Kellogg, 2014; Peng & Bourne, 2009; Weber et al., 2022). Overall, we believe that the findings regarding joint production motivation and inter-organizational sustainability can be applied to other sectors as long as there are shared values to be realized.

This dissertation has shown the value of applying goal-framing theory to collaboration in an interorganizational network, indicating the importance of understanding individual motivations of individuals and the multiplex relations between them. One of the main empirical insights is that studies of student learning, organizational commitment, and decision-making in situations of normative ambiguity benefits from a relational lens. Our results indeed show considerate variation among interns in the health care sector in the number of collaborators they recognize, and in the extent to which they feel mutual understanding and task interdependence. The network visualization of the joint attendance in platform meetings of NetwerkZON from Study I (Figure 2.1) also depicts a clear structure in the relations of organizations participating in this particular interorganizational network. We argue that acknowledging the different levels that constitute organizational networks is essential in order to understand what drives joint production motivations of actors, but our studies are limited in the extent to which they include an analysis of the structural characteristics of the network. Goal-framing theory predicts that contextual factors will influence the motivations that individuals have to collaborate towards joint value, and such contextual factors may vary according to structural network characteristics. The normative goal-frame may be more important for an organizational actor located in the center of an interorganizational network, whose actions are more closely related to the collective, than for an actor at the boundaries of the network, who only partially participates in it. Future studies should analyze in more detail the relation between network positions and joint production motivation.

An open question concerns the potential *contagion* effects of joint production motivation between actors in different levels. Studies by Lazega (2020) and Lazega et al. (2008) highlight the significance of *linchpins*: the actors who connect various levels within organizations. These linchpins reap benefits from increased information and hold significant influence on individuals at multiple levels simultaneously. Therefore, the presence of linchpin figures is indispensable for the organization to bring about social change. Multilevel interorganizational networks often contain many of such linchpin figures, and the organizational actors in our empirical studies sometimes also function in this way. Several of the interviewees in Study I, for instance, were involved in one way or another in the supervision of the interns surveyed in Studies II, III, and IV. As our study on norm-following behavior argues, the salience of norms is strongly

affected by the behavior of relevant others in a particular situation. It therefore seems likely that the salience of norms of joint production may have cross-level effects: an organizational actor with a strong joint production motivation may influence others at both the level of the students *and* the level of the interorganizational collaboration. We therefore expect that assessing how actors at different levels in the organization and in the network influence one another might yield interesting insights into the sustainability of interorganizational networks.

A last limitation of our studies consists of a deficit that characterizes many sociological studies: we have not spent much attention to the *aggregation rule* of our conceptual model. In our studies, we assume that the individual decisions to continue collaborating (in Study I) or to show organizational commitment (Studies III and IV) simply add up towards (inter)organizational resilience. A core assumption of network analysis is that "a network is more than just a collection of atomistic relationships" (Isett et al., 2011). Nonetheless, we have not sufficiently theorized on the interplay of decision-making of individuals, and how that in turn leads to actual sustainability. Study IV does show that there are influence processes, indicating that perhaps there is a feedback process, where a system can be sustainable as long as not too much changes. To understand this process better, longitudinal research would be required that measures and models the leaving decisions of particular actors in the network. Sustainability, after all, is a process: it does not stop.

6.5 | Final Reflections

6.5.1 | Towards Better Interprofessional Internships

The research conducted for this dissertation unfolded in a health care sector grappling with considerable challenges. Aging populations result in increasing demands for health care all over the globe. Simultaneously, scholars and practitioners are realizing the intricate interconnectedness of various facets of care, consequently making health care provision itself more complex and multifaceted (Vogt et al., 2016). For health care workers, this means that their tasks and jobs also increase in complexity, resulting in an increased need to be able to collaborate across organizational and professional boundaries (Interprofessional Education Collaborative, 2016; World Health Organization, 2010). In short, health care provision increasingly requires interprofessionalism.

Addressing the objective of cultivating interprofessional capacities in new health care workers raises a crucial question: how can we effectively instill these skills? Internship programs are often the answer to this question, as these are the contexts in which education and professional practice intertwine. Such programs come in many forms, such as *learning carousels*, *living labs*, *guild learning*, *internship learning networks*.

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In a research report commissioned by the Dutch Ministry of Education, Culture and Science, Groot Beumer et al. (2020) report that participating in different learning innovation projects significantly affects students' job attainment. Although this is a positive and significant effect, the relatively modest effect size (3 percent increase in the likelihood of finding a job within six months), and wide variation in internship program effectiveness reveal the disparate ways in which different programs function. Despite the proliferation of new internship forms, little is known about how these arrangements work in increasing students' interprofessionalism.

In addition, interprofessional collaborative capacities and internship positions do not merely influence the active functioning and learning of health care interns. Our studies (III and IV) underscore that internship contexts play a pivotal role in shaping health care interns' organizational commitment during an external shock. These findings are particularly important, given the sustainability threats that the health care sector is facing. Health care organizations, in comparison to other fields, have more trouble finding sufficient employees (Hoeve et al., 2018). For the Dutch context, figures from a recent government document show that the amount of unfilled vacancies for jobs in health care organizations is consistently increasing (Ministerie van Volksgezondheid, Welzijn en Sport, 2023, p. 3). Dropout rates for early-career workers and students in health care are relatively high (De Cooman et al., 2008).

Consequently, we need a comprehensive policy theory of change on how participation in networked internships can improve students' willingness and ability to cooperate across organizational and disciplinary boundaries. Our research provides glimpses into the micro-foundations of such a policy theory. Goal-framing and joint production motivation theory offer useful insights that link organizational contexts with individual motivations to collaborate. This dissertation's findings on student internships consistently demonstrate the importance of perceived interdependencies in the work of interns with their collaborators in the internship organization. The variation in shared understanding found among nursing interns' collaborators also indicates the key role that collaborative relations may play in vocational education processes—particularly given the result that motivations alone do not predict such shared understanding. Our study, with its specific attention to how students collaborate within their internship organizations, contributes to a better understanding of how to carefully design internship programs that actually increase interprofessional collaborations in the health care sector.

6.5.2 | Towards Sustainable Interorganizational Networks

The trend towards a *Hollow State* (Frederiksen & London, 2000; Milward & Provan, 2000), in which the implementation and delivery of public services occurs through networks of interconnected organizations, presents interorganizational networks as an optimal solution for many societal problems. Although it indeed seems plausible that modern, complex problems require networked governance forms that are particularly equipped to tackle them (Kenis & Cambré, 2022), this is not to say that collaboration in networks is always easy and clear. In a critical reflection on interorganizational networks in health care, Agranoff (2006) already warned for the dangers of engaging in collaboration willy-nilly. This sentence has even reached public debate, as a column in the Dutch newspaper *De Volkskrant* wrote: "Collaboration seems to have become an end in itself, rather than a means to deliver sustainable and future-proof healthcare" (Stuijver, 2023).

For organizational networks to function sustainably, they need to create and sustain joint production motivation, but for this to work in an interorganizational context, the underlying goal-frame processes need to foster mild solidarity *between* organizations and hence across the boundaries of formal organizations (Lindenberg, 2023). This implies a delicate balance between the motivation to realize benefits for one's own organization, but with a constant eye on the collective good produced by the network. This requires that normative concerns are activated as strong background goals, and they become salient in all those situations in which individual organizations face opportunistic decision options that may yield (short term) benefits, but at the expense of the (long term) joint production of the interorganizational network.

What do institutional arrangements that support joint production motivation look like, then? And how can interorganizational networks be designed in such a way that they nurture joint production motivation? This dissertation confirms a significant finding by Shumate and Cooper (2022) and Shumate et al. (2023): the recognition of a crucial need for a theory of change in the foundation of collective endeavors. They state that "leaders must pay careful attention to both the design of the network and the theory of change for them to live up to their promise" (Shumate et al., 2023, p. 12). Our studies exemplify this finding. NetwerkZON, the interorganizational network that this dissertation was about, is explicitly governed by a policy theory (Zuidersma, 2012, 2019). At the core of this policy theory is an explicated theory of change, which connects how organizational actors (and, by extension, students) are motivated to collaborate, and how to get to particular joint outcomes. The research in this thesis found many instances in which members of the network referred to, explicated, reflected and critically discussed the theory's principles and the way they were translated into the daily practice of running the network. Many network participants

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explicitly commented on the theory, or some of its elements, in the interviews in Study I. Other elements, such as the structural design of *multilayered* networks, are more implicit in the structure of the network, and perhaps less clear to participants, nevertheless have their impact on the functioning of the network.

In order for interorganizational networks to sustainably collaborate towards their objectives, they require institutional arrangements that foster joint production motivation. This motivation does not appear out-of-nowhere: it needs to be nurtured carefully. This requires intelligent effort on the side of network managers and organizational participants. The findings in this dissertation point out the importance of a theoretical micro-foundation of network governance that explicates how actors collaborate towards their common goals. Constant calibration of the institutional arrangements and the individual motivations of organizational actors and societal stakeholders is necessary to sustain cooperation.

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Nederlandse Samenvatting

Introductie

Overheidsinstanties, bedrijven en andere maatschappelijke organisaties nemen steeds vaker deel in organisatienetwerken[1]: groepen van drie of meer organisaties die zich op meerdere manieren met elkaar verbinden om gedeelde doelen te behalen (Agranoff, 2006; Kenis & Cambré, 2022; Shumate et al., 2022). Parallel aan de groei van het aantal organisatienetwerken zijn er in de afgelopen decennia veel wetenschappelijke studies gedaan naar het functioneren en de effectiviteit van zulke samenwerkingsverbanden (Shumate et al., 2023; Turrini et al., 2009). Het vraagstuk van de duurzaamheid van dit soort netwerken is echter nog relatief onderbelicht (Getha-Taylor, 2019). Ondanks het grote potentieel dat organisatienetwerken bieden, laat empirisch onderzoek zien dat het bereiken van dit potentieel moeilijk is, en dat maar weinig organisatienetwerken erin slagen om dit vol te houden gedurende langere periodes (Scott et al., 2018). Deze vraag is zeer relevant, omdat samenwerkingsverbanden vaak in goede voornemens kunnen verdrinken, met verspilde moeite en gemiste baten als resultaat.

In deze dissertatie definiëren we duurzame samenwerking als de mate waarin "de sociale infrastructuur voor de gezamenlijke productie van gedeelde baten effectief blijft in het produceren van uitkomsten die waardevol zijn voor zowel de participanten in het gezamenlijke productieproces als de maatschappij, ook onder ongunstige omstandigheden" (Wittek, 2022, p. 6). Aangezien organisatienetwerken doorgaans streven naar een staat van duurzame samenwerking, is het essentieel om erachter te komen welke strategieën dit soort netwerken kan volgen om te verduurzamen.

Eerdere studies naar het functioneren van organisatienetwerken laten zien dat dit soort netwerken uit meerdere niveaus bestaat, en dat er verschillende mechanismen opereren op ieder niveau, die er samen toe leiden dat een netwerk effectief is (Provan & Milward, 1995; Raab, 2018; Raab et al., 2015). Deze structuur wordt "multilevel" genoemd vanwege de verschillende niveaus (bijvoorbeeld strategisch, tactisch, operationeel) waarop het netwerk functioneert. Om de duurzaamheid van organisatienetwerken te kunnen begrijpen, moet men dus in staat zijn om te verklaren onder welke condities actoren op meerdere posities in de multilevelstructuur bereid zijn om bij te dragen aan het collectief, en wanneer organisaties juist hun individuele doelen najagen.

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[1] In het vertalen van "Interorganizational Network" geven we, in navolging van Kenis en Cambré (2022), de voorkeur aan de term "Organisatienetwerk". Alternatieve vertalingen leggen de nadruk te sterk op het proces van organiseren ("Interorganisatorisch Netwerk"), of maken gebruik van woorden die niet in de Nederlandse taal voorkomen ("Interorganisationeel Netwerk"). Let wel: de term "Organisatienetwerk" dient hier opgevat te worden als een netwerk van organisaties, en niet als een netwerk van individuen binnen één organisatie (Kenis & Cambré, 2022).

De empirische studies in dit boek zijn uitgevoerd in de context van NetwerkZON, een organisatienetwerk dat sinds 1997 opereert op het snijvlak van zorg en educatie in het noorden van Nederland (Zuidersma, 2012). Het voornaamste doel van NetwerkZON is om ervoor te zorgen dat studenten die een zorg- of welzijnsopleiding volgen goed voorbereid zijn op de arbeidsmarkt in de regio. NetwerkZON bestaat uit vier mbo-scholen, één hbo-school en tientallen zorg- en welzijnsinstellingen in de regio, zoals ziekenhuizen, verzorgingstehuizen, en thuiszorgorganisaties. Een van de kerntaken van NetwerkZON is het coördineren van stageplaatsen van nieuwe studenten, om ervoor te zorgen dat studenten een gevarieerd en kwalitatief goed aanbod van praktijkervaring in hun opleiding krijgen. Tegelijkertijd spelen hier de belangen mee van de verschillende zorginstellingen, die ieder op zoek zijn naar voldoende werknemers in een krappe arbeidsmarkt. De complexe dynamiek en interacties binnen dit organisatienetwerk dat al meer dan 25 jaar samenwerkt, maakt dit een uitgelezen kans om duurzaamheid op verschillende niveaus empirisch te onderzoeken.

Het concept duurzaamheid in samenwerkingsverbanden omhelst twee verschillende factoren (Elmqvist et al., 2019). Enerzijds is er de interne duurzaamheid, die gaat om het functioneren van de samenwerkingspartners over de langere termijn. Aan de andere kant omvat duurzaamheid ook veerkracht: de capaciteit om te blijven samenwerken onder ongunstige omstandigheden. Het empirische onderzoek in deze dissertatie is uitgevoerd tijdens onvoorziene ongunstige omstandigheden, in de vorm van de Covid-19 pandemie die de wereld in 2020 en 2021 in haar grip had. De pandemie heeft ons als onderzoekers in staat gesteld om de interne duurzaamheid van het samenwerkingsverband te onderzoeken (hoofdstuk 2 en 3), alsook de veerkracht van de samenwerking tijdens de Covid-19 pandemie (hoofdstuk 4 en 5).

Doelframetheorie en joint production motivation

Om te verklaren wanneer actoren gemotiveerd zijn om samen te werken aan gedeelde waardecreatie, maken we in deze dissertatie gebruik van de doelframetheorie[2] (Lindenberg, 2008; Lindenberg & Steg, 2013) en de conceptualisering van "joint production motivation"[3] (Foss & Lindenberg, 2013; Lindenberg & Foss, 2011). Aangezien deze theorieën ten grondslag liggen aan alle vier de empirische hoofdstukken, schetsen we deze hier kort alvorens de empirische studies te bespreken.

2   Het Engelse origineel is "Goal-Framing Theory", en wij maken dankbaar gebruik van de Nederlandse vertalingen die gehanteerd worden door Wijk en Six (2014).

3   De Engelse term is "joint production motivation". Aangezien alle vertalingen naar het Nederlands danwel krom ("de motivatie om gezamenlijk te produceren" vereist immers eigenlijk een lijdend voorwerp), omslachtig ("de motivatie om gezamenlijke waardes te bereiken door middel van samenwerking"), of ronduit geforceerd ("gezamenlijkeproductiemotivatie") aanvoelen, geven we in deze samenvatting er de voorkeur aan om "joint production motivation" in het Engels te introduceren, en hierna "JPM" als afkorting te gebruiken.

Doelframetheorie theorie stelt dat mensen situaties ervaren vanuit verschillende cognitieve frames die bepaalde doelen centraal stellen en de aandacht voor andere doelen juist verminderen. Doelframetheorie stelt dat er drie overkoepelende doelen zijn: het hedonistische doel (om te doen waar je je beter van gaat voelen), het winstdoel (om je beter te voelen in de toekomst) en het normatieve doel (om te doen wat juist en gepast is). Welk doel "dominant" is op een gegeven moment, hangt af van de situatie waarin het individu zich bevindt: het normatieve doelframe wordt bijvoorbeeld versterkt wanneer een individu ziet dat anderen om zich heen zich normatief gedragen (Keizer et al., 2008; Lindenberg et al., 2021)

De drie doelframes zijn niet even sterk. Het hedonistische doelframe is, wanneer er geen externe ondersteuning is vanuit de omgeving, het sterkst. Hierna volgt het winstdoelframe, en het normatieve doelframe is het zwakst. Vanwege deze hiërarchische volgorde, vervalt het normatieve doelframe wanneer het niet genoeg contextuele ondersteuning ontvangt. Hoewel er op een gegeven moment slechts één doel dominant kan zijn, verdwijnen de andere doelen niet volledig; ze blijven tot op zekere hoogte actief op de achtergrond. Als een doel op de achtergrond te sterk wordt, neemt het echter het actieve doelframe op de voorgrond over. Doordat achtergronddoelen nog actief kunnen zijn, kunnen ze ook het actieve doelframe ondersteunen, bijvoorbeeld wanneer gedrag dat voortkomt uit het normatieve doelframe ook plezierig is om te doen.

Wanneer je doelframetheorie toepast op situaties waarin mensen samenwerken, krijg je situaties van "joint production motivation" (JPM). Dit concept omvat de motivatie om samen te werken om gedeelde waardes te creëren (Lindenberg & Foss, 2011). In samenwerkingsverbanden is het essentieel om de JPM in deelnemers aan te wakkeren en te blijven ondersteunen, opdat medewerkers gemotiveerd samen blijven werken aan het bereiken van de doelen van het samenwerkingsverband. De theorieën van doelframes en JPM zijn al succesvol toegepast op samenwerkingssituaties binnen organisaties, maar in deze dissertatie verkennen wij de toegevoegde waarde van deze theorieën om de duurzame samenwerking tussen organisaties in organisatienetwerken te verklaren.

Joint production motivation in een organisatienetwerk

Het tweede hoofdstuk van deze dissertatie richt zich op het functioneren van het organisatienetwerk NetwerkZON op beleidsniveau. We onderzoeken de motieven die participanten die namens hun organisaties in het netwerk deelnemen benoemen voor hun consistente samenwerking. De centrale onderzoeksvraag luidt: Welke motieven identificeren individuen die namens hun organisatie deelnemen in een organisatienetwerk voor hun langdurige samenwerking? De studie identificeert condities die de JPM van de participanten ondersteunen, omdat deze condities

cruciaal zijn voor het behoud van de samenwerking. Aangezien de literatuur over duurzame samenwerking in organisatienetwerken nog beperkt aandacht besteedt aan de motivatie van samenwerkingspartners (Getha-Taylor, 2019), betogen we dat deze beleidscondities de duurzaamheid kunnen verklaren.

Voor deze studie zijn vijftien diepte-interviews gehouden met organisatorische deelnemers aan beleidsmatige platformbijeenkomsten van NetwerkZON. Een thematische analyse naar de verschillende motieven van de participanten resulteerde in zeven condities. Drie van deze condities vallen onder het winstdoelframe, met de focus op directe voordelen voor de individuele organisaties. Deze condities omvatten het verminderen van de kosten die het coördineren van stages met zich meebrengt, het bieden van flexibiliteit in regelgeving, en de aanwezigheid van "overtollige" connecties tussen organisaties die ervoor zorgden dat organisaties zich ingebed voelen in de samenwerking. De overige vier condities versterken het normatieve doelframe, door de nadruk te leggen op de eerlijkheid van het proces, de collectieve identiteit rondom hun werk en locatie, en de (interne en externe) legitimiteit van het netwerk. De laatste van de vier normatieve condities omvat tastbaar "bewijs" van de samenwerking, in de vorm van een document dat door deelnemers wordt gebruikt in hun dagelijkse praktijk.

Het opvallende resultaat van deze thematische analyse is de relatieve overhand van de condities van het winstdoelframe ten opzichte van de normatieve doelframes. We interpreteren deze verdeling als een indicatie van milde solidariteit binnen het organisatienetwerk, waarbij partijen van elkaar erkennen dat ze winst nastreven, maar waar normatieve afwegingen dit winstbejag beteugelen om schadelijke effecten voor het collectief te voorkomen (Lindenberg, 2015a). Tegelijkertijd stimuleert het dominante winstdoelframe samenwerking voor de gedeelde waardecreatie. De implicatie voor duurzame samenwerking in organisatienetwerken is dat het netwerk ervoor moet zorgen dat het winstdoel duidelijk blijft voor deelnemende organisaties, maar dat er genoeg institutionele arrangementen aanwezig zijn die individueel winstbejag dat schadelijk is voor het collectief inperken.

Wederzijds begrip, taakafhankelijkheid, en interprofessioneel leren

In hoofdstuk 3 onderzoeken we hoe stagiaires in de gezondheidszorg wederzijds begrip ontwikkelen met andere studenten, professionals en docenten, in organisaties. In deze studie onderzoeken we hoe gedeeld begrip in samenwerkingsrelaties van stagiaires in de gezondheidszorg wordt beïnvloed door kenmerken van de samenwerkingsrelatie en kenmerken van de stagiair. Het idee achter dit onderzoek, en de link met duurzaamheid tussen organisaties, is de verwachte relatie tussen het vroeg gedeelde begrip van stagiaires in de gezondheidszorg met professionals uit verschillende disciplines en hun capaciteiten om over professionele

grenzen heen samen te werken (Barr, 1998). Omdat interprofessionalisme een essentiële competentie is van de moderne werknemer in de gezondheidszorg, worden stageplaatsen vaak beschouwd als de vroegste gelegenheid om deze competentie in de professionele loopbaan te koesteren (Abu-Rish et al., 2012; Zerden et al., 2021).

In dit hoofdstuk wordt de hypothese getoetst dat de onderlinge taakafhankelijkheid de belangrijkste voorwaarde is waardoor stagiairs een wederzijds begrip ontwikkelen met medewerkers uit hun eigen en andere disciplines (Lindenberg, 2015b). We beargumenteren de noodzaak om samenwerkingsrelaties van studenten te onderzoeken, in plaats van samenwerking te beschouwen als een kenmerk van een individu alleen. Onze resultaten geven aan dat de meeste stagiaires inderdaad variaties ervaren in het gedeelde begrip in hun relaties met medewerkers. Onze uiteindelijke analyse omvat 150 stagiaires Verpleegkunde, die 865 samenwerkingsrelaties rapporteren in hun stageorganisatie. Multilevel regressiemodellen laten zien dat taakafhankelijkheid een significante verklaring is voor gedeeld begrip in samenwerkingen zowel binnen als buiten de eigen discipline, en dat studenten geen substantiële verschillen rapporteren tussen samenwerken met professionals of andere studenten.

Onze resultaten impliceren dat stagebegeleiders en programmaontwerpers zich moeten richten op het zichtbaar maken van de taakafhankelijke aard van samenwerkingsverbanden aan stagiaires om zo gedeeld begrip te bevorderen. In plaats van stagiaires op een passieve manier te laten participeren in de organisatie, wordt hun leerproces gestimuleerd in situaties waarin ze relaties zien als taakafhankelijk. Bovendien wijzen onze resultaten op lagere niveaus van gedeeld begrip in relaties tussen studenten en schoolbegeleiders. Een oplossing zou meer vereisen dan alleen het vergroten van het contact tussen stagiairs en schoolbegeleiders, maar juist ten doel moeten hebben om de waargenomen onderlinge afhankelijkheid tussen docenten en stagiairs te vergroten. Al met al toont dit hoofdstuk het belang aan van het creëren van een taakafhankelijke omgeving waarin studenten kunnen samenwerken met anderen, om zo hun interprofessionele vaardigheden te ontwikkelen.

Het vormen van veerkracht

In de volgende twee studies in dit proefschrift staat organisatorische veerkracht centraal. Toen de Covid-19 pandemie de wereld tot lockdowns dwong, bevonden studenten, begeleiders, schooldocenten en beleidsmakers in NetwerkZON zich plotseling op onbekend terrein. Toen in maart 2020 de eerste lockdown in Nederland werd aangekondigd, ontvingen stagiairs in eerste instantie het bericht dat hun stageprogramma's tijdelijk werden stopgezet. Een week later hoorden de

stagiairs dat ze hun stageprogramma mochten voortzetten, maar dat alle studenten studiepunten zouden krijgen voor hun stageprogramma, ongeacht of ze door zouden gaan of niet. Ondanks het feit dat er geen formele beloning was voor voortzetting, ging 23% van de studenten door met hun stage.

De onderzoeksvraag van dit hoofdstuk luidt: Onder welke omstandigheden zijn verpleegkundige stagiaires meer gecommitteerd om hun werk in hun organisaties voort te zetten tijdens een externe schok? Op basis van een enquête uit de weken voor de lockdown, onderscheiden we vier organisatorische ontwerpprincipes die van invloed kunnen zijn op de beslissing van studenten, namelijk samenwerkingscontact, gedeeld begrip, onderlinge taakafhankelijkheid en de organisatiecultuur. Door middel van een logistische regressieanalyse, met voortzetting van de stage als uitkomstvariabele, modelleren we de effecten van de vier organisatorische condities, waarbij we positieve effecten vonden van onderlinge taakafhankelijkheid en intrinsieke motivatie. Gedeeld begrip en collaboratieve cultuur vertonen niet-significante effecten.

Dit hoofdstuk illustreert hoe organisatorische ontwerpprincipes de veerkracht van organisaties kunnen beïnvloeden in tijden van externe schokken. Zelfs voor individuen voor wie er geen formele prikkels of sancties waren, bepalen organisatorische ervaringen de keuze om betrokken te blijven bij de organisatie. Met name de mate waarin onderlinge taakafhankelijkheid en intrinsieke motivatie van belang zijn in organisatorische contexten voorspellen de beslissing om in een organisatie te blijven werken.

Percepties en gedrag in normatieve ambiguïteit

De laatste empirische studie in dit proefschrift gaat dieper in op de ervaringen van de stagiaires tijdens de uitbraak van de Covid-19 pandemie en de weken voorafgaand aan de eerste lockdown in Nederland. Hoewel studie 3 een aantal organisatorische ontwerpprincipes blootstelde, vermoedden we dat misschien meer normatieve overwegingen een rol speelden bij het vormgeven van de beslissingen van de studenten. De eerste periode van de lockdown introduceerde veel ambiguïteit in het veld van de gezondheidszorg, omdat er zowel een norm om thuis te blijven als een norm om door te werken leek te gelden. Daarom stelden we de vraag: Hoe beïnvloeden persoonlijke overtuigingen over sociale normen en het daarmee samenhangende gedrag de keuze van studenten tussen twee ambivalente normatieve handelwijzen?

Om de normatieve ambiguïteit in de situatie van de stagiairs te onderzoeken, combineert deze studie inzichten uit de doelframetheorie (Lindenberg & Foss, 2011) met Bicchieri's theorie van normovertuigingen (2005, 2017). Onze hypothese is dat concurrerende normen verschillen in de mate van dominantie over de andere. Dit impliceert dat welke norm het meest in het oog springt en vervolgens gedrag stuurt, afhangt van de mate waarin signalen uit de sociale omgeving deze norm versterken.

We onderscheiden vier dimensies waarlangs persoonlijke percepties over normen kunnen verschillen: sociale versus niet-sociale overtuigingen, normatieve versus niet-normatieve overtuigingen, overlappende versus uiteenlopende overtuigingen, en afhankelijkheids- versus onafhankelijkheidsovertuigingen.

Empirisch onderzoeken we dezelfde stagiarepopulatie uit studie 3. In een retrospectieve enquête werd de studenten gevraagd over hun ervaringen tijdens de laatste weken van hun stage. Uiteindelijk omvatte onze analyse 55 geldige vragenlijsten. Ondanks de potentiële normatieve ambiguïteit van de situatie, namen slechts 3 studenten actief normatieve ambiguïteit waar, wat betekent dat beide normen voor hen even belangrijk waren. Via de Qualitative Comparative Analysis-methode analyseren we of er verschillende combinaties van percepties en ideeën over normen waren die leidden tot ofwel voortzetting van de stage ofwel de keuze om thuis te blijven. De resultaten van de analyse zijn opvallend: de twee recepten die leiden tot voortzetting van de stage hadden beide te maken met een dominante norm om te blijven werken, maar kwamen voor in combinatie met percepties van ofwel cognitieve ofwel functionele afhankelijkheid met anderen bij de stageorganisaties. De recepten die thuis blijven verklaren zijn meer divers, met veel studenten die de dominante norm om thuis te blijven rapporteren. Bovendien besloten de studenten die actieve normatieve ambiguïteit ervoeren, uiteindelijk om thuis te blijven, wat aangeeft hoe normen in overeenstemming moeten worden gebracht met persoonlijke voorkeuren in situaties van ambiguïteit.

Conclusies

Dit proefschrift onderstreept de kritieke noodzaak om onderscheid te maken tussen niveaus van een organisatienetwerk, door organisatorische actoren die betrokken zijn bij besluitvorming te vergelijken met stagiaires in zorgorganisaties. Dit onderscheid onthult verschillende motieven, doelen en gedragingen en benadrukt de noodzaak van het herkennen en begrijpen van deze verschillen om te kunnen komen tot een uitgebreide micro-theoretische verklaring van duurzaamheid in organisatienetwerken. De bevindingen benadrukken consequent de onderlinge afhankelijkheid van taken als een voorwaarde voor duurzame samenwerking. De suggestie wordt gedaan om prioriteit te geven aan het ontwerp van rollen en processen die onderlinge afhankelijkheid van taken benadrukken om niet alleen de effectiviteit van samenwerkingsinspanningen te verbeteren, maar ook hun duurzaamheid op de lange termijn.

Daarnaast pleiten we in dit proefschrift voor een relationele blik op professioneel onderwijs, waarbij samenwerking wordt benadrukt als een gedeeld proces tussen individuen. De empirische studies laten de invloed zien van samenwerkingsrelaties op het leren van studenten, betrokkenheid bij de organisatie

en samenwerking tussen organisaties. Dit perspectief zet aan tot een herwaardering van huidige onderwijspraktijken, waarbij wordt gesuggereerd dat het negeren van de dynamiek tussen stagiaires en professionals potentiële wegen om beroepsmatig leren en professionele betrokkenheid te verbeteren in de weg kan staan. Over het geheel genomen draait het overkoepelende thema van dit proefschrift om duurzaamheid in organisatienetwerken, waarbij zowel interne bedreigingen als externe schokken zoals de Covid-19 pandemie worden aangepakt. Hierin benadrukken we het essentiële belang van het begrijpen van de individuen, hun motivatie en samenwerkingsvoorwaarden voor een holistische kijk op collectieve duurzaamheid.

Appendix A

Translated Interview Guide Study I

0. **Introduction**

1. **Daily operations**
   - Work
     - Where do you work? What is your official function?
     - Could you please describe a normal working day?
   - Organization
     - How many people approximately work in your organization?
     - With how many people do you work closely?
     - What kind of decisions do you make at work?
     - How much freedom do you have in making such decisions?

2. **NetwerkZON function and meetings**
   - Meetings
     - Could you please describe the platform meeting for me?
     - What kind of members are there in the network?
     - Which of these members are closely involved in the network?
     - In which situations do you see these people besides the platform meetings?
     - Could you please describe for me how a regular network meeting proceeds?

3. **NetwerkZON and the pandemic**
   - The organization and the pandemic
     - Could you tell me what changed in your organization during the covid-19 pandemic?
     - What were the effects of this on your daily work?
     - How did the transition go to online meetings?
     - How was it in the first weeks of March 2020 [lockdown start]?
     - How was it in the lockdown in October?
   - NetwerkZON and the pandemic
     - How do NetwerkZON meetings proceed now, in comparison to before the pandemic?
     - How would you describe your experiences in the online meetings?
     - How do members interact nowadays?
     - Do you partake in more or less meetings from NetwerkZON? And why?
     - How did the role of NetwerkZON change during the pandemic?
     - How does the current decision-making process compare to before?
     - How are things still the same?

4. **NetwerkZON – Success/goals/mission [symbolic and cognitive management]**
    - The goals
        - What do you think is the main goal of the platform you participate in?
        - How do you formulate these goals together?
        - What is the importance of this goal for your organization?
        - How do other members disagree about the matter from you?
    - Success
        - When would you personally call a network successful?
        - How close to that goal are you?
        - Are there others around you that disagree?
        - In which aspects do they differ in their opinion?
    - Clarity
        - How are competing interests handled in these meetings?
        - Which colleagues put in the most effort in order to acquire goals of the network?

5. **NetwerkZON – Cooperation and decision-making**
    - Collaboration [task and team interdependence]
        - What are your tasks in the network?
        - What are the tasks of others in the network?
        - How are the contributions within the network distributed?
        - Do you think everybody contributes the same to the network?
        - Are there instances in which you believe you gave up something from your organization for the network? And what could this be?
        - Could you give me an example of miscommunication in the meetings?
    - Making decisions [knowledge-based authority design]
        - Who decides what will happen in the network?
        - Is this completely shared, or are there some members who have a stronger voice in this?
        - Can you give me an example of emotions playing a role in the meetings?
        - What role do "smaller organizations" play in the decision-making process?
        - What role does the network coordinator play in the decision-making process?
    - Recognition [recognition-based rewards]
        - Who decides when you did something successfully?
        - How do you know you did a good job in a meeting?
        - How do you know your participation in a meeting was appreciated by others?
        - How would you describe the appreciation of your participation in NetwerkZON from your organization?

6. **Closing questions**
   ◻ Future
   - If you could change anything about the way NetwerkZON is functioning, what would you change?
   - What do you see as promising changes within your organization in the coming years?

7. **End**
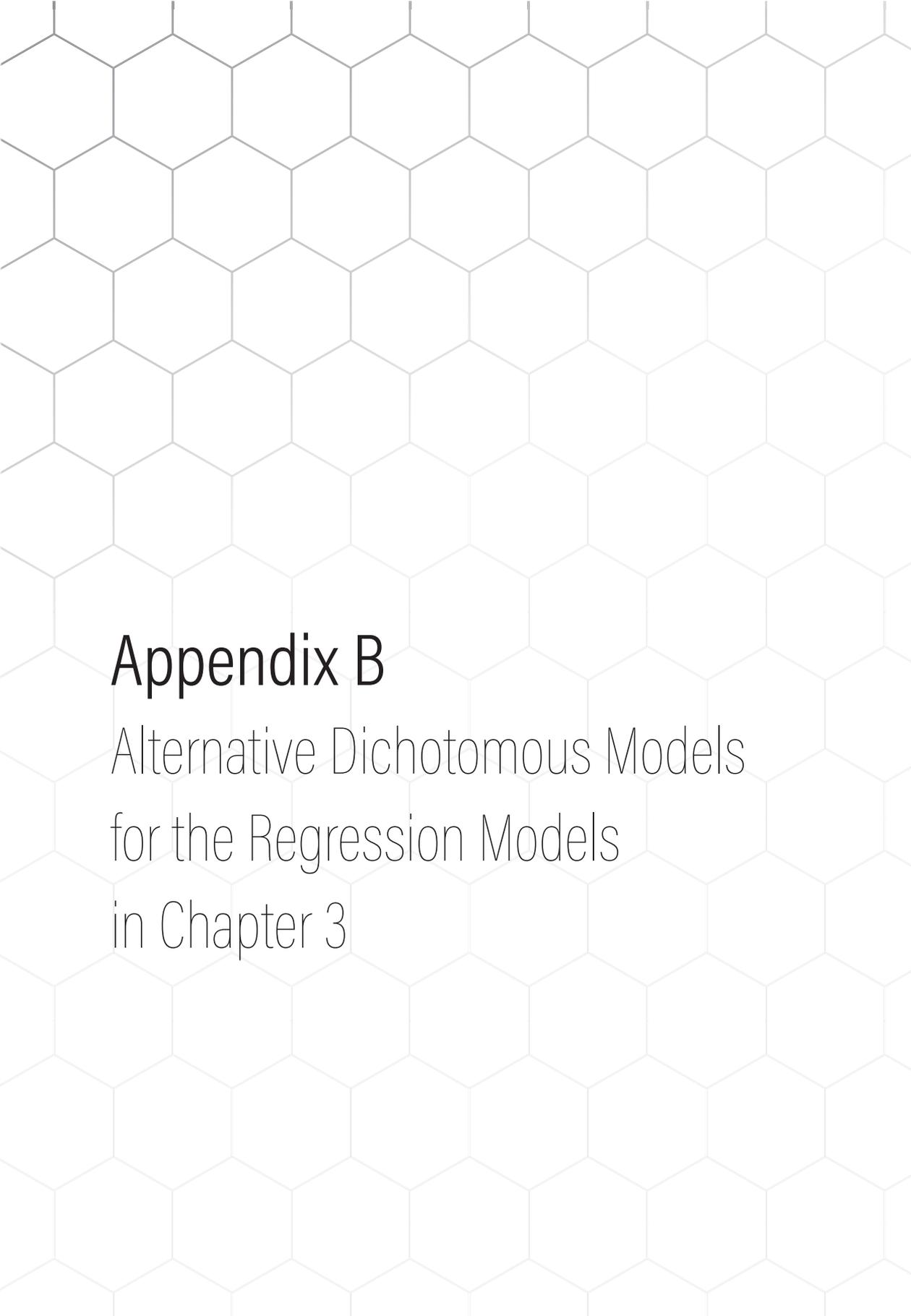
Appendix B

Alternative Dichotomous Models
for the Regression Models
in Chapter 3

The multilevel linear regression models in chapter 3 attempt to predict how relational and individual characteristics affect the Shared Understanding that nursing students perceive in their collaborations in the internship organization. As can be seen in Table 3.2 in Chapter 3, the mean of reported Shared Understanding is 4.04, on a scale of 1 to 5. As linear regression models assume a fairly normal distribution across the dependent variable, this high average might actually decrease the reliability of our linear regression model. As a way to check for the robustness of results, we therefore also executed our models using a dichotomized Shared Understanding Variable. In these models, we transform the variable of Shared Understanding to a dichotomous variable, in which collaborations receive a 0 on Shared Understanding when their original score was 4 or lower, and a 1 on Shared Understanding when the original score was a 5.

Figures B.1 (Original) and B.2 (Dichotomized) show the distributions of Shared Understanding values across the interns. The graphs are ordered by interns horizontally, with each row showing the values that the intern reported. The interns are ordered by their average shared understanding score. Figure B.1 shows that a select number of interns reported all their collaborations to have a high level of shared understanding: all the dots in the graph are scattered around the highest score of 5. Additionally, Figure B.1 illustrates that the distribution of Shared Understanding scores skews to the higher end of the scale, as there are very little scores in the 1 and 2 columns. Additionally, the graph indicates a number of students only reported scores of 4 for Shared Understanding.

Figure B.2 illustrates the distribution on the dichotomized Shared Understanding variable. A result of this transformation is now that the variation in the lower regions of the scales decreases, with a larger number of students now reporting to have only low Shared Understanding in their collaborations. A side-effect of this transformation becomes visually clear when comparing the two figures. In the dichotomized variable, the differences between interns become more stark. In Figure B.2, there is a large number of students who have no variation in Shared Understanding across their collaborations: at the top, we see a number of students who only report high Shared Understanding, and at the bottom, we see a large group of students with only low Shared Understanding.

To assess whether the regression results in Chapter 3 are distorted by the skewedness of the distribution of the dependent variable, we ran similar multilevel models on the new dichotomized variable. The transformation to a dichotomized variable necessitates a change of regression technique, and so we run a multilevel logistic regression model to assess the robustness of the results. We uses the `glmer`-function, from the `lmer`-package in R to run the analysis. Due to convergence issues with the more elaborate interaction models (Models 2 to 4), we were forced to omit the interaction variables that were insignificant in the original model. The convergence algorithm we use is `bobyqa`, which allowed us to estimate the parameters.

Figure B.1

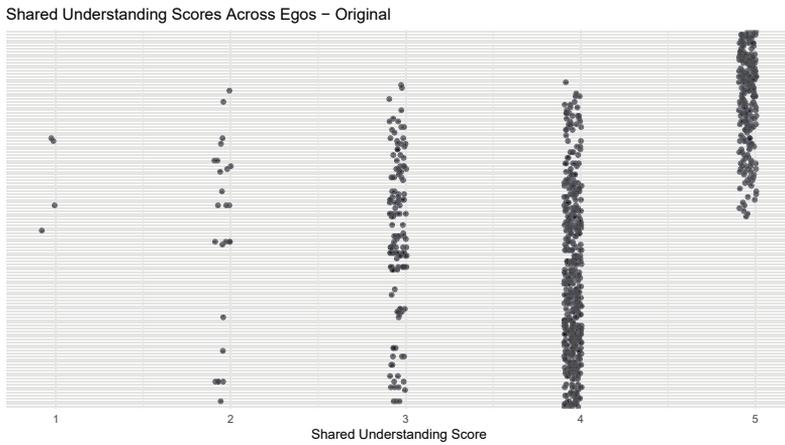*Shared Understanding Scores Across Egos – Original Measurement*

Shared Understanding Scores Across Egos – Original

Figure B.2

Shared Understanding Scores Across Egos – Dichotomized

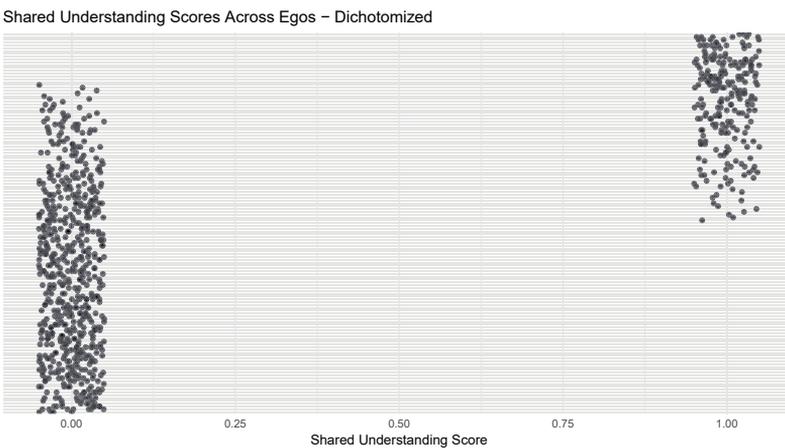Shared Understanding Scores Across Egos – Dichotomized

Table B.1 is a reproduction of the original models in Chapter 3, included here for comparability. Table B.2 contains the results for the multilevel logistic regression models. Table B.2 is color-coded. The cells with a white background contain parameter estimates that are in the same direction and have similar significance levels (i.e., they receive the same number of asterisks in both Tables). The cells with light-grey values contain estimates that are in the same direction, but which changed in their level of significance. The dark-grey cells indicate more substantial differences between the

models, indicating either that an estimated effect became insignificant (while the original model predicted a significant effect), or that the direction of the predicted relation changed. As the variance structure of both models differ strongly due to the dependent variable's transformation, we will not compare parameter estimate scores.

Overall, the models B.1 and B.2 show similar results. The two main effects of Task-Interdependence and Cooperation Frequency on Shared Understanding remain positive and significant in all iterations of the models. The negative effect of being a school supervisor on shared understanding remains, although the effect is less significant as it is in the original model. The significant effects of interprofessional attitudes and network size remain similar to the original model. Interprofessional relations retain their insignificance in both versions of the models, as do the perceived organizational culture and individual motivation.

The only distinct differences between the model results can be found in the two interaction effects: while the interactions of task interdependence with colleagues and of cooperation frequency with school supervisors were significant in some of the original models in B.1, they lose their significance in the dichotomized version of the same models. Additionally, the original models had an improved model fit when including a random effect for task interdependence for each intern, but this improvement does not occur in the models in B.2. Between Model 3 and Model 4, the Deviance Information Criterion actually increases, indicating a less optimal model fit.

Altogether, this comparison shows the robustness of the conclusions found in Chapter 3. Based on this alternative model, we come to the same conclusions regarding the five hypotheses. The predicted negative effect of "interprofessionalism" from Hypothesis 1 is not found in either model, and a similar pattern can be found regarding the hierarchical roles, which were the subject of Hypothesis 2. Hypothesis 3 described the main effect of task-interdependence on shared understanding, which all models confirm. Hypothesis 4 and 5 described interaction effects, which were mostly absent in the original models. These alternative models perhaps emphasize the absence of interaction effects across roles and disciplinary boundaries even more.

Table B.1

Estimated Coefficients for the 2-Level Random Intercept Models for Alters (Level-1) and Egos (Level-2)

Fixed Part	Model 0 B	SE	Model 1 B	SE	Model 2 B	SE	Model 3 B	SE	Model 4 B	SE
Intercept	0.02	0.05	0.02	0.04	0.00	0.41 ***	0.01	0.04	0.01	0.05
Alters (Level-1)										
Intern: reference category				ref		ref		ref		ref
Supervisor in Org.			0.07	0.09	0.23	0.11 *	0.23	0.11 *	0.19	0.11
Supervisor in School			-0.60	0.13 ***	-0.53	0.16 ***	-0.54	0.16 ***	-0.60	0.15 ***
Colleague			0.05	0.07	0.20	0.10	0.20	0.10	0.17	0.10
Interprofessional			-0.04	0.05	-0.04	0.05	-0.04	0.05	-0.02	0.04
Cooperation Frequency			0.09	0.02 ***	0.10	0.03 ***	0.10	0.03 ***	0.10	0.02 ***
Task interdependence			0.19	0.03 ***	0.20	0.03 ***	0.19	0.03 ***	0.20	0.04 ***
Interactions (Level-1)										
Org. Supervisor * TI					0.16	0.11	0.16	0.11	0.15	0.11
School Supervisor * TI					0.28	0.17	0.30	0.17	0.33	0.17
Colleague * TI					0.22	0.10 *	0.21	0.10 *	0.18	0.10
Interprofessional * TI					-0.01	0.05	-0.01	0.05	-0.02	0.05
Org. Supervisor * CF					-0.11	0.08	-0.10	0.07	-0.10	0.07
School Supervisor * CF					-0.25	0.14	-0.27	0.14 *	-0.29	0.13 *
Colleague * CF					-0.03	0.06	-0.03	0.06	-0.04	0.06
Interprofessional * CF					-0.04	0.05	-0.04	0.05	-0.07	0.05
TI * CF					0.03	0.03	0.03	0.03	0.01	0.03
Egos (Level-2)										
Interprofessional attitude							0.17	0.07 *	0.16	0.07 *
Collaborative culture							0.10	0.05 *	0.07	0.05
Motivation							0.13	0.09	-0.07	0.09
Network size (Level-2)							-0.06	0.03 *	-0.06	0.03 *
Random part										
Alter (Level-1 residual variance)	.365	.604	.314	.560	.312	.559	.312	.559	.283	.532
Ego (Level-2 residual variance)	.218	.467	.216	.464	.218	.467	.187	.433	.197	.444
Ego TI Variance									.058	.241
Deviance	1790.70		1669.18		1656.67		1636.61		1608.44	

Note. Shown values are the unstandardized B coefficients, predicting the response variable Shared Understanding.

* Significant coefficients are marked by: *p<0.05, **p<0.01, ***p<0.001.

Table B.2

Estimated Log-Odds Coefficients for the 2-Level Random Intercept Models for Alters (Level-1) and Egos (Level-2) – Dichotomized

Fixed Part	Model 0 B	SE	Model 1 B	SE	Model 2 B	SE	Model 3 B	SE	Model 4 B	SE
Intercept	-2.53	0.47	-3.93	1.02	-3.93	1.02 ***	-3.57	0.68	-4.11	0.81
Alters (Level-1)										
Intern: reference category				ref		ref		ref		ref
Supervisor in Org.			0.46	0.69	0.42	0.76	0.38	0.75	0.47	0.81
Supervisor in School			-3.39	1.13 *	-3.43	1.36 *	-3.36	1.29 **	-3.56	1.43 *
Colleague			0.37	0.59	0.35	0.60	0.36	0.61	0.52	0.66
Interprofessional			-0.36	0.34	-0.35	0.34	-0.31	0.34	-0.32	0.36
Cooperation Frequency			0.99	0.20 ***	0.99	0.20 ***	0.99	0.20 ***	0.99	0.21 ***
Task interdependence			1.20	0.31 ***	1.20	0.32 ***	1.14	0.30 ***	1.74	0.54 ***
Interactions (Level-1)										
Org. Supervisor * TI										
School Supervisor * TI										
Colleague * TI					-0.06	0.42	-0.13	0.42	-0.06	0.46
Interprofessional * TI										
Org. Supervisor * CF										
School Supervisor * CF							-1.37	0.93	-1.52	1.06
Colleague * CF										
Interprofessional * CF										
TI * CF										
Egos (Level-2)										
Interprofessional attitude							2.04	0.77 **	2.00	0.84 *
Collaborative culture							1.01	0.53 ~	1.02	0.55
Motivation							2.00	1.11 ~	1.90	1.15
Network (Level-2)										
Network size							-0.71	0.30 *	-0.71	0.31 *
Random part										
Ego (Level-2 residual variance)	12.91	3.59	26.35	5.13	25.91	5.09	21.14	4.60	25.85	5.084
Ego TI Variance									2.135	1.461
DIC	698.11		622.91		624.89		609.82		611.55	

Note. Shown values represent the unstandardized B coefficients, predicting the dichotomized response variable Shared Understanding.

* Significant coefficients are marked by: ~p<0.1, *p<0.05, **p<0.01, ***p<0.001.

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Acknowledgements

Early in the morning, on December 5th, the day of Sinterklaasavond, the moment I had been working towards for years was finally there. As I prepared to submit, I called Anne to witness this momentous moment, readied my phone's camera to record the most impactful of clicks, and pressed the SUBMIT button. Anne and I partied a little, but duty called, and I quickly had to continue with other tasks. In an ironic twist of fate, just a few hours later, I start feeling sick, and a quick covid-test shows the inevitable: the disease that spread across the world and impacted my dissertation in a wholly unpredictable fashion, had struck even at this fanciest of days. If you are fortunate, as I have definitely proven to be, then hardship is also a medium which stresses how lucky you are with those around you. This dissertation and the work contained within it is a sublime example of this, as it would never have seen the light of day without the implicit and explicit help of so many people. I would like to use this space to thank many of the people who have contributed to this book.

First, I would like to thank my academic supervisory dream team: Rafael Wittek, Francesca Giardini, and Jelly Zuidersma. My deep gratitude goes out to Rafael, whose unwavering motivation and wide-reaching intellect were truly inspirational. Whatever confounded thoughts I was trying to formulate in our meetings, Rafael always manages to pierce through the clutter to the theoretical core. Also, it is comforting to know that, if I ever was to participate in a Rafael-prepared pub quiz, I will be ready for any geographically-themed question. I would like to thank Francesca for the wide curiosity that characterized every conversation with you: whatever questions or solutions we were talking about, you always managed to find even more points of interest. In combination with a down-to-earth realization that we can only do so much, I believe the dissertation has greatly benefited from precisely this curiosity. A regret I do have is that we, in recent years, have not actually managed to participate in a pub quiz. Perhaps soon, we will. Jelly was a superb supervisor to have, not only because of her "grounding" the thesis in reality, but also because whenever you speak to Jelly, she seems to already know what your ulterior motives are. Jelly can read you like an open book, and that means that conversations with her are not only very easy and interesting, but they are also very effective. Thank you, all three, for the supervision during the project!

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Of course, there are more academics whose help, advice, and friendship were of essential value to the creation of this thesis. Marijtje van Duijn was extremely helpful, first as member of the Ethics Committee Sociology, then as statistical advisor for the models in the thesis, and currently as my supervisor in the post-PhD-project. Laura Braden was a great motivator at Erasmus University who showed me the value of persistence, even if the data did not really do what you wanted it to do. In the teaching

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In a different department and in a time that feels like many long years ago[1], I also used to teach an Introduction to Statistical Analysis course at Arts and Culture Studies in Rotterdam. The course was always intense, even if interrupted by a Winter holiday break, but my team members always pulled me through. I want to thank, in number of co-teaching years first and alphabetical order second: Juan, (Lisa-)Marie, Michele, Nikki, Roxi, Sara, Fernanda, Kübra, Michelle, Tim, Victoria, Alessia, and Uli.

One of the great pleasures of working in academia—although people don't say this often enough—is to be a part of many great scholarly communities. At the Sociology Department, I had the pleasure of being a member of the great SCIO Cluster, whose interests and topics were always mindbogglingly wide. As I will thank my co-PhD's in a later paragraph (there is a time and moment for everything), I do want to specifically take the space to thank other members of the cluster who I have not yet mentioned before: Liesbet Heyse, Zoltan Líppenyi, and Roel Popping. The best groups are not restrictive (cf. Zaretckii, 2024), and I have always made use of that adage to participate also in the SNA Cluster. For this, I want to thank Christian Steglich, Mark Huisman, and Tom Snijders. I also want to take this opportunity to thank the secretaries of the department. Anita, Christine, Josse, and Saskia: without you, the entire department would crumble within minutes.

Then, off to the people who were in the same metaphorical boat as I was during the PhD. Although some of you boarded and offboarded the vessel before me, and others of you are still very much voyaging, without you, the travel would not have been the same. In a randomized order: Louisa, Jonas, Dennis, Rowan, Aliona (the "twin sister" whose intellect I will never stop envying), Robert, Tomáš (I will beat on against the current of his wonderful nickname ceaselessly), Alla, Tiya, Sofie L., Rossella, Marijn, Carlos, Elsje (I will never forget the start of *My Life* in Hyde Park!), Sofie W., Stjoppa, Julia, Chaïm, Sayoni, Danelien, Wouter (with whom I have the great pleasure of sharing an office currently) and Dan. Perhaps we should go to the Efteling some time. A special shout-out is in place here to Eleonora, who is an eternal mystery and yet surprisingly consistent in showing up to parties.

To butcher the clichéd metaphor of the boat, if the previous people were other boat-voyagers, then now I should thank my boat-work-family, which consists of none other than Vera, Jing, José-Luis, Sanne, and Julian. I strongly believe Vera was always the calming, empathetic heart of the group: never judging, always reasonable, and without exception helpful. Thank you for that. Jing always added a strange curiosity

1   Actually, it was from 2017 to 2022.

to every conversation, making us wonder why things were the way they were. Not a bad trait for an academic, I would say. José-Luis is a great friend of mine who I love to dislike. His sincere explanation to a non-expert about what a network's density is ("*it's simply defined as n divided by n-1*") is both genius and startlingly vague. Sanne is always excited, without exception. This is useful in a job characterized by doubt and uncertainty, and for that I am very grateful. Last but definitely not least, Julian should be the dictionary definition of friend. Kind, helpful, quick on his wits, and absolutely willing to go on a strange adventure. It was fun!

The SCOOP castle (yes, another metaphor) formed another cornerstone of my scholarly endeavors, and I want to thank all the SCOOPies for showing how great the future for social sciences promises to be. If our SCOOP workshops and conferences are any indication, I have no doubt our future is sunny and bright. I have ordered your names by assessing how much I believe they resemble a palindrome[2]: Christopher (13), Hendrik (9), Damion, Kasper, Francisca, Marlou, Maikel (8), Ewout (6), Piet, Nick, Larisa (5), Sanjana, Klara (4), Eline, Esmee, Philipp (3), and Tara (2). Of course, building a castle would have been outright impossible without the help of Geetha (6). I look forward to where our roadmaps will lead us.

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Voordat ik bij familie en vrienden kom—een oplettende lezer zal al gezien hebben dat we opeens naar het Nederlands geswitcht zijn—wil ik graag gebruikmaken van mijn *wildcard* in dit dankwoord. Bedankt, personeel van de NS, voor het mogelijk maken van mijn eindeloze gereis tussen Groningen, Dordrecht, Rotterdam, en Den Haag. Hoewel ik door jullie helaas een diepe afkeer van Meppel heb ontwikkeld, ging het over het algemeen toch heel erg goed.

Hoewel vriendschappen lastig te definiëren zijn, heb ik uit het proefschrift van Vera (Buijs, 2024) begrepen dat dit gewoon betekent dat je zelf mag bepalen wie je vrienden zijn. Bij dezen wil ik dus graag mijn vrienden definiëren, om daarmee gelijk ook mijn dank uit te spreken. Het gaat hier om de volgende muzikale makkers, onsportieve spelers en amateur-wijnconnaisseurs die ik maar al te graag ontmoet in het weekend, geordend op hoe ver ze nu bij mij vandaan wonen: Koen en Joyce (22 km), Arend en Tal (21 km), Rosa (21 km), Matthijs, Lisa, en Vosse (21 km), en Tim[3] (19

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2   The rules are: changing a letter costs 3 points, deleting or adding a letter costs 2 points, moving a letter 1 point. Names have to be at least two letters long.

3   "and respective partner" (Póvoa, 2023, p. 10).

je natuurlijk dankbaar voor de hulp bij allerhande tekst- en schrijfvragen. Om de een of andere redenen zijn onze plannen, wanneer wij ze gewoon kunnen uitvoeren zoals we zelf bedacht hebben, altijd omslachtig en inefficiënt. Ik zou het niet anders willen! Ik wil Thorwald bedanken als baken van inspiratie. Jouw rise to fame als thereminwereldster is en blijft megacool.

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To acknowledge Anne, I return to English, which is the mother tongue of neither of us. This incongruence is a symptom of my immense fortune: who would have thought that I could end up with you? I remember very fondly, a long time ago, a tiny moment where it suddenly feels like the world lines up for you and for you alone: sitting at a table of strange new colleagues, I suddenly heard a Nokia-style ringtone of *My Humps*. Of course I recognized this, and when I saw you picking up the phone, I knew you were a great person to know. For a long time, you were just this—a really great person to know—but fortune smiled upon me, and many coffee meetings at the faculty turned into somewhat unorthodox dates during the second covid-lockdown, which in turn developed into the world in which we live together and speak neither Dutch nor German. The eighth proposition of this dissertation is not so much about the research contained in this book, but much more about the great luck I had in meeting you. Machi koro.

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4   Het is wel jammer dat mijn eten niet veilig is bij Nick. Het is dat zijn verjaardag op dezelfde dag valt als de mijne.

About the Author

Thomas Teekens was born in Dordrecht (NL) on October 12th, 1991. After having graduated from a local high school in 2010, a venture into a Bachelor's in Mathematics at the University of Leiden proved unsuccessful after a mere three days. A year of working full-time at a local fast food conglomerate was fun and paid the bills, but education beckoned, and Thomas started his Bachelor Arts and Culture Studies at the Erasmus University Rotterdam. He obtained his BA degree in 2014. Here, he discovered the joys of researching the mysteries of social life, and this time Thomas showed more perseverance. He graduated cum laude from a Research Master in the Sociology of Arts, Media, and Culture at the same university in 2016. A year of teaching at the Department of Arts and Culture Studies followed, in which Thomas started coordinating the BA-2 course *Introduction to Statistical Analysis* (a course he taught at the same department until 2022).

In 2017, Thomas started a PhD program at the Interuniversity Center for Social Sciences Theory and Methodology (ICS) and the Department of Sociology of the University of Groningen. Here, he wrote this dissertation under supervision of Rafael Wittek, Francesca Giardini, and Jelly Zuidersma. In addition to being a member of the ICS, Thomas participated in the Sustainable Cooperation research program (SCOOP), led by Rafael Wittek. SCOOP is an interdisciplinary research program, aimed at combining insights from sociology, psychology, history, and philosophy in order to develop roadmaps to more resilient societies. During this period, Thomas also joined the Lectorate Reciprocity in Learning Networks at the Hanzehogeschool Groningen, and became a board member of the James Coleman Association (the alumni association of the ICS) in 2019.

Since 2023, Thomas is a Postdoctoral Researcher at the Sociology Department of the University of Groningen in the project "*Inter(n)professional: developing interprofessional skills in the health care sector in the North of the Netherlands*". In this project, Thomas collaborates with researchers from the RUG, the UMCG, and the Hanzehogeschool in order to assess collaborative networks in the health care sector in Groningen, with a particular focus on vocational education for interns.

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In a complex and interconnected world, more and more organizations are collaborating with each other in interorganizational networks to deal with a variety of societal problems. However, collaboration across organizational boundaries is not always easy, and a major question is how interorganizational networks can be sustainable over time.

This dissertation explores the sustainability of interorganizational networks by studying NetwerkZON, an interorganizational network operating in the health care sector in the North of the Netherlands. Together, this network of educational institutions and health care organizations collaborates to develop and coordinate internship programs to offer a broad variety of high-quality internships in the region.

Four empirical studies explore several aspects of the collaboration in this interorganizational network. How did the employees of the different organizations manage to work together for over two decades? How do students learn from professionals from different disciplines in their internships? What happened to the interns during the covid-19 pandemic, and what consequences did the pandemic have for the resilience of internship organizations?

This dissertation highlights how the sustainability of interorganizational networks depends on the motivation of different participants to create joint value. By creating the correct conditions for joint production motivation and by nurturing interprofessional learning, interorganizational collaboration can be sustainable over time.

Thomas Teekens (Dordrecht, 1991) obtained a Bachelor's degree in Arts and Culture Studies and a Research Master's Degree in the Sociology of Arts, Media, and Culture at Erasmus University Rotterdam. The present studies were conducted at the Interuniversity Center for Social Science Theory and Methodology (ICS) and the department of Sociology at the University of Groningen. This research was part of the transdisciplinary SCOOP research program on sustainable cooperation. Currently, Thomas works as a postdoctoral researcher at the department of Sociology at the University of Groningen.