The logic behind a cohesive youth care system

Blanken, M.

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THE LOGIC BEHIND A COHESIVE YOUTH CARE SYSTEM

Mariëlle Blanken

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The logic behind a cohesive youth care system

Understanding the design, integration and dynamics
of complex child service networks

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prof. dr. C. van Nieuwenhuizen	Tilburg University
prof. dr. J.J.P. Mathijssen	Tilburg University

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“We adore chaos
because we love to produce order”

- M.C. Escher

Contents

Chapter 1

GENERAL INTRODUCTION

Introduction

In pursuit of a more sustainable child welfare and healthcare service delivery system, i.e. youth care system, many countries have implemented health system reforms to promote the 'Triple Aim' goals: higher cost efficiency, improved quality of care, and improved health outcomes [1, 2]. The reforms generally comprise the decentralization of key responsibilities for service delivery, the adoption of an integrated approach to youth care, and the reinforcement of cross-sectoral collaboration through network governance [3-9]. As the varied needs of children and families with social and behavioral health problems often exceed the expertise and possibilities of a single professional, service or organization, the transition to child service networks at the local level is considered vital for a cohesive youth care system that facilitates integrated care in families' own environment [9, 10]. However, networks are no panacea and can also fail [11]. Understanding the structure of these networks, the nature of their relations and their development over time is therefore crucial for the effective delivery of child and youth services. Due to the scarcity of longitudinal comparative whole network research in the field of child service delivery, it is unclear how such networks are formed and evolve over time. This thesis aims to provide a better understanding of cross-sectoral child service networks through a comparative case study and social network analysis of three inter-organizational networks of child and youth services in different-sized municipalities in the Netherlands. The functioning of these networks is strongly related to changes in the system regarding goals, responsibilities, roles and task division that were introduced by a renewed Child and Youth Act.

The promise of the Dutch Child and Youth Act

In line with the global trend to develop more sustainable health systems, the Netherlands implemented a major reform of their youth care system by introducing a renewed Child and Youth Act in 2015 [12, 13]. Until then, as a result of the separate funding streams and split responsibilities across different levels of government, service coordination and collaboration between child service organizations was inadequate [14]. Consequently, there was a considerable risk that children and families did not get the right

service at the right time or were even overlooked and left untreated. The reform of 2015 concerned a decentralization of key responsibilities from central and regional to local levels of government. Since then, municipal governments have been fully responsible for the child welfare and healthcare services delivery system. By unifying the legal and administrative systems at the local level, the reform was meant to overcome persistent problems in the service system, such as fragmentation and duplication of services. By decompartmentalizing budgets and concentrating all the responsibilities at the local government level, the renewed Act offered municipalities a major opportunity to transform policies and services towards a more integrated approach.

Municipalities are now responsible for the whole continuum of wellbeing, support and care for children, young people and families in need of help. The renewed Child and Youth Act covers a broad domain within this competence [13]. The Act specifies five transformation: (1) to shift to prevention and the active contribution of families to their own care process by focusing on families' capacities, strengths, responsibilities, and their social network; (2) to stimulate participation and a focus on normal functioning instead of a problem-driven focus; (3) to provide demand-driven support if needed: timely, adequate, and close to home; (4) to organize integrated care in close collaboration with families, with a focus on effective interprofessional collaboration, cross-domain continuity of care, and coordinated support; and (5) to reduce regulatory pressure on professionals and increase professional autonomy. To achieve these goals and to work towards a comprehensive, tailored and seamless service delivery, municipalities collaborate with organizations having diverse expertise and resources in child service networks. Organizations in these networks operate across several sectors, such as mental healthcare, education, childcare and nursery, specialized youth care and community services.

Within these networks, an important role regarding client referral is reserved for organizations with a gatekeeper function [15-17]. Gatekeepers are organizations that are legally authorized to refer clients to specialized child and youth services covered by the Child and Youth Act. The municipal

authority's task is to create the conditions required for an adequate client referral system. This means, among other things, making agreements with gatekeeper organizations about the terms on, and the way in which clients can be referred to child service organizations. In almost all municipalities, besides the general practitioners and child health care organizations, local multidisciplinary teams are active as gatekeeper [18]. These teams are often called 'centers for youth and family' or 'social community teams', and they operate within a primary care setting as the first point of contact for families in need of support [19]. They form a linking pin in the referral of clients with secondary child and youth services.

In the period 2016-2017, the national government evaluated the Child and Youth Act by examining the degree to which its aims were implemented [20]. The evaluation showed that, regarding the transformation goal of organizing integrated care, both municipalities and child service organizations reported an increasing collaboration compared to the period before the 2015 reform. However, the evaluation also revealed varying degrees of collaboration between the actors and that the collaboration between the centers for youth and family and both general practitioners and specialized youth care organizations increased less than expected. Cross-domain collaboration and working according to the principle of 'one family, one plan, one coordinator' furthermore appeared to be challenging due to persistent service silos and competition in the system. Collaboration between services organizations was hampered by the used purchasing method, as working with procurements has increased competition, regulatory pressure and administrative burdens [20, pp. 536-537].

The introduction of the Child and Youth Act promised to facilitate a learning system, whereby municipalities would ensure the implementation of the transformation goals in collaboration with clients, service organizations and professional practitioners. However, a good learning system can only be created with enough reliable and valid knowledge available on how the networks function [20]. A deeper understanding of how such networks are formed and evolve over time enables actors in the learning system to improve interprofessional collaboration, cross-domain continuity of care

and coordinated support. An important part of this necessary knowledge should therefore pertain to how the local child service networks perform. For a longer period, the issue of organizing integrated care through network collaboration has been debated in the public sector [21-23]. Some even say that we have become a society of networks [24, 25].

Organizing integrated care from a social network perspective

Networks are understood as a deliberately formed "group of three or more organizations connected in ways that facilitate achievement of a common goal" [26]. In essence, a network consists of nodes (organizations) that compose the network, ties (relations) that connect the nodes, and the patterns, structures and nature of the relationships that result from these connections [23]. Organizations in child service networks are connected through multilateral relations with other organizations in the network to successfully perform their core functions, such as early-warning signaling, triage, service delivery, client referral, interprofessional consultation, and sharing resources such as staff or information about clients' conditions and effective treatment [10, 15, 26-32].

To better understand and examine the functioning of networks in practice, the focus should be on the interplay of relations between organizations within networks. This core idea originates from social capital theory, which argues that social capital is embedded in relationships and cannot be attributed to social actors (organizations), so that it only exists as long as relations between actors exist [33-35]. Social capital refers to resources such as knowledge, support and control that flows through networks, and the advantage created by organizations' network positions [36-38]. Relationships between organizations are therefore more important than their attributes, such as size or owned resources. In addition, to develop stronger theoretical frameworks and to bring conceptual clarity to the study of networks, there is a strong call for whole network research in combination with social network analyses of a longitudinal nature [26, 39-43]. The whole network approach is seen as highly valuable, since it is by examining the whole network that it becomes clear how networks are connected, structured

and evolve. Networks are dynamic systems, so that their relational and structural aspects are continuously evolving [23, 44, 45]. The method of social network analysis allows researchers to examine the dynamic interactions between actors, the evolving nature of social processes, and the complexity of social structures in various contexts [42, 46].

Despite the widely recognized importance of an effective functioning child service network to adequately meet the various needs of children and families with social and behavioral health problems, longitudinal comparative whole network research in the field of child service networks remains scarce [10, 26, 31, 32, 40, 41, 47]. Accordingly, it remains unclear how such networks are composed, how organizations within the networks are connected, what the nature is of the relationships, how the relations are structured, what network positions gatekeepers hold, and how these networks evolve over time. Examining the design, integration and dynamics of these networks provides a better understanding of the logic behind a cohesive youth care system.

Network design: composition, nature of relations and governance mode

A diverse composition of a child service network is a necessary condition to successfully address problems that are too complex, expensive or persistent for one organization or government to handle on its own [48-50]. From the organization design theory perspective, composition is about the division of tasks within the network consisting of a variety of organizations with diverse expertise and resources [11]. To successfully perform core functions, there needs to be a diversity of organizations with different tasks that operate across several sectors present in the networks. Organizations with a gatekeeper function in particular must participate in the child service network, as they fulfil a core function in the network [15, 41].

The different organizations are connected through several types of relationships. The nature of these relations can be determined by the process and work of the network participants as they pursue their common goals [51]. In child service networks, both knowledge exchange and client referral

are key processes to ensure that the needed support services are provided appropriately and in time [9, 10, 15, 41, 52]. Sharing knowledge - including case reports and substantive expertise - in an accessible way is vital to ensuring a shared understanding of families' needs and a timely response, and is therefore an important facilitator to provide integrated care [9, 10, 53]. To enable fine-grained information exchange and proper client referral, the strength of the relationships matters. As strong relations facilitate trust and familiarity, they are vital for these key processes in the network. Relationships become stronger when organizations interact more frequently with each other, when the contact requires reciprocity in the exchange of resources, and when organizations are connected in more than one way [29, 54, 55].

The design of the network in terms of governance, i.e. the management of the network, is crucial for a successful service delivery [21, 22, 29, 56-60]. Network governance refers to how networks are organized and make decisions to guide the key processes and goal achievement [51]. It is widely recognized that there are three distinct network governance modes: shared governed, lead organization governed, and network administrative organization governed; each with its own requirements concerning the structure of the network and the position of key organizations within it [61]. As is frequently the case in publicly funded health services, the child service networks are almost always lead organization governed. This governance mode is based on horizontal relationships, whereby one organization of the network has sufficient resources and legitimacy to play a lead role [61, 62]. The lead organization's network manager generally plays an important role in how the network is constructed.

Integration: interconnectedness, pattern of relations and key positions

Network integration refers to the degree of interconnectedness within a network and reveals the pattern of collaboration between the different organizations in the network [49]. Theory on network effectiveness argues that network integration is essential for a successful service delivery [57, 58]. To avoid gaps in collaboration and consequently fragmentation in the

service delivery, a child service network should be interconnected [21, 63]. For instance, cohesive networks create clear referral pathways and stimulate fine-grained information exchange, which are important facilitators for integrated care [10]. In larger networks, however, interconnectedness can also lead to inefficiency due to the high number of relationships that organizations need to handle successfully [64].

The pattern according to which relationships are structured in the network is therefore also critical for an effective functioning of the network as a whole. Especially in larger networks, relationships should be organized around a particular single or small group of organizations to become more effective, referred to as centralization [41, 57, 58]. This applies in particular to core organizations such as the gatekeepers in the child service organizations. To properly refer clients between organizations in the network, these gatekeepers need to have a key position at the core of the network [29]. They also need to control the critical relations within the overall network structure. Most of the resources flowing between organizations in the network run through critical relations. These relations form a bridge between (groups of) organizations within the network that otherwise would not be connected [65, 66].

Dynamics: stability-flexibility paradox

Networks are dynamic systems. They are typically seen as adaptable, flexible forms of organization that are "light on their feet" [67]. Their flexibility on account of new task demands gives networks an advantage over vertically integrated organizations, which can be rigid and bureaucratic [22, 49, 61]. Conversely, networks need to strive for stability, as stable relationships are critical for maintaining legitimacy inside and outside the network, which is in turn a key factor affecting the sustainability of a network [23, 61]. In stable networks, organizations can develop long-term relationships with at least some other organizations in the network, so that each organization understands the other's strengths and weaknesses and can respond accordingly to maximize network outcomes [61, 68]. It has been shown that relationship stability of core organizations is crucial for effective client service delivery, especially in case of vulnerable client populations [10,

57]. Due to their dynamic nature, the structural and relational aspects of networks are continuously evolving, which means that they are regularly confronted with the contradictory logic of desired flexibility and stability [23, 44, 45].

Aim and scope of the thesis

This thesis aims to create a better understanding of the design, integration and dynamics of child service networks to contribute to a more sustainable youth care system. Therefore, a comparative case study approach and social network analysis is used to examine three interorganizational networks located in different-sized municipalities. These networks consist of 65 to 135 organizations in the Dutch youth care system [69, 70]. The data are collected through a mixed-method approach using semi-structured interviews with the network managers and an online questionnaire fielded among the representatives of the network members, at two points in time in the period from 2017 through 2019. To generate a deeper understanding of how child service networks are constructed and evolve over time, different aspects of the logic behind a cohesive youth care system are addressed.

In *Chapter 2* the thesis explores and compares the structure of the networks in terms of differentiation (composition) and integration (interconnectedness). In particular, the pattern of client referral relationships is investigated and the organizations that hold a core position in these client referrals are identified. *Chapter 3* revolves around network governance. The extent to which organizations have an accurate perception of the governance mode of their network and how discrepancies in perception might be explained is examined. This is followed by an examination of the differences in structures and dynamics of and between both material and knowledge-based information exchange relationships in *Chapter 4*. Knowledge-based information refers to more tacit information such as verbal case reports, and to interprofessional consultations regarding clients' conditions and effective treatments. Material information concerns practical information such as official directives, contracts, commissions,

annual accounts and invoices. In *Chapter 5* the thesis examines the presence and stability of strong relationships in the networks and investigates to what extent the gatekeepers have a key network position. In this study, strong relationships between organizations are defined as relations in which organizations interact more frequently with each other, where the contact requires reciprocity in the exchange of resources, and where organizations are connected in more than one way due to multiple resources exchange relationships with each other. In *Chapter 6*, the thesis concludes with a summary of the main findings, a discussion of the main findings regarding the design, integration and dynamics of child service networks, methodological considerations, an overall reflection on the Dutch youth care system and recommendations for practice, policy and research. The thesis ends with a final conclusion.

References

1. Berwick, D.M., Nolan, T.W. & Whittington, J. (2008). The triple aim: care, health, and cost. *Health affairs*, *27*(3), 759-769.
2. Amelung, V., Stein, V., Goodwin, N., Balicer, R., Nolte, E., & Suter, E. (2017). *Handbook integrated care*. Springer International Publishing.
3. Abimbola, S., Baatiema, L. & Bigdeli, M. (2019). The impacts of decentralization on health system equity, efficiency and resilience: a realist synthesis of the evidence. *Health policy and planning*, *34*(8), 605-617.
4. Anttonen, A., Baldock, J. & Sipilä, J. (2003). *The young, the old, and the state: social care systems in five industrial nations*. Edward Elgar Publishing.
5. Jiménez-Rubio, D. & García-Gómez, P. (2017). Decentralization of health care systems and health outcomes: Evidence from a natural experiment. *Social Science & Medicine*, *188*, 69-81.
6. Sellers, J.M. & Lidström, A. (2007). Decentralization, local government, and the welfare state. *Governance*, *20*(4), 609-632.
7. Senkubuge, F., Modisenyane, M. & Bishaw, T. (2014). Strengthening health systems by health sector reforms. *Global health action*, *7*(1), 23568.
8. Boogers, M. & Reussing, R. (2019). Decentralisatie, schaalvergroting en lokale democratie. *Bestuurswetenschappen*, *2*, 22-46
9. Cooper, M., Evans, Y. & Pybis, J. (2016). Interagency collaboration in children and young people's mental health: a systematic review of outcomes, facilitating factors and inhibiting factors. *Child: Care, Health and Development*, *42*(3), 325-342.
10. Nooteboom, L., Mulder, E.A., Kuiper, C.H.Z., Colins, O.F. & Vermeiren, R.R.J.M. (2021). Towards Integrated Youth Care: A Systematic Review of Facilitators and Barriers for Professionals. *Administration and Policy in Mental Health and Mental Health Services Research, 48*(1), 88-105.
11. Kenis, P. & Raab, J. (2020). Back to the future: Using organization design theory for effective organizational networks. *Perspectives on Public Management and Governance*, *3*(2), 109-123.
12. Bosscher, N. (2012). *The decentralisation and transformation of the Dutch youth care system.* (Accessed 30 September 2013) https://www.nji.nl.
13. *Child and Youth Act*. (2014). https://wetten.overheid.nl/BWBR0034925/2019-04-02
14. Werkgroep Toekomstverkenning Jeugdzorg (2010). *Jeugdzorg dichterbij*. Tweede Kamer der Staten-Generaal, Den Haag.
15. Brown, S.M., Klein, S. & McCrae, J.S. (2014). Collaborative relationships and improved service coordination among child welfare and early childhood systems. *Child Welfare*, *93*(2), 91-116.

16. Reibling, N. & Wendt, C. (2012). Gatekeeping and provider choice in OECD healthcare systems. *Current Sociology*, *60*(4), 489-505.
17. Sripa, P., Hayhoe, B., Garg, P., Majeed, A. & Greenfield, G. (2019). Impact of GP gatekeeping on quality of care, and health outcomes, use, and expenditure: a systematic review. *British Journal of General Practice*, *69*(682), e294-e303.
18. Van Arum, S. & Van den Enden, T. (2018). *Sociale (wijk) teams opnieuw uitgelicht: derde landelijke peiling onder gemeenten (zomer 2017)*. Movisie.
19. Hilverdink, P., Daamen, W. & Vink, C. (2015). *Children and youth support and care in the Netherlands*. Netherlands Youth Institute/NJi.
20. Friele, R. D., Bruning, M., Bastiaanssen, I., De Boer, R., Bucx, A., De Groot, J., Pehlivan, T., Rutjes, L., Sondeijker, F & Van Yperen, T. (2018). *Eerste evaluatie Jeugdwet: Na de transitie nu de transformatie*. ZonMw.
21. Turrini, A., Cristofoli, D., Frosini, F. & Nasi, G. (2010). Networking literature about determinants of network effectiveness. *Public Administration*, *88*(2), 528-550.
22. Isett, K.R., Mergel, I.A., LeRoux, K., Mischen, P.A. & Rethemeyer, R.K (2011). Networks in public administration scholarship: Understanding where we are and where we need to go. *Journal of public administration research and theory*, 21(suppl_1), i157-i173.
23. Popp, J., Milward, H.B., MacKean, G., Casebeer, A. & Lindstrom, R. (2014). *Inter-organizational networks: a review of the literature to inform practice*. IBM Center for the Business of Government.
24. Raab, J. & Kenis, P. (2009). Heading toward a society of networks: Empirical developments and theoretical challenges. *Journal of management inquiry*, *18*(3), 198-210.
25. Castells M. (2011). *The rise of the network society*. John wiley & sons.
26. Provan, K.G., Fish, A. & Sydow, J. (2007). Interorganizational networks at the network level: A review of the empirical literature on whole networks. *Journal of management*, *33*(3), 479-516.
27. Stoop, A., Lette, M., Ambugo, E.A., Gadsby, E.W., Goodwin, N., Maclnns, J. et al. (2020). Improving person-centredness in integrated care for older people: experiences from thirteen integrated care sites in Europe. *International journal of integrated care*, *20*(2).
28. Stein, K.V. & Amelung, V. (2021). *Refocussing Care - What Does People-Centredness Mean?* Handbook Integrated Care. Springer, 27-38.
29. Provan, K.G. & Milward, H.B. (2001). Do networks really work? A framework for evaluating public-sector organizational networks. *Public administration review*, *61*(4), 414-423.
30. Van der Ham, A., Van Merode, F., Ruwaard, D. & Van Raak, A. (2020). Identifying integration and differentiation in a Hospital's logistical system: a social network analysis of a case study. *BMC Health Services Research*, *20*(1), 857.
31. Brooks, F., Bloomfield, L., Offredy, M. & Shaughnessy, P. (2013). Evaluation of services for children with complex needs: mapping service provision in one NHS Trust. *Primary Health Care Research & Development*, *14*(1),52-62.

32. Tausendfreund, T., Knot-Dickscheit, J., Schulze, G.C., Knorth, E.J. & Grietens, H. (2016). Families in multi-problem situations: backgrounds, characteristics, and care services. *Child & Youth Services*, *37*(1), 4-22.
33. Burt, R.S. (1995). *Structural Holes: The Social Structure of Competition*. Harvard University Press.
34. Coleman, J.S. (1988). Social capital in the creation of human capital. *American journal of sociology*, *94*, S95-S120.
35. Granovetter, M.S. (1973). The strength of weak ties. *American journal of sociology*, *78*(6), 1360-1380.
36. Burt, R.S. (2007). *Brokerage and closure: An introduction to social capital*. Oxford University Press.
37. Scott, C. & Hofmeyer, A. (2007). Networks and social capital: a relational approach to primary healthcare reform. *Health Research Policy and Systems*, *5*, 1-8.
38. Szreter, S. & Woolcock, M. (2004). Health by association? Social capital, social theory, and the political economy of public health. *International journal of epidemiology*, *33*(4), 650-667.
39. Benham-Hutchins, M. & Clancy, T.R. (2010). Social networks as embedded complex adaptive systems. *JONA: The Journal of Nursing Administration*, *40*(9), 352-356.
40. Bustos, T.E. (2020). A Scoping Review of Social Network Analyses in Interorganizational Collaboration Studies for Child Mental Health. *Children and Youth Services Review*, *119*, 105569.
41. Colvin, M.L. & Miller, S.E. (2020). The role of complexity theory and network analysis for examining child welfare service delivery systems. *Child & Youth Services*, 41 (2), 160-83.
42. Kapucu, N., Hu, Q. & Khosa, S. (2017). The state of network research in public administration. *Administration & Society*, *49*(8), 1087-1120.
43. Robinson, S.E. (2006). A decade of treating networks seriously. *Policy Studies Journal*, *34*(4), 589-598.
44. Lemaire, R.H., Mannak, R.S., Ospina, S.M. & Groenleer, M. (2019). Striving for State of the Art with Paradigm Interplay and Meta-Synthesis: Purpose-oriented Network Research Challenges and Good Research Practices as a Way Forward. *Perspectives on Public Management and Governance*, *2*(3), 175-186.
45. Human, S.E. & Provan, K.G. (2000). Legitimacy building in the evolution of small-firm multilateral networks: A comparative study of success and demise. *Administrative science quarterly*, *45*(2), 327-365.
46. Scott, J. (2012). *What is social network analysis?* Bloomsbury Academic.
47. Carroll, A. (2021). Integrated Care Through the Lens of a Complex Adaptive System. In: *Handbook Integrated Care*. Springer, 595-609.
48. O'Toole, L.J., Jr. (1997). Treating networks seriously: Practical and research-based agendas in public administration. *Public administration review*, *57*(1), Jan.-Feb., 45-52.

49. Provan, K.G. & Lemaire, R.H. (2012). Core concepts and key ideas for understanding public sector organizational networks: Using research to inform scholarship and practice. *Public Administration Review*, *72*(5), 638-648.
50. Agranoff, R. & McGuire, M. (2001). Big questions in public network management research. *Journal of public administration research and theory*, *11*(3), 295-326.
51. Carboni, J.L., Saz-Carranza, A., Raab, J. & Isett, K. R. (2019). Taking Dimensions of Purpose-Oriented Networks Seriously. *Perspectives on Public Management and Governance*, *2*(3), 187-201.
52. Hwang, S.H.J., Mollen, C.J., Kellom, K.S., Dougherty, S.L. & Noonan, K.G. (2017). Information sharing between the child welfare and behavioral health systems: Perspectives from four stakeholder groups. *Social Work in Mental Health*, *15*(5), 500-523.
53. Allen, A.D., Hyde, J. & Leslie, L.K. (2012). "I Don't Know What They Know": Knowledge transfer in mandated referral from child welfare to early intervention. *Children and Youth Services Review*, *34*(5), 1050-1059.
54. Jack, S.L. (2005). The role, use and activation of strong and weak network ties: A qualitative analysis. *Journal of management studies*, *42*(6), 1233-1259.
55. Marsden, P.V. & Campbell, K.E. (1984). Measuring tie strength. *Social forces*, *63*(2), 482-501.
56. McGuire, M. (2006). Collaborative public management: Assessing what we know and how we know it. *Public administration review*, *66,* 33-43.
57. Provan, K.G. & Milward, H.B. (1995). A preliminary theory of interorganizational network effectiveness: A comparative study of four community mental health systems. *Administrative science quarterly*, *40* (1), 1-33.
58. Raab, J., Mannak, R.S. & Cambré, B. (2015). Combining structure, governance, and context: A configurational approach to network effectiveness. *Journal of public administration research and theory*, *25*(2), 479-511.
59. Saz-Carranza, A. & Ospina, S.M. (2011). The behavioral dimension of governing interorganizational goal-directed networks—Managing the unity-diversity tension. *Journal of Public Administration Research and Theory*, *21*(2), 327-365.
60. Smith, J.G. (2020). Theoretical Advances in Our Understanding of Network Effectiveness. *Perspectives on Public Management and Governance*, *3*(2), 1-16.
61. Provan, K.G. & Kenis, P. (2008). Modes of network governance: Structure, management, and effectiveness. *Journal of public administration research and theory*, *18*(2), 229-252.
62. Kenis, P. & Provan, K.G. (2009). Towards an exogenous theory of public network performance. *Public administration*, *87*(3), 440-456.
63. Provan, K.G. & Sebastian, J.G. (1998). Networks within networks: Service link overlap, organizational cliques, and network effectiveness. *Academy of Management journal*, *41*(4), 453-463.
64. Uzzi, B. (1997). Social structure and competition in interfirm networks: The paradox of embeddedness. *Administrative science quarterly*, 35-67.

65. Hanneman, R.A. & Riddle, M. (2005). *Introduction to social network methods*. University of California, Riverside, CA.
66. Cropper, S. (Ed.) (2008). *The Oxford handbook of inter-organizational relations*. Oxford Handbooks Online.
67. Powell, W.W. (1990). Neither market nor hierarchy: network forms of organization. In: Staw, B.M. & Cummings, L.L. (Eds.). *Research in organizational behavior*. JAI Press Inc, 295-336.
68. Provan, K.G., Huang, K. & Milward, H.B. (2009). The evolution of structural embeddedness and organizational social outcomes in a centrally governed health and human services network. *Journal of Public Administration Research and Theory*, *19*(4), 873-893.
69. Collins, K.M., Onwuegbuzie, A.J. & Jiao, Q.G. (2007). A mixed methods investigation of mixed methods sampling designs in social and health science research. *Journal of mixed methods research*, *1*(3), 267-294.
70. Swanborn, P. (2010). *Case study research: What, why and how?* Sage publications, Thousand Oaks, CA.

Chapter 2

CROSS-SECTORAL COLLABORATION:

comparing complex child service delivery systems

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Abstract

To help ensure that children with social and behavioral health problems get the support services they need, organizations collaborate in cross-sectoral networks. In this article we explore and compare the structure of these complex child service delivery networks in terms of differentiation (composition) and integration (interconnection). In particular we investigate the structure of client referral and identify which organizations are most prominent within that network structure and could therefore fulfill a coordinating role.

We used a comparative case study approach and social network analysis on three inter-organizational networks consisting of 65 to 135 organizations within the Dutch child service delivery system. Semi-structured interviews with the network managers were conducted and an online questionnaire was sent out to the representatives of all network members.

The networks are similarly differentiated into eleven sectors with various tasks. Remarkably, network members have contact with an average of 20-26 organizations, which is a fairly high number to be handled successfully. In terms of integration, we found a striking diversity in the structures of client referral and not all organizations with a gatekeeper task hold central positions.

Due to the scarcity of comparative whole network research in the field, the strength of this study is a deeper understanding of the differentiation and integration of complex child service delivery systems. These insights are crucial in order to deliver needed services and to minimize service silos and fragmentation.

Introduction

To meet the varied needs of children and youth with social and behavioral health problems, collaboration between service delivery organizations for child welfare and mental health is considered vital [1-7]. For comprehensive, tailor-made and seamless service delivery, it is critical that these organizations coordinate services by timely and appropriate referring clients and sharing information or staff expertise with one another [3, 8, 9]. To help ensure that children get the support services they need from professionals with the required skills, child service delivery organizations collaborate in cross-sectoral networks [1, 7]. These networks consist of a broad range of actors, such as mental health care, education, childcare and nursery, safety, protection and social rehabilitation, specialized youth care, community service and social support. The importance of network collaboration for the success of a service delivery system is well-established in the public administration literature [10-17].

Despite these insights, service fragmentation and service silos remain persistent problems in the field of health and human services, including child and youth services [5, 18-20]. If organizations are reluctant to share resources or information (leading to service silos), and there is a lack of coordination or collaboration within the child welfare and healthcare service delivery system (leading to service fragmentation), the risk is considerable that children and youth in need do not get the right service at the right time, or even will be overlooked and left untreated [5]. However, networks are no panacea and can also fail [21]. Understanding their set-up and structure is therefore crucial for the effective delivery of child and youth services.

Unfortunately, there is little empirical knowledge of cross-sectoral service delivery networks pertaining to child and youth services. Due to their multidisciplinary nature, it is largely unclear how these networks are composed (network differentiation) and how the organizations within a network are interconnected (network integration) [5-7]. From the organization design theory perspective, both differentiation and integration are fundamental and interlinked issues relevant for the functioning of

an inter-organizational network [21]. The differentiation of a network determines the division of tasks within the network consisting of a variety of organizations with access to diverse expertise and resources, and the integration reveals patterns of collaboration between those different organizations. In order to deliver needed services timely and appropriate, to minimize service silos, service fragmentation and duplication of services, and to facilitate more informed decision-making processes, more information about the structure of child welfare and healthcare service delivery systems in terms of differentiation and integration is indispensable for network managers [13, 14, 16].

Client referral is one of the key processes in the network to ensure that the needed support services are provided timely and appropriate [1, 7]. To be able to refer clients between organizations in the network in a proper way, the child service delivery organizations with a gatekeeper function are core organizations and need to have a central position in the network. Since the role of core organizations is critical for network success [14], it is relevant to assess whether the likely core organizations regarding client referral indeed have a central position in the network and are therefore able to fulfill a coordinating role. This mechanism, referred to in the literature as selective integration, means "that network links must be targeted and appropriate, so that those organizations that need to work closely together do so, while others do not" [12 p. 644].

Therefore, this study explores and compares the structure of three complex child welfare and healthcare service delivery networks in terms of differentiation and integration. In particular we investigate the structure of client referral and identify which organizations are most prominent within that network structure, and which could therefore fulfill a coordinating role. By studying the differentiation of the networks, we gain a better understanding of the various participating organizations and sectors and the extent to which the networks are consistent regarding their composition and task division. By examining and comparing the integration of the networks, we gain more insight in which organizations and sectors do and do not collaborate, and whether organizations with a gatekeeper function are able

to refer clients between organizations in the network due to their structural position in the network. The whole network approach of our study meets the call for a complex systems approach in combination with social network analysis to examine the functioning of the network as a whole, and especially in the field of child and youth services [7, 22-28]. Indeed, by examining the multilateral relations rather than focusing on individual organizations and their direct relations only, it is possible to understand how processes such as client referral generate collective outcomes [7, 29-31].

Methods

Research setting

The research field of this study is the societal and administrative context of the Dutch child and youth service delivery system. Like many countries [32-37], the Netherlands recently implemented welfare and healthcare state reforms that shifted key responsibilities for the welfare and healthcare system from the central to local levels of government. The reform began with the introduction of the Dutch Social Support Act in 2007 [38, 39], followed by the decentralization of the Child and Youth service delivery system by shifting responsibilities from the national and regional governments to the local governments in 2015 [40]. Since then, municipalities have become fully responsible for the child welfare and healthcare service delivery system.

In this study, a comparative case study [41, 42] was conducted of three inter-organizational networks of child and youth services in different-sized municipalities in the Netherlands. Network I is located in a midsize municipality (around 180,000 citizens), Network II is located in a small municipality (around 66,000 citizens), and Network III covers four very small municipalities that collaborate in providing child and youth services (with 13,000-20,000 citizens per municipality, i.e. a total of about 60,000 citizens).

Research population and boundary specification

The research population consisted of organizations that participated in the child and youth service delivery networks, i.e. network members, with the representatives of the network members as the units of observation [43]. The following definition of a network was used: *the network of child and youth services consists of organizations with whom the local government, according to the network manager, works together to achieve the main network goal of the Child and Youth Act.* Employees who act as boundary spanners between their organizations in the network were the respondents [11, 44]. The network managers - the responsible managers of the municipalities' child and youth support departments - were asked to identify the network members and to select the boundary spanners for each network. Network members were included when they met the above-mentioned definition of the network. The selection of network members, including boundary spanners, was checked by colleagues of the municipalities' child and youth support department, and were compared to information on network members from the administrative system of the department. There was no disagreement concerning the selection of network members including boundary spanners. We thus applied a combination of the nominalist and realist approach to network boundary specification in as we first nominally defined a criterion to include organizations and then used the judgement of participating individuals in the network to determine the boundaries [45].

Since the individual professionals of some network members operated within a limited working area – such as school care coordinators in education organizations, school attendance officers in municipal organizations, general practitioners (family doctors) and organizations for childcare and nursery - we invited more than one boundary spanner from these network members for the survey. For example, in network I there were a total of thirty general practitioners in the municipality. As the working area of one general practitioner was limited to a small part of the municipality, we

invited them all to participate in the research. Since the organization level is the level of data analysis, we aggregated the results for these boundary spanners to the level of their organizations or professional group (see data analysis for information on the applied rules).

For Network I, we also used a threshold for the selection of network members from the sector 'specialized youth care organizations'. As a relatively large number of these organizations only had a few juveniles in treatment in one year and therefore had peripheral positions in the network, we selected only the organizations that had a minimum of six juveniles receiving care in 2017 (94 of 162 organizations). This threshold is generally used for privacy reasons. However, although the focus is on the relationships and not the individual persons, it is still a low number, and the relationships are heavily influenced by individual cases. The final selection of 94 specialized care organizations together accounted for 98% of all juveniles residing in that municipality and receiving specialized care in the year 2017. In this way, we were able to strike a balance between a questionnaire that is manageable for the respondents and yields representative information about the specialized youth care organizations. Table 1 displays the number of network members, including the response rates.

Table 1. Summary of research population and response

	Network I*	**Network II***	**Network III***
	2018	2018	2018
Number of invited network members	135	86	75
Number of responding network members	70	49	51
Response percentage network members	52%	57%	68%

* Network I in municipality with around 180,000 citizens, Network II in municipality with around 66,000 citizens, and Network III in four municipalities with a total of about 60,000 citizens.

Data collection

The data of the three networks were collected in the period of November 2017 to September 2018 and consisted of two steps. First, semi-structured interviews with the network managers were conducted. The aim of the interviews was to identify the boundaries of the network by determining the network members, their main tasks and categorizing them into different sectors, and to select representatives of the network members as potential respondents for the online questionnaire. Second, an online questionnaire was sent out to the representatives of all the network members, to collect data about the relations between the organizations. In the questionnaire, to measure the number of all contacts between the organizations, the respondents were presented a list of all the organizations of the network and were asked to identify the organizations with which their organization had contact at least once a year, including face-to-face contact (meeting, consultation, conference), by telephone or email. To measure client referral relations between the organizations, the respondents were also asked to indicate if their organization had contact with the other organizations regarding client referral.

Measures

Network structure refers to patterns of relationships that exist within a given boundary [43]. It consists of nodes (organizations) that compose the network, ties that connect the nodes, and the patterns, structures and nature of the relationships that result from these connections [46]. To explore and compare the structure of complex child welfare and healthcare service delivery networks and moreover the structure for client referral, the concepts of differentiation and integration were measured.

Network differentiation

The structural network characteristics size, tasks and sectors were used to describe and compare the differentiation of the networks [12, 16, 46, 47]. During the interview, the network manager selected the participating organizations according to the definition: *organizations with whom the local government works together to achieve the main network goal of the Child and Youth Act*. Then, the network manager was asked to classify the

organizations into sectors and to describe the main task of the organization.

Network integration

Network integration was measured by the *number of active organizations*, *isolates*, *ties*, *density*, *average degree centrality* and *centralization* of the networks for both 'all contacts' and 'client referral contacts'. *Number of active organizations* is the total of organizations connected to another organization in a network; the *number of isolates* is the total of organizations not connected to another organization in the network; and the *number of ties* (relations) is the total of ties that is present in a network. *Density* refers to how cohesive a network is, computing the number of ties in a network, divided by the maximum number of ties that are possible [48]. The higher the score (ranging from 0 to 1), the more relations between organizations are present in the network [6]. *Average degree centrality* is the average number of connections per organization in the network [49]. *Centralization* refers to the power and control structure of the network and reveals whether network links and activities are organized around any particular single organization or small group of organizations [48-51]. Scores range between 0 and 1, with 1 being the highest possible centralization.

Beside the above-mentioned network integration measures, to identify the organizations that are most prominent within the client referral structure, we calculated degree centrality. *Degree centrality* computes the number of other organizations to which a specific organization in the network is connected [52].

Data analysis

To calculate measures that describe the structure in terms of network differentiation and integration, we used Excel, Ucinet [53] and Visone [54]. The latter was mainly used to visualize the network graphs of the client referral structure. In Excel, the relational data (contact and client referral) were converted into adjacency matrices that were then inserted in Ucinet. To reflect relationships reported by each organizational dyad and in that way capturing any link, the networks were symmetrized [55]. This method examines unconfirmed or unidirectional network ties, which are ties where

a respondent identifies a link between their own and another organization, but the other organization does not confirm that collaboration exists [55 pp. 350-351]. We applied the following rule to create the adjacency matrices: a relation between two network members was coded as existing if at least one of the (boundary spanners of the) network members indicated this relation. The missing values were entered as a reciprocal relationship per responding organization (i.e. transposing the column in an adjacency matrix with the corresponding missing rows). This method is known as the procedure of labeled reconstruction [56] to manage non-response. Then, in Ucinet, we computed the multiple network measures (number of active organizations, isolates, ties, density, centralization and average degree centrality) and degree centrality per network. Subsequently, we aggregated the adjacency matrices of client referral to the sectoral level in Excel. We used a fourfold division for the relations between the sectors. If 0-20% of all possible ties were present, we coded 0 (no relation). If we found between 20-40%, 40-60% or at least 60% of all possible ties present, we coded respectively 1 (weak connection), 2 (average connection) and 3 (strong connection). Finally, in Visone, we inserted the aggregated adjacency matrices of client referral to visualize the graphs of the client-referral networks. In the graph we used different widths and color to show the connection strength of ties between the sectors.

Results

Network differentiation

Network I, with 135 participating organizations, is the largest network compared to Network II with 86 and Network III with 75 organizations. The networks are composed of organizations from various sectors performing different tasks (Table 2).

Table 2. Sectors, task division and examples of organizations in the network

	Sectors	Tasks	Examples of organizations
1.	Center for youth and family	gatekeeper	child and youth welfare and healthcare center
2.	Municipality	signaling	youth care expert team, youth and family team*, school attendance officers, youth/social support/ community service/employment/safety/purchase & contracting departments of the municipality
3.	Basic social organization	signaling providing services	social work, welfare work, disabled support, youth and family support, library, food bank, refugee council
4.	Education	signaling	care coordinators primary and secondary education
5.	General practitioners	gatekeeper	child and family doctors
6.	Health and prevention	signaling gatekeeper	child and youth health care center, infant welfare center
7.	Childcare and nursery	signaling providing services	pre-school, child day-care center, nursery, after school-care including homework support
8.	Specialized youth care	providing services	youth mental health care, child and youth care, (forensic) psychiatry, orthopedagogy, psychology, disabled child care
9.	Protection & social rehabilitation	providing services	youth protection, youth probation officers, juvenile social rehabilitation
10.	Safety	signaling providing services	police officers responsible for juveniles, protection of child maltreatment, safety houses (crime prevention), public prosecutions department, family & youth court, juvenile prison, child care & protection board, community service supervisor
11.	Volunteer organization	signaling providing services	village or ward council, social policy advisory council, informal help for family or neighbors, community center, scouting/music/sport/leisure clubs

* Youth and family teams also provide support services

Organizations that exchange (early warning) signals of support needs by children, youth and families with other organizations in the network have a signaling task. Gatekeepers are organizations that are legally authorized to refer clients to child and youth services covered by the Child and Youth Act. Organizations tasked with providing services deliver various child and youth support and care services. All the sectors from Table 2 are present in the networks, with the exception of volunteer organizations in Network II since they were not designated as network members by the municipality.

Network integration

Table 3 presents the results regarding the integration of the networks. All the organizations of the different networks have a relation based on at least one type of tie with at least one other organization in their network, i.e. there are no isolates. The number of ties in Network I (3368 ties) is the largest compared to Network II (1728 ties) and Network III (1950 ties). Network III shows the highest density of the three networks (0.351). In other words, approximately 35% of all possible ties in Network III exist. For Network II and I this figure is about 24% and 19%, respectively. Organizations in Network I have an average degree centrality of 25 organizations. For organizations in Network II and III the figure is respectively 20 and 26 organizations. The centralization scores of the three networks vary slightly. On a scale from 0 to 1, with 1 being the highest possible centralization, centralization scores of around 0.6 indicate that the ties in each network are organized around one central or a few central organizations.

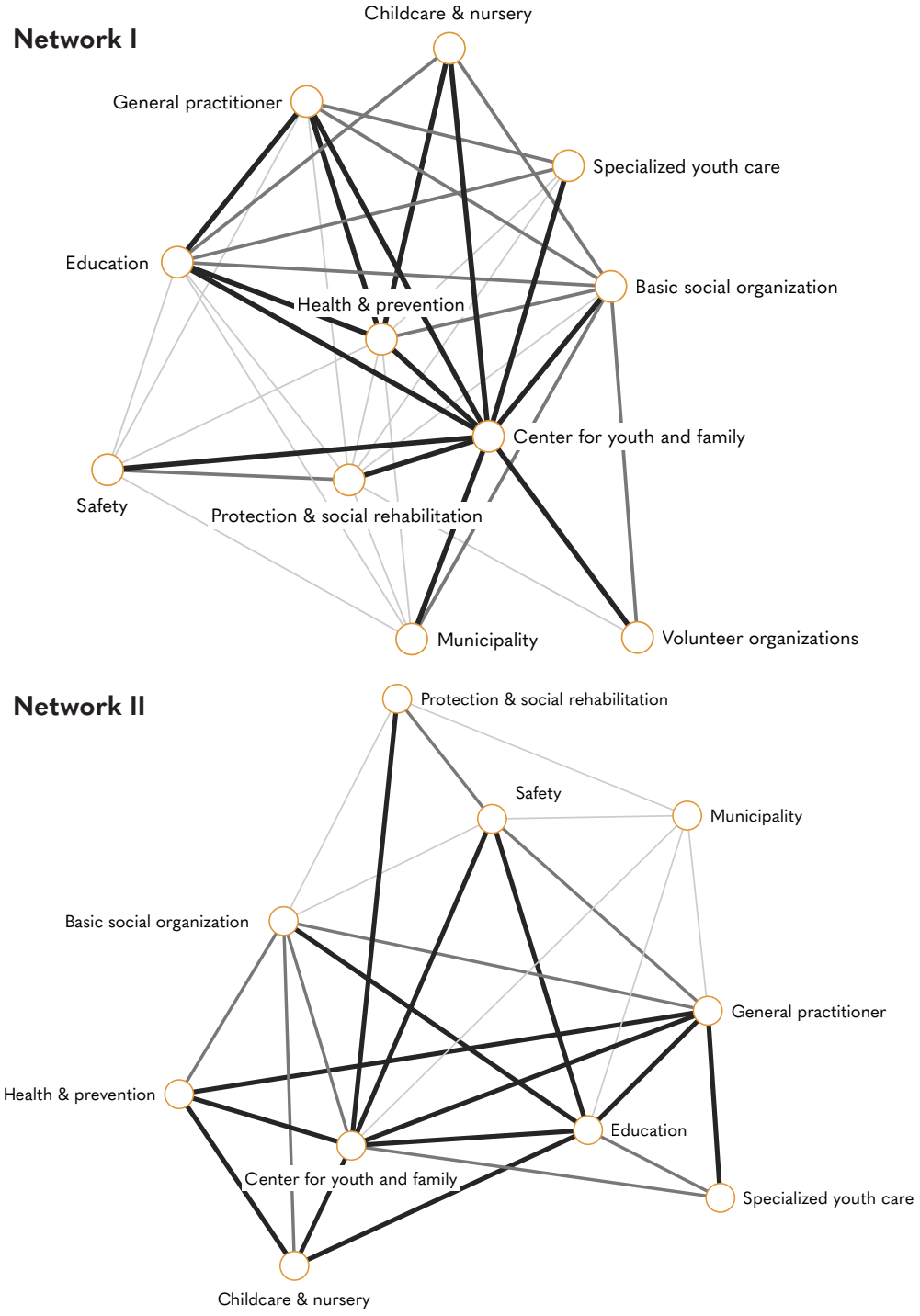
Table 3. Structure of the three networks based on all contacts.

	Network I	Network II	Network III
Number of sectors	11	10	11
Number of organizations	135	86	75
Active organizations (%)	135 (100%)	86 (100%)	75 (100%)
Isolates	0	0	0
Number of ties	3368	1728	1950
Density	0.186	0.236	0.351
Average degree centrality	24.95	20.09	26.00
Degree centralization	0.659	0.649	0.666

Client referral network structure

The structure of the networks - regarding client referral - at the sector level shows that not every sector is connected to all others. Also, the connection strength differs between the sectors. Figure 1 presents the network diagrams of the client referral networks at the sector level. The different width and shade of the ties show the connection strength between the sectors. Comparing the three networks in Figure 1 shows that Network II has less relationships (ties) based on client referral between the different sectors than Network I and III. Further, the sectors 'Center for youth and family', 'Education', 'General practitioner' and 'Health & prevention' have many relationships based on client referrals with other sectors in the network and there is often a strong connection, except for the sector 'Health & prevention' in Network II.

Figure 1. Interconnectedness of the client-referral networks based on connection strength between sectors in the network



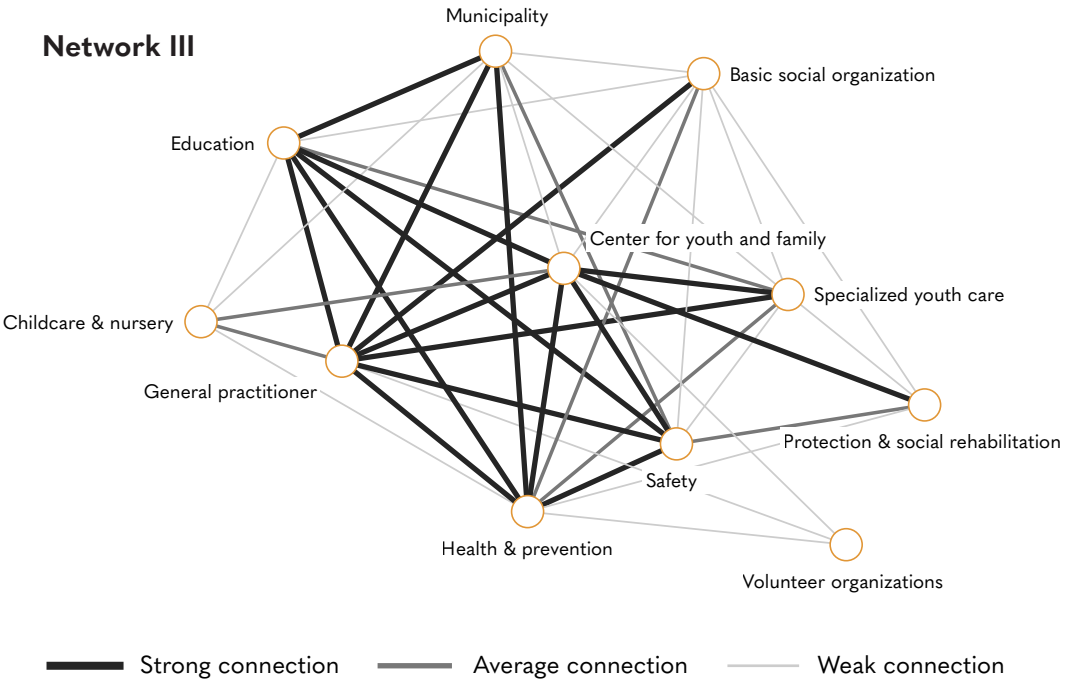


Table 4 shows the differentiation and integration results of the networks based on client referral. The vast majority of the organizations refer clients among each other (92-98% active organizations). The isolates in Network I and II were specialized youth care organizations with a few juveniles in treatment (less than 15 clients), and in Network III these concerned four volunteer organizations, one specialized youth care organization and one safety organization. It applies for each network that less than 20% of all possible ties were present. The organizations in Network I, II and III were found to have contact with respectively an average of approximately 16, 12 and 14 organizations. The centralization score of Network I (0.723) is higher than the scores of Network II (0.471) and III (0.415).

Table 4. Structure of three networks based on client referral contacts

	Network I	Network II	Network III
Number of organizations	135	86	75
Active organizations (%)	132 (98%)	80 (93%)	69 (92%)
Isolates	3	6	6
Number of ties	2102	1026	1056
Density	0.116	0.140	0.190
Average degree centrality	15.57	11.93	14.08
Degree centralization	0.723	0.471	0.415

Table 5 shows, per network, the ten organizations holding the most central position based on their degree centrality. In every network, the (bronze-marked) organizations with the task of gatekeeper (center for youth and family, general practitioners and child health care) are among the most prominent organizations in the networks, except for child health care in Network II. In Network I, the center for youth and family holds the most central position; in Network II and III this organization is less prominent, in these networks respectively care coordinators and social work hold the most central position. Compared to Network I, in Network II and III, the general practitioners have a central position. Child health care has a relatively central position in Network I and III.

Table 5. Ten organizations with most central position in the client referral networks

Network I	Sector*	Degree centrality	Network II	Sector*	Degree centrality	Network III	Sector*	Degree centrality
Center for youth and family	1	0.828	Care coordinators secondary education	4	0.600	Social work	3	0.595
Child psychiatry	8	0.627	Care coordinators primary education	4	0.506	General practitioners	5	0.581
Youth protection & social rehabilitation	9	0.515	General practitioners	5	0.447	Child and youth care	8	0.554
Youth care expert team	2	0.410	Child and youth care	8	0.424	Child health care	6	0.541
Child health care	6	0.388	Youth mental health care	8	0.400	Youth and family team	2	0.500
Care coordinators primary education	4	0.388	Protection of child maltreatment	10	0.388	Youth and family team	2	0.473
Care coordinators secondary education	4	0.381	Orthopedagogy and psychology	8	0.365	Youth and family team	2	0.473
School attendance officers	2	0.343	Disabled child care	8	0.365	Disabled child care	8	0.473
Youth mental health care	8	0.336	Social work	3	0.365	Center for youth and family	1	0.459
General practitioners	5	0.321	Center for youth and family	1	0.353	Child and youth care	8	0.446

* See Table 2 for more information

Discussion and conclusion

This study examined the structure of three complex child welfare and healthcare service delivery networks in terms of differentiation and integration. Differentiation and integration are both necessary conditions to successfully deal with complex family issues. Differentiation is needed to address problems that are too complex, expensive or persistent for one organization or government to handle on its own [12, 57, 58], and network integration is required to effectively achieve the network goals [13, 15, 16]. Client referral is one of the core processes in the network to ensure that the support services that children need are provided [1, 7], for that reason, we studied the structure for client referral in particular.

The three studied networks are relatively comparable in terms of differentiation. There is a differentiation into eleven sectors and various tasks (gatekeeper, signaling and providing services) among network members, which emphasizes the importance of understanding the functioning of networks as a whole. Even though Network I has more network members, it spans an equal number of sectors as the other networks. This is not surprising, since the networks are embedded in the same institutional framework of the Child and Youth Act.

In terms of integration, we found that the smallest network (Network III) is denser than the other two, as expected, since density scores are sensitive to network size [59]. Therefore, in order to provide a more digestible understanding of density, we also measured the average number of connections per organization in the network (average degree centrality). Remarkably, in each network, organizations have contact with an average of 20-26 organizations, which is a fairly high number to be handled successfully and effectively. It is known that most organizations tend to have limited numbers of ties (or at least strong ties), as social actors have limited resources, energy, time, and cognitive capacity, and cannot maintain large numbers of strong ties [60].

These findings regarding the interlinked concepts of differentiation and integration are relevant in the light of the aim of welfare and healthcare state reforms. The major decentralization of the Dutch child and youth service delivery system was meant to facilitate integrated care in families' own environment by the decompartmentalization of budgets and the local responsibility to organize child welfare and healthcare [61-64]. The diversity and overall connectedness of the networks show that the desired variation of sectors with access to diverse expertise and resources, and the division of tasks (gatekeeper, signaling and providing services) are present within the networks which is a critical condition for integrated care [64]. On the other hand, our findings demonstrate the potential risk of inefficient and ineffective functioning of (parts of) the network due to a high number of relations that need to be maintained by its members. In order to make relations more targeted, it is important that network managers consider and investigate how key processes such as information sharing, client referral and administrative processes can be structured within the network effectively [12, 21].

When we compare the structures for client referral between the networks, again the networks are relatively comparable in terms of differentiation. Regarding integration, the networks based on client referral are not connected as a whole, because there are 3 to 6 isolates per network. These isolates turn out to be peripheral organizations mainly tasked with providing services, predominantly highly specialized youth care. Moreover, there was a striking diversity in the structure of the client referral networks. At the sectoral level, the integration client referral of Network II is different compared to the other two networks. Overall, Network II has fewer relationships (ties) based on client referral and the expected core organizations of the sector 'Health & Prevention' do not have many relationships or a strong connection with other sectors in the network. Furthermore, at the level of organizations, we found that Network I (centralization 0.723) is more centrally integrated than Network II (centralization 0.471) and III (centralization 0.415). In Network I, client referral is primarily organized around the center for youth and family (degree centrality 0.828). In Networks II and III, client referral is less

centrally organized and the organizations with a gatekeeper task do not hold central positions. Instead, education and basic social organizations are the most prominent, as they had contact regarding client referral with the greatest number of other organizations in the network. This could mean that, in Networks II and III, it is not the expected core organization that fulfills the main coordinating role regarding client referral – i.e., the center for youth and family – but organizations tasked with signaling and providing services such as social work or school care coordinators.

At the core of the decentralized Dutch child and youth service delivery system are the locally formed centers for youth and family [64]. These centers, as front office of the municipality, are the linking pin between preventive support (e.g., basic care and universal pedagogical provisions) and primary care (e.g., child health care, general social work, parenting support) and specialized care (e.g., youth care services, specialized mental health care, child protection, high intensive psychiatric support, residential youth care) [63]. To be able to refer clients between organizations in the network in a proper way, these linking pin organization need to have a central position regarding client referral in the network. In this respect, Network I operates in a more targeted manner than Networks II and III, which could imply that children and youth residing in one municipality are at a greater risk of being overlooked and left untreated than in other municipalities. There are numerous possible explanations for the found differences regarding integration. In general, there is a consistency between the level of trust and the functioning of a network as a whole [65, 66]. Higher levels of trust are associated with increased performance, efficiency, or satisfaction for one or more parties in inter-organizational relationships [66]. More specifically, trust has been found to reduce transaction costs and to increase inner network stability, commitment and information sharing [11, 65, 67-69]. Perhaps the level of trust was higher in Network I compared to Networks II and III. Moreover, the current state of development of the network can be a possible explanation for the found differences in integration. As a network system matures over time, relationships may become more cemented and robust [51, 70]. Such stability of network relationships turns out to be a major factor in explaining

network effectiveness regarding client services [13]. Maybe, Networks II and III needed more than three years to regroup after a major shakeup like a decentralization of the child welfare and healthcare system: a period previously indicated as sufficient time for networks to stabilize [15].

For this study some methodological remarks can be made. First, the network boundaries were determined by the respective network managers of the municipalities. All organizations partnered by a local government to achieve the main network goal of the Child and Youth Act were included. However, it could well be that there are other organizations that contribute to the network goal that do not collaborate with the local government but only with other members of the network. Nevertheless, we chose this strict determination since the application of this clear criterion makes it easier to reproduce the results [29]. Second, the results must be seen in the specific institutional context. The networks are not fully mandated networks, but they have a strong institutional component due to the authorization of the gatekeepers to commission child and youth services covered by the Child and Youth Act. As a result, the differentiation of the networks can hardly differ between the municipalities. In contrast, the integration of the networks can certainly differ, as the network managers have the opportunity to structure the relationships within the network. Third, the static character of network analysis should be recognized, and because networks are not static but dynamic systems, the results should be interpretated with caution [46, 71, 72]. Fourth, although we were able to determine and compare the differentiation and integration of the child welfare and healthcare services delivery networks that are critical for network success [11-14, 16, 17, 46], we did not examine whether the structural form has an actual influence on network outputs or outcomes. Fifth, as whole network data allows for very powerful descriptions and analyses of social structures, we used the whole network approach which yields the maximum of information [60]. This means that the networks were symmetrized in order to reflect relationships reported by each organizational dyad and capturing any link [55 pp. 350–351]. However, as this approach examines unconfirmed ties, it may have led to an overestimation of some network ties, especially for the non-response organizations. Fortunately, with the exception of the general practitioners, all

the expected core network members responded. Most of the non-responders were network members at the periphery of the network, such as the municipality's department of safety, organizations for childcare and nursery, or organizations for youth protection and social rehabilitation. Finally, there are other centrality measures, such as betweenness centrality and closeness centrality, which could have been used to identify the organizations that are most prominent within the client referral structure. However, we have chosen for degree centrality for several reasons. First, the data is undirected and therefore actors differ from one another only in how many connections they have [60]. Second, because of the relatively high amount of missing data with response rates between 52% and 68%. Degree centrality is a local centrality measure and therefore less sensitive to missing data, compared to global centrality measures. Third, closeness centrality scores are meaningless for disconnected networks (with at least one network isolate) such as ours, as the paths from all the other nodes to the isolates are infinitely long [43].

For further research, we believe it is relevant to study how service delivery systems operate during the different development stages of a network. As a network system evolves over time, knowledge and information about network members and their tasks, especially regarding core organizations, will spread and the network structure will become more established [51]. This could include outputs such as offering well-coordinated child and youth services geared to local and individual situations and needs, working on the basis of integrated policies, achieving an overall cost reduction for the municipalities [63], or even the (enhanced) wellbeing of children and young adults [13, 14]. In addition, research could explore whether there is a minimum-maximum range on the degree of differentiation and the efforts to achieve integration for an effective functioning of the network, also known as the unity-diversity tension described by Saz-Carranza and Ospina [73].

Due to the scarcity of comparative whole network research in the field and despite the limitations, the strength of this study is a deeper understanding of the differentiation and integration of complex child welfare and healthcare service delivery systems. The study provides empirical evidence of multidisciplinary and inter-organizational interdependencies that are

often assumed in this field but have rarely been demonstrated to exist through systematic empirical analysis. The observed differentiation of the networks, demonstrated by the multitude and heterogeneity of sectors and organizations, supports a conception of child welfare and healthcare practice as a complex service delivery system [7]. At the same time, the wide span of the networks emphasizes the importance of targeted and appropriate links between organizations, i.e. selective integration [12]. Network managers should realize that a larger and/or more diverse network with a broader division of labor demands attention, time and resources to achieve the integration necessary to successfully accomplish the shared goals of the network [21].

References

1. Brown, S.M., Klein, S. & McCrae, J.S. (2014). Collaborative relationships and improved service coordination among child welfare and early childhood systems. *Child Welfare*, *93*(2), 91-116.
2. Bunger, A.C. (2013). Administrative coordination in nonprofit human service delivery networks: The role of competition and trust. *Nonprofit and voluntary sector quarterly*, *42*(6), 1155-1175.
3. Bunger, A.C., Doogan, N.J. & Cao, Y. (2014). Building service delivery networks: Partnership evolution among children's behavioral health agencies in response to new funding. *Journal of the Society for Social Work and Research*, *5*(4), 513-538.
4. Bunger, A.C. & Huang, K. (2019). Change in collaborative ties in a children's mental health services network: A clique perspective. *Human Service Organizations: Management, Leadership & Governance*, *43*(2), 74-91.
5. Bustos, T.E. (2020). A Scoping Review of Social Network Analyses in Interorganizational Collaboration Studies for Child Mental Health. *Children and Youth Services Review*, *119*, 105569.
6. Colvin, M.L. (2017). Mapping the inter-organizational landscape of child maltreatment prevention and service delivery: A network analysis. *Children and youth services review*, *73*, 352-359.
7. Colvin, M.L. & Miller, S.E. (2020). The role of complexity theory and network analysis for examining child welfare service delivery systems. *Child & Youth Services*, 41 (2), 160-83.
8. Bolland, J.M. & Wilson, J.V. (1994). Three faces of integrative coordination: a model of interorganizational relations in community-based health and human services. *Health services research*, *29*(3), 341.
9. Sowa, J.E. (2009). The collaboration decision in nonprofit organizations: Views from the front line. *Nonprofit and Voluntary Sector Quarterly*, *38*(6), 1003-1025.
10. Isett, K.R., Mergel, I.A., LeRoux, K., Mischen, P.A. & Rethemeyer, R.K (2011). Networks in public administration scholarship: Understanding where we are and where we need to go. *Journal of public administration research and theory*, 21(suppl_1), i157-i173.
11. Kramer, A.E. (2014). *Resilient networks in healthcare: Effects of structural and cognitive embeddedness on network commitment*. Tilburg University, School of Economics and Management.
12. Provan, K.G. & Lemaire, R.H. (2012). Core concepts and key ideas for understanding public sector organizational networks: Using research to inform scholarship and practice. *Public Administration Review*, *72*(5), 638-648.
13. Provan, K.G. & Milward, H.B. (1995). A preliminary theory of interorganizational network effectiveness: A comparative study of four community mental health systems.

Administrative science quarterly, *40* (1), 1-33.

14. Provan, K.G. & Milward, H.B. (2001). Do networks really work? A framework for evaluating public-sector organizational networks. *Public administration review*, *61*(4), 414-423.
15. Raab, J., Mannak, R.S. & Cambré, B. (2015). Combining structure, governance, and context: A configurational approach to network effectiveness. *Journal of public administration research and theory*, *25*(2), 479-511.
16. Smith, J.G. (2020). Theoretical Advances in Our Understanding of Network Effectiveness. *Perspectives on Public Management and Governance*, *3*(2), 1-16.
17. Turrini, A., Cristofoli, D., Frosini, F. & Nasi, G. (2010). Networking literature about determinants of network effectiveness. *Public Administration*, *88*(2), 528-550.
18. Nicaise, P., Tulloch, S., Dubois, V., Matanov, A., Priebe, S. & Lorant, V. (2013). Using social network analysis for assessing mental health and social services inter-organisational collaboration: findings in deprived areas in Brussels and London. *Administration and Policy in Mental Health and Mental Health Services Research*, *40*(4), 331-339.
19. Provan, K.G. & Huang, K. (2012). Resource tangibility and the evolution of a publicly funded health and human services network. *Public Administration Review*, *72*(3), 366-375.
20. Cooper, M., Evans, Y. & Pybis, J. (2016). Interagency collaboration in children and young people's mental health: a systematic review of outcomes, facilitating factors and inhibiting factors. *Child: Care, Health and Development*, *42*(3), 325-342.
21. Kenis, P. & Raab, J. (2020). Back to the future: Using organization design theory for effective organizational networks. *Perspectives on Public Management and Governance*, *3*(2), 109-123.
22. Stevens, I. & Cox, P. (2008). Complexity theory: Developing new understandings of child protection in field settings and in residential child care. *British Journal of Social Work*, *38*(7), 1320-1336.
23. Quinn, A., Woehle, R. & Tiemann, K. (2012). Social network analysis for analyzing groups as complex systems. *Journal of Social Service Research*, *38*(5), 605-618.
24. Stevens, I. & Hassett, P. (2007). Applying complexity theory to risk in child protection practice. *Childhood*, *14*(1), 128-144.
25. Mischen, P.A. & Jackson, S.K. (2008). Connecting the dots: Applying complexity theory, knowledge management and social network analysis to policy implementation. *Public Administration Quarterly*, *32*(3), FAL, 314-338.
26. Kitson, A., Brook, A., Harvey, G., Jordan, Z., Marshall, R., O'Shea, R. & Wilson, D. (2018). Using complexity and network concepts to inform healthcare knowledge translation. *International Journal of Health Policy and Management*, *7*(3), 231.
27. Morçöl, G. & Wachhaus, A. (2009). Network and complexity theories: A comparison and prospects for a synthesis. *Administrative Theory & Praxis*, *31*(1), 44-58.
28. Benham-Hutchins, M. & Clancy, T.R. (2010). Social networks as embedded complex

adaptive systems. *JONA: The Journal of Nursing Administration*, *40*(9), 352-356.
29. Provan, K.G., Fish, A. & Sydow, J. (2007). Interorganizational networks at the network level: A review of the empirical literature on whole networks. *Journal of management*, *33*(3), 479-516.
30. Berthod, O., Grothe-Hammer, M. & Sydow, J. (2017). Network ethnography: A mixed-method approach for the study of practices in interorganizational settings. *Organizational Research Methods*, *20*(2), 299-323.
31. Van der Ham, A., Van Merode, F., Ruwaard, D. & Van Raak, A. (2020). Identifying integration and differentiation in a Hospital's logistical system: a social network analysis of a case study. *BMC Health Services Research*, *20*(1), 857.
32. Abimbola, S., Baatiema, L. & Bigdeli, M. (2019). The impacts of decentralization on health system equity, efficiency and resilience: a realist synthesis of the evidence. *Health policy and planning*, *34*(8), 605-617.
33. Anttonen, A., Baldock, J. & Sipilä, J. (2003). *The young, the old, and the state: social care systems in five industrial nations*. Edward Elgar Publishing.
34. Jiménez-Rubio, D. & García-Gómez, P. (2017). Decentralization of health care systems and health outcomes: Evidence from a natural experiment. *Social Science & Medicine*, *188*, 69-81.
35. Muñoz, D.C., Amador, P.M., Llamas, L.M., Hernandez, D.M. & Sancho, J.M.S. (2017). Decentralization of health systems in low and middle income countries: a systematic review. *International journal of public health*, *62*(2), 219-229.
36. Sellers, J.M. & Lidström, A. (2007). Decentralization, local government, and the welfare state. *Governance*, *20*(4), 609-632.
37. Senkubuge, F., Modisenyane, M. & Bishaw, T. (2014). Strengthening health systems by health sector reforms. *Global health action*, *7*(1), 23568.
38. Dijkhoff, T. (2014). The Dutch Social Support Act in the shadow of the decentralization dream. *Journal of Social Welfare and Family Law*, *36*(3), 276-294.
39. Putters, K., Grit, K., Janssen, M., Schmidt, D. & Meurs, P. (2010). *Governance of local care and social service*. Erasmus School of Health Policy & Management (ESHPM).
40. *Child and Youth Act*. (2014). https://wetten.overheid.nl/BWBR0034925/2019-04-02
41. Collins, K.M., Onwuegbuzie, A.J. & Jiao, Q.G. (2007). A mixed methods investigation of mixed methods sampling designs in social and health science research. *Journal of mixed methods research*, *1*(3), 267-294.
42. Swanborn, P. (2010). *Case study research: What, why and how?* Sage publications, Thousand Oaks, CA.
43. Wasserman, S. & Faust, K. (1994). *Social network analysis: Methods and applications*. (Vol. 8). Cambridge university press.
44. Williams, P. (2002). The competent boundary spanner. *Public administration*, *80*(1), 103-124.
45. Laumann, E.O., Marsden, P.V. & Prensky, D. (1989). The boundary specification problem in network analysis. *Research methods in social network analysis*, *61*, 87.

46. Popp, J., Milward, H.B., MacKean, G., Casebeer, A. & Lindstrom, R. (2014). *Inter-organizational networks: a review of the literature to inform practice*. IBM Center for the Business of Government.
47. Shortell, S.M., Colla, C.H., Lewis, V.A., Fisher, E., Kessell, E. & Ramsay (2015). Accountable care organizations: the national landscape. *Journal of health politics, policy and law*, *40*(4), 647-668.
48. Kilduff, M. & Brass, D.J. (2010). Organizational social network research: Core ideas and key debates. *The academy of management annals*, *4*(1), 317-357.
49. Scott, J. & Carrington, P.J. (2011). *The SAGE handbook of social network analysis*. Sage publications, Thousand Oaks, CA.
50. Provan, K.G. & Milward, H.B. (1995). A Preliminary Theory of Interorganizational Network Effectiviness: A Comparative Study of Four Community Mental Health Systems. *Administrative Science Quarterly*, *40*(1), 1-33.
51. Provan, K.G., Huang, K. & Milward, H.B. (2009). The evolution of structural embeddedness and organizational social outcomes in a centrally governed health and human services network. *Journal of Public Administration Research and Theory*, *19*(4), 873-893.
52. Scott, J. (2011). Social network analysis: developments, advances, and prospects. *Social network analysis and mining*, *1*(1), 21-26.
53. Borgatti, S.P., Everett, M.G. & Freeman, L.C. (2002). *Ucinet for Windows: Software for social network analysis*. (Vol. 6), Analytic technologies, Harvard, MA.
54. Brandes, U.& Wagner, D. (2004). Analysis and visualization of social networks. *Graph drawing software*. Springer, Berlin, Heidelberg, 321-340.
55. Provan, K.G., Leischow, S.J., Keagy, J. & Nodora, J. (2010). Research collaboration in the discovery, development, and delivery networks of a statewide cancer coalition. *Evaluation and program planning*, *33*(4), 349-355.
56. Stork, D. & Richards, W.D. (1992). Nonrespondents in communication network studies: Problems and possibilities. *Group & Organization Management*, *17*(2), 193-209.
57. O'Toole, L.J., Jr. (1997). Treating networks seriously: Practical and research-based agendas in public administration. *Public administration review*, *57*(1), Jan.-Feb., 45-52.
58. Agranoff, R. & McGuire, M. (2001). Big questions in public network management research. *Journal of public administration research and theory*, *11*(3), 295-326.
59. Borgatti, S.P., Everett, M.G. & Johnson, J.C. (2018). *Analyzing social networks*. Sage publications, Thousand Oaks, CA.
60. Hanneman, R.A. & Riddle, M. (2005). *Introduction to social network methods*. University of California, Riverside, CA.
61. Boogers, M. & Reussing, R. (2019). Decentralisatie, schaalvergroting en lokale democratie. *Bestuurswetenschappen*, *2*, 22-46.
62. Boogers, M., Schaap, L., Van den Munckhof, E. & Karsten, N. (2009). Decentralisatie als opgave. *Bestuurswetenschappen*, *63*(1), 29-49.

63. Bosscher, N. (2012*). The decentralisation and transformation of the Dutch youth care system.* (Accessed 30 September 2013) https://www.nji.nl.
64. Nooteboom, L. (2021). *Towards increased understanding of integrated Youth Care: a qualitative evaluation of facilitators and barriers for professionals*. Leiden University.
65. Klijn, E.-H., Edelenbos, J. & Steijn, B. (2010). Trust in governance networks: Its impacts on outcomes. *Administration & Society*, *42*(2), 193-221.
66. Zaheer, A., McEvily, B. & Perrone, V. (1998). Does trust matter? Exploring the effects of interorganizational and interpersonal trust on performance. *Organization science*, *9*(2), 141-159.
67. Dyer, J.H. & Chu, W. (2003). The role of trustworthiness in reducing transaction costs and improving performance: Empirical evidence from the United States, Japan, and Korea. *Organization science*, *14*(1), 57-68.
68. Nielsen, B.B. & Nielsen, S. (2009). Learning and innovation in international strategic alliances: An empirical test of the role of trust and tacitness. *Journal of management Studies*, *46*(6), 1031-1056.
69. Nooteboom, B., Berger, H. & Noorderhaven, N.G. (1997). Effects of trust and governance on relational risk. *Academy of management journal*, *40*(2), 308-338.
70. Ahuja, G., Soda, G. & Zaheer, A. (2012). The genesis and dynamics of organizational networks. *Organization science*, *23*(2), 434-448.
71. Lemaire, R.H., Mannak, R.S., Ospina, S.M. & Groenleer, M. (2019). Striving for State of the Art with Paradigm Interplay and Meta-Synthesis: Purpose-oriented Network Research Challenges and Good Research Practices as a Way Forward. *Perspectives on Public Management and Governance*, *2*(3), 175-186.
72. Human, S.E. & Provan, K.G. (2000). Legitimacy building in the evolution of small-firm multilateral networks: A comparative study of success and demise. *Administrative science quarterly*, *45*(2), 327-365.
73. Saz-Carranza, A. & Ospina, S.M. (2011). The behavioral dimension of governing interorganizational goal-directed networks—Managing the unity-diversity tension. *Journal of Public Administration Research and Theory*, *21*(2), 327-365.

Chapter 3

ACTORS' AWARENESS OF NETWORK GOVERNANCE IN CHILD WELFARE AND HEALTHCARE SERVICE NETWORKS

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Abstract

To ensure that families with social and behavioral health problems get the support they need, organizations collaborate in child service networks. These networks are generally lead-organization governed. It is assumed that network members have relatively accurate information about the governance mode. However, discrepancies between the formally administered and perceived governance mode could raise legitimacy questions and lead to conflicts, and ultimately affect network effectiveness. Therefore, we investigated to what extent such discrepancies exist and how they might be explained. Hereby, the focus was on the concepts level of trust, interaction, and strength of relationship with the lead organization in the network. A comparative case study was conducted of three inter-organizational networks of child services in different-sized municipalities in the Netherlands in 2018 and 2019. A multiple generalized linear mixed model analysis was used. We found that only a minority of the network members had an accurate perception of the governance mode. This awareness did improve over time. The level of interaction and relationship strength with the lead organization were independently associated with an accurate perception of the governance mode. Trust of a network member in the network, however, had no significant association. These insights underline the necessity to consider network information accuracy as an important variable for understanding network behavior and as crucial for the effective delivery of child services.

Introduction

Needs of families with social and behavioral health problems often exceed the expertise and possibilities of a single professional practitioner, service or organization. Cross-service collaboration is therefore vital to adequately meeting those needs [1-6]. For comprehensive, tailored and seamless service delivery, it is important that there is sufficient collaboration between organizations within the child welfare and healthcare system (hereinafter referred to as child service network). A child service network includes mental health care, education, childcare and nursery, safety, protection and social rehabilitation, specialized youth care, community service and social support. However, if organizations are reluctant to share resources and there is a lack of coordination or collaboration within the child service network, the risk is considerable that families receive inadequate treatment or fall through the organizational cracks of that system [7, 8].

In the last decade, the Netherlands, like many other countries, implemented a state reform that shifted key responsibilities of child services from the central to the local level of government [9-14]. This decentralization has made municipalities fully responsible for youth policy. To ensure that families get the support they need, municipalities have established child service networks consisting of organizations with access to diverse expertise and resources [10, 13, 15-19].

The importance of network governance, i.e. the management of a network [20], for the success of a service delivery system is well established in the public administration literature [21-32]. It is widely recognized that there are three distinct network governance modes: shared governed, lead organization-governed, and network administrative organization governed [25]; each with its own requirements concerning the structure of the network and the position of key organizations in it (see Figure 1). Studies on network governance often at least implicitly assume that organizations in the network have relatively accurate information about the network governance mode [29, 33], and that they purposefully act on the basis of the network structure and their relative position in it [34]. However, network accuracy

literature has shown that very often there is a discrepancy between the perception of network members regarding linkages between and positions of third parties in a network and the objectively existing ones [35-37].

As is often the case in publicly funded health services, child service networks are almost always *horizontal* lead organization-governed. This governance mode is based on horizontal relationships, in contrast to *vertical* lead-organization governance in business with explicit buyer-supplier relationships. In the horizontal governance mode, one organization of the network has sufficient resources and legitimacy to play a lead role [25, 38]. The network manager of this organization plays an important role in the network governance. To lead the network, the manager needs to know the pattern of relationships that structures key processes such as information sharing, client referral and administration [26, 39]. Discrepancies between the formally administered governance mode and the perception by the network members could affect the extent to which a network manager can play an effective and strategically important role in the network [40, 41]. For example, it would not be effective if many network members perceive a shared governance mode in what is actually a lead-organized governed network. These members will consider themselves actively involved in governance responsibilities for the network, while that is the task and role of the lead organization. Discrepancies between the formally administered and the perceived network governance structure can therefore raise legitimacy questions and lead to conflicts, and ultimately affect the effectiveness of the network [25, 26, 29, 30].

This study investigates to what extent discrepancies exist between the formally administered and the perceived mode of governance in child service networks and how these discrepancies might be explained. We focus on three important concepts in the study of networks and their governance: *the level of trust*, *the level of interaction* and *the strength of relationship* with the lead organization in the network [22, 27, 28, 36, 38, 42]. In general, *the level of trust* and the functioning of a network are positively related [43, 44]. Organizations that have more trust in the other organizations are more committed to the network [22, 43, 45, 46], leading to a higher engagement

with the network and making it more likely that actors in the network will accurately perceive the formally administered mode of governance. An organization's *level of interaction* with other organizations in a network is based on its structural position within that network [42]. Central organizations interact with more other organizations and are therefore more embedded in the flow of information in the network, including knowledge about the formally administered mode of governance, than non-central actors [27, 36, 42, 45, 47]. Since all major network-level activities and key decisions should be coordinated through and by the lead organization, *a strong relationship* with this organization probably contributes to a network member's understanding of the mode of governance [25, 38].

To our knowledge, assessing discrepancies between the formally administered and perceived network governance mode has not been studied previously. Accordingly, this study can support network managers with insights on how to optimize the functioning of their network. This study has two purposes: (1) to investigate to what extent network members know which mode of governance is formally administered in the network and (2) to assess whether the level of trust, the level of interaction and the strength of relationship with the lead organization can explain possible discrepancies between the formally administered and perceived network governance.

Methods

Research setting

In this research, a comparative case study was conducted of three inter-organizational networks of child services in different-sized municipalities in the Netherlands [48, 49]. Network I was located in a midsize municipality (around 180,000 citizens), Network II in a small municipality (around 66,000 citizens), and Network III covered four very small municipalities that collaborate in providing child services (with 13,000-20,000 citizens per municipality, i.e., a total of about 60,000 citizens).

Data collection

The data of the three networks were collected at two moments in time. The first data collection took place in the period of November 2017 to September 2018, the second in the period of April to September 2019. Both data collections consisted of two steps. First, semi-structured interviews with the network managers were conducted. The aim of the interviews was to verify the formally administered mode of governance, to determine the goals of the network, to define the boundaries of the network by determining the network members, and to select representatives of the network members as potential respondents for the online questionnaire. Second, an online questionnaire was fielded among the representatives of the network members.

Research population and boundary specification

A combination of the nominalist and realist approach to network boundary specification was applied. We nominally defined a criterion to include organizations first and then used the judgment of participating individuals in the network to determine the boundaries [50]. The research population consisted of organizations that participate in the child service networks, i.e., network members, with the representatives of the network members as the units of observation [51]. The following definition of a network was used: *the network of child services consists of organizations that, according to the network manager, work with the local government to achieve the main network goal of the Child and Youth Act*. The respondents were employees who act as boundary spanners between organizations in the network [22, 52]. The network managers - the responsible managers of the municipalities' child and youth support departments - were asked to identify the network members and to select the boundary spanners for each network. The selection of network members, including boundary spanners, was verified by colleagues of the municipalities' child and youth support department and compared to information on network members kept by the department's administrative system.

Since the individual professionals of some network members operate within a limited working area – such as school care coordinators, school

attendance officers, general practitioners (family doctors) and organizations for childcare and nursery - we invited more than one boundary spanner from these network members. For example, in Network I there are a total of thirty general practitioners in the municipality. As the working area of one general practitioner is limited to a small part of the municipality, we invited them all to participate.

For Network I, we also used a threshold for the selection of network members from the sector 'specialized youth care organizations'. As a relatively large number of these organizations only had a few juveniles in treatment in one year and therefore held peripheral positions in the network, we selected only the organizations that had a minimum of six juveniles receiving care in 2017 (94 of 162 organizations) and in 2018 (92 of 172 organizations). This threshold is generally used for privacy reasons. The final selection of specialized care organizations per network together looked after between 82% and 98% of all juveniles residing in that municipality who received specialized care in the years 2017 or 2018. In this way we were able to combine a representative participation of the specialized youth care organizations with a questionnaire that was manageable for all respondents. The networks included organizations from various sectors. Table 1 presents the different sectors and provides examples of organizations and professional groups that belong to a sector. Even though they differ in size, the three networks include the same types of organizations. Network I, with 135 and 132 participating organizations in respectively 2018 and 2019, is the largest network compared to Network II with respectively 86 and 67, and Network III with 75 and 73 organizations. All sectors are present in the networks, except for volunteer organizations in Network II, since the network manager did not list them as network members. In 2018, the number of responding network members of respectively Network I, II and III was 70 (52%), 49 (57%) and 51 (68%) organizations. In 2019, the response rate of respectively Network I, II and III was 77 (58%), 39 (58%) and 44 (60%) organizations. Table 1 presents per sector the total number of responding network members of the three networks per year. Apart from the general practitioners, all the expected core network members responded. Most of the non-responders were network members that were expected to be at the network periphery,

such as the municipality's department of safety, organizations for childcare and nursery, or organizations for youth protection & social rehabilitation.

Table 1. Sectors, examples of organizations and professional groups in the networks and response

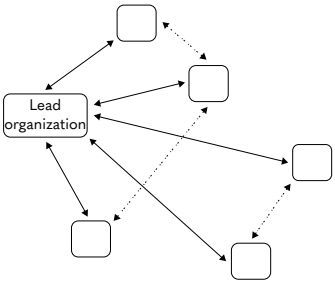
		Response 2018 (%)	**Response 2019** (%)
Total number of responding network members		**170** (57%)	**160** (59%)
Sectors	*Examples of organizations and professional groups*		
Center for youth and family	child and youth welfare and healthcare center	3 (100%)	3 (100%)
Municipal government	youth care expert team, youth and family team, school attendance officers, youth/social support/community service/employment/safety/procurement & contracting departments of the municipal government	21 (75%)	23 (77%)
Basic social organization	social work, welfare work, disabled support, youth and family support, library, food bank, refugee council	23 (70%)	23 (72%)
Education	care coordinators primary and secondary education	6 (100%)	6 (100%)
General practitioners	child and family doctors	1 (33%)	0 (0%)
Health and prevention	child and youth health care center, infant welfare center	5 (83%)	5 (83%)
Childcare and nursery	pre-school, child day-care center, nursery, after school-care including homework support	3 (75%)	2 (67%)
Specialized youth care	youth mental health care, child and youth care, (forensic) psychiatry, orthopedagogy, psychology, disabled childcare	83 (48%)	80 (54%)
Protection & social rehabilitation	youth protection, youth probation officers, juvenile social rehabilitation	8 (62%)	4 (31%)
Safety	police officers responsible for juveniles, protection against child maltreatment, safe houses (crime prevention), public prosecution department, family & youth court, juvenile prison, childcare & protection board, community service supervisor	14 (82%)	14 (82%)

		Response 2018 (%)	Response 2019 (%)
Volunteer organization	Village or ward council, social policy advisory council, informal help for family or neighbors, community center, scouting/music/sport/leisure clubs	6 (60%)	3 (30%)

Measurement

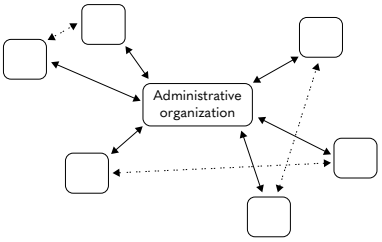
Mode of governance was measured with a description and graphic illustration of three modes of governance adapted from Provan & Kenis [25,38:447; see Figure 1]. The network managers were asked to indicate which mode of governance their municipality formally administered. All three child service networks appeared to be lead organization governed. In the questionnaire, the respondents were asked to indicate what description fit the governance mode of their network.

Figure 1. Description of three modes of governance



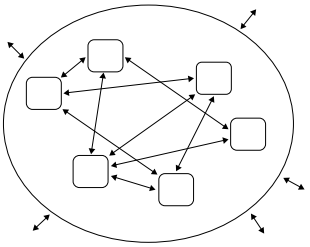
Lead organization governed

One of the network members acts as a lead organization. This organization has sufficient resources and legitimacy to fulfil the lead role. The lead organization has a central position in the flow of, for instance, clients and resources in the network.



Network administrative organization (NAO)

A separate administrative entity is set up specifically to govern the network. This organization plays a key role in coordinating and sustaining the network and its activities. This organization does not provide its own services like other organizations in the network.



Shared or participant governed

The organizations govern the network by themselves with no separate and unique governance entity. The member organizations collectively make all the decisions and manage network activities.

To measure the *trust* of the respondents in the network as a whole, we adapted the operationalization of the concept from Kramer [22], who based her items on the work by Provan et al. [53, 54]. Following Kramer, we asked the respondents to assess their trust in all organizations together. They were asked to score their opinion on a five-point Likert scale (strongly disagree to strongly agree) for the following statements: I can trust the other organizations to keep their word; I can trust the other organizations to do a good job; I can trust the other organizations to respond to our needs; I can trust the other organizations to respond to the needs of the clients.

The *level of interaction* was measured through degree centrality. Degree centrality applies to an organization's embeddedness with other organizations in a network and is based on its structural position in that network [42]. Degree centrality is defined as the number of other organizations to which an organization is connected [47]. We used normalized scores because as this makes it possible to compare networks of different size. Scores were normalized by dividing them by the maximum possible degree, expressed as a proportion [51]. In the questionnaire, the respondents were presented with a list of all the organizations of the network and were asked to identify the organizations with which their organization had contact at least once a year, including face-to-face contact (meeting, consultation, conference), by telephone or email.

The *strength of the relationship* with the lead organization was measured through frequency of contact between a network member and the lead organization. In the questionnaire, the respondents were asked to indicate the frequency of the contact of their organization with the department of child and youth support, on a four-point scale: several times a year - several times a month - several times a week - (almost) every day.

Method of analysis

To analyze the data collected with the questionnaire, we used the statistical programs of SPSS, Excel and Ucinet [55]. First, we converted the relational data (contact and frequency) in Excel into adjacency matrices that were inserted in Ucinet. We determined and applied the following rules to create

the adjacency matrices. The adjacency matrix of contact, used to compute level of interaction, consisted of all the network members. A relation between two network members was coded as existing if at least one of the (boundary spanners of the) network members indicated this relation. The adjacency matrices of frequency of contact, used to compute the strength of the relationship with the lead organization, consisted of only the network members that responded. Since 'frequency' is an ordinal variable, the following rule was applied to calculate the frequency of contact per network member: we used the highest score if the boundary spanners were from the same organization and the median if boundary spanners were from the same organization but organized in different sub organizations or sub teams. In Ucinet we computed normalized degree centrality.

The second step in the analysis consisted of analyzing the concepts of trust and the perceived mode of governance in SPSS. We calculated per network member the mean score on the four items of trust (Cronbach's alpha = 0.88 in 2018 and 0.91 in 2019). We used the modus to calculate the perceived mode of governance per network member. If the answers of the respondents of the same organization were equally spread over the three modes of governance, then lead organization was selected as the final answer.

Finally, to explain the differences in network members' accurate perception of the governance mode, we used generalized linear mixed models in SPSS. We used mixed effect models to control for the dependency in the data [56]. This dependency is a result of the longitudinal and case study design; the same network member could have responded at T0 and T1, and multiple responses from the same network member (organization) are expected to be more similar than responses from other network members. Also, responses from network members nested in the same network are expected to be more similar. Therefore, 'network member' (organization) and 'network' were selected as random effects. The dependent variable was whether or not the network members' perception of the mode of governance matched the formally administered one. In case of a match, they received the score '1', while a choice for one of the two other modes of governance resulted in a '0'. First, univariate logistic regression analyses were conducted including the

following independent variables: trust, level of interaction and relationship strength with the lead organization. Second, the same variables were included in the multiple logistic regression analysis of the generalized linear mixed model. Since networks are not static but dynamic systems [24, 57-59], we controlled in the multivariable model for time of measurement.

Results

According to the network managers, the child service networks are governed by a lead organization, i.e., the municipality's department of child and youth support. Table 2 reports descriptive statistics for the perceived mode of governance, the strength of the relationship with the lead organization, the level of trust and the level of interaction at two points in time.

Table 2. Mode of governance, relationship strength, trust, level of interaction at two points in time.

	2018 (N170)		**2019** (N160)	
	N	**Percentage**	**N**	**Percentage**
Perceived governance mode				
Shared/participant governed	94	55%	82	51%
Lead organization governed	55	32,5%	64	40%
Network administrative organization governed (NAO)	21	12,5%	14	9%
Relationship strength lead organization *(frequency of contact)*				
no contact	78	46%	79	49%
(almost) every day	11	6%	9	6%
several times a week	12	7%	10	6%
several times a month	29	17%	34	21%
several times a year	40	24%	28	18%
	Mean	**SD**	**Mean**	**SD**
Trust *(range 1-5; 1 = low, 5 = high)*	4.03	0.59	3.94	0.69
Level of interaction *(normalized degree centrality, range 0-1; 0 = low, 1 = high)*	0.32	0.19	0.36	0.21

Table 2 shows that, in both years, a minority of the network members state that the governance mode is lead organization-governed. Further, there are generally high scores on trust in both years. Also, the average organization's embeddedness with other organizations in the network is relatively low in 2018 and 2019 (normalized degree centrality of resp. 0.32 and 0.36). Finally, just a small majority of the network members has contact with the lead organization. Table 3 reports the results of the generalized linear mixed model analyses.

Table 3. Generalized linear mixed model analysis mode of governance

Variables	Univariable models ORs (95% CI)	Multivariable model ORs (95% CI)
Trust	0.90 (0.70 -1.15)	0.97 (0.82-1.16)
Level of interaction	6.13**(2.12-17.69)	4.98** (3.27-7.58)
Relationship strength lead organization		
no contact	Reference	Reference
(almost) every day	4.70** (1.68-13.18)	3.20*(1.17-8.76)
several times a week	0.92 (0.57-1.46)	0.67 (0.41-1.09)
several times a month	0.92 (0.43-1.97)	0.68 (0.31-1.48)
several times a year	1.31 (0.46-3.75)	1.13 (0.43-2.99)
Time of measurement	1.46* (1.01-2.12)	1.48* (1.05-2.08)

Dependent variable was governance mode, defined as 'lead organization' (1= match, 0 = shared/participant governed or NAO). Controlled for 'time of measurement', random effects were 'network member' (organization) and 'network'.
* $p < .05$ (two-tailed), ** $p < .01$ (two-tailed)

On the univariable level, there is no significant association between trust and an accurate perception of the mode of governance. Both, the level of interaction and the strength of the relationship with the lead organization are significantly associated with an accurate perception of the governance mode. Further, in the multivariable model there is a statistically significant relationship between the level of interaction and an accurate perception of the governance mode, indicating that, independently of the strength of the relationship with the lead organization and time of measurement, a high level of interaction is related to an accurate perception of the mode of governance. Also, there is a significant positive relationship between the

strength of the relationship with the lead organization and the perceived mode of governance, indicating that having a strong relationship, i.e. (almost) daily contact with the lead organization is independently associated with an accurate perception. Finally, there is a significant positive relationship between time of measurement and the perceived mode of governance. The level of agreement on lead organization-governed as mode of governance was higher in 2019 than in 2018.

Discussion

In this study, three child service networks were examined at two points in time to determine discrepancies between the formally administered and perceived mode of governance and how trust, level of interaction and relationship strength with the lead organization influence this perception among network members. The results show that the generally held assumption that network members know which governance mode is formally administered does not hold. Instead, the case studies show clearly that only a minority of the network members perceive the network as lead organization-governed. To better understand this discrepancy, we examined the influence of trust, level of interaction and relationship strength with the lead organization on network members' accurate perception of the governance mode. Network accuracy is important as it supports organizations in making more fine-grained assessments of both opportunities and risks of collaborating with certain partners [60, 61]. However, research that assesses network accuracy in inter-organizational settings is scarce [61]. The approach of our study meets the call for a better understanding from both a structural and behavioral perspective on the antecedents of (in)accurate network observations [62, 63].

Despite earlier findings by Kramer [22] and Klijn et al. [43] that trust increases commitment and information sharing, which makes it more likely that network members accurately perceive the formally administered mode of governance, this association cannot be confirmed based on our results. The explanation for this is probably methodological, since the scores on trust

were generally high and had small standard deviations, indicating that about 95% of the scores lie between 2.85 and 5 in 2018 and between 2.56 and 5 in 2019.

By contrast, the level of interaction with other network members and the relationship strength with the lead organization are independently associated with an accurate perception of the mode of governance. This means that organizations with a core position in the network (high level of interaction) and a strong relationship with the lead organization (high frequency of contact) have - of all network members - most often an accurate perception of the governance mode. Since the variables are independently associated with an accurate perception, also organizations at the periphery of the network (low level of interaction) have more often an accurate perception when they have a strong relationship with the lead organization. Organizations that do not have a strong relation with the lead organization, still have more often an accurate perception when they have a central position in the network. Further, we have found that, whatever position organizations have in the network or how weak or strong the relationship with the lead organization is, when a network longer exists the perception of its members on the governance mode becomes more accurate. These findings can be explained by the constructivist theory that suggests that social interaction promotes knowledge acquisition and that shared social position in the network (degree centrality) leads to shared knowledge [64]. It has been argued that discrepancy in accuracy depends on both cognitive processing and knowledge and position in the social structure [35]. Following this line of reasoning at an organizational level, the same could be argued at the network level. As boundary spanners spend time in the network, they acquire information about the governance mode of the network and they share organizational knowledge with those who are in similar network positions. The effect of relationship strength is only extent for members who have contact with the lead organization (almost) every day. This finding suggests that relational strength is an all-or-nothing-effect. However, in the literature, it has been argued that relationship strength is determined by more than just frequency, such as the requirement of reciprocity [28, 65, 66]. Further research should explore whether a more

nuanced definition of relationship strength generates a similar effect.

Another explanation of the found differences in perception could be the possibility of the mechanism of homophily, i.e. the tendency of actors to form connections with and share opinions and behaviors of others who are similar to themselves [67]. This suggests that the type of organization (sector) could also explain the differences in network members' accurate perception of the governance mode. The number of network members is, however, for some sectors small and for that reason controlling for sector becomes less meaningful. Time could also provide a part of the explanation. When a network system matures over time, experience with the operational management will accumulate and conflicts will be sorted out. As a consequence, knowledge and information about network members and their actions, especially regarding central players, will spread and reputations will become more established [42]. A part of the organizations was already before the decentralization member of the local network of youth support, which might have influenced their perception as their relations are more cemented. Although there was only one year between the measurements in our study, we found that in 2019 significantly more network members than in 2018 knew that the mode of governance was lead organization governed.

The discovery of considerable differences in network members' accurate perception of the governance mode and the influence of interaction and position on that accuracy, has implications for network leadership. Network managers should be aware of this mechanism as this insight could strengthen their management strategies of the network relationships regarding key processes such as information sharing, client referral and administrative processes [26, 39, 40]. Indeed, the governance of networks is mainly about the governance of relationships, i.e. the strategic activity focused on the understanding and influencing of interaction between organizations within the network [68, 69]. To help ensure that families timely get the support services they need from professionals with the required skills, appropriate relations between organizations are needed [2, 5]. For example, to be able to refer clients between organizations in the network in a proper way, organizations with a gatekeeper function need

to have relations with a majority of the organizations in the network [70]. Gatekeepers are organizations that are legally authorized to refer clients to child and youth services covered by the Child and Youth Act. Also, an important facilitator for cross-service collaboration is the presence of information exchange relationships within a child service network [6, 8, 71]. As information exchange is vital for a shared understanding of families' needs, a timely response and inter-professional collaboration, network managers should consider strategies to build and preserve internal stable relationships [43, 72]. An important point of concern for network managers is that they cannot effectively play the lead role when the purported lead organization is not identified as such by the network members.

For a large service network with a small number of core organizations and a large periphery, it is however questionable whether each network member needs to be aware of the formally administered mode of governance to be an effective network. A more obvious precondition would seem to be the presence of a mechanism similar to the idea of selective integration; i.e. that 'network links must be targeted and appropriate, so that those organizations that need to work closely together do so, while others do not' [26]. Here it is also important that the type of relationship, i.e., horizontal or vertical, with the lead organization is considered. It has been shown that the structure of the network depends on the tangibility of resources being exchanged [72-76]. This could mean that organizations in the network that primarily exchange tangible resources with the lead organization, such as financial capital through contracts and invoices, function better with a vertical, buyer-supplier relationship with the lead organization. Organizations that also need to exchange more intangible resources with the lead organization, such as knowledge-based information on for example clients' needs and effective treatment, however thrive on horizontal relationships. Further research should investigate to what extent all network members need to have an accurate perception of its governance mode - including the type of relationship they have with the lead organization - for the network to be effective, or whether it is sufficient for the lead organization to be connected to just a smaller core group of actors who function as brokers to the peripheral actors of the network, which implies a hub and spoke structure [77].

In this study, the governance mode of the network was the focus. Respondents were therefore asked to identify the governance mode, but not to identify the specific lead organization as such. Although this shortcoming has no consequences for the results of this study, it could have added an extra dimension to a deeper understanding of network accuracy. Further research should assess whether the found influence of interaction and position on the accurate perception of the governance mode also holds for the accurate perception of the lead organization in the network. In that context, it would be also relevant to examine whether the theoretical role of the network lead organization corresponds with its empirical role that emerges from the actual patterns of interaction within the network, in social network analysis referred to as 'social roles' based on equivalence [78].

Although our research findings underline the previous call to consider network information accuracy as an important variable for understanding strategic network behavior [36, 40, 41], we did not examine whether the differences in perception of the governance mode have an actual impact on their behavior within the network and on network effectiveness, which should receive more attention in further research. This is all the more relevant since both the behavioral and structural dimension of network governance are important determinants of network effectiveness [25, 26, 30, 31].

Several methodological comments can be made regarding this study. First, our focus on Dutch child service networks may limit the generalizability of our findings. However, we used a broadly comparable context, since many countries have implemented governance reforms including a decentralization of social care systems such as public health [9, 11, 12, 14], social work and child and youth welfare services [10, 79-81]. Second, as whole network data allows for very powerful descriptions and analyses of social structures, we used the whole network approach which yields the maximum of information [78]. This means that the networks were symmetrized in order to reflect relationships reported by each organizational dyad and to capture any link [82]. However, as this approach examines unconfirmed ties, it may have led to an overestimation of some network

ties, especially for the non-response organizations. Fortunately, except for the general practitioners, all the expected core network members responded. Most of the non-responders were network members at the periphery of the network, such as the municipal government's department of safety, organizations for childcare and nursery, or organizations for youth protection and social rehabilitation. Third, the role of the municipality as purchaser - rather than network member for the specialized youth care providers - could have been dominant and might explain the lack of interaction that many of those providers in the networks have with them as lead organization. Finally, beside the time variable, the model does not contain other control variables. Factors such as the market share an organization holds in each municipality, the size of the organization, how long the provider has been active in the area, and financial situation of the provider could have played a role in the perception of the governance mode within the network. Unfortunately, information about these variables was not available.

Conclusions

This study underlines the importance of studying both the formally administered and the perceived mode of governance. The found differences in network members' accurate perception of the governance and the influence of interaction and position of that accuracy have implications for policy and management. These insights are valuable for network managers as they provide leads for optimizing the functioning of their network and are therefore crucial for the effective delivery of child services.

References

1. Brooks, F., Bloomfield, L., Offredy, M. & Shaughnessy, P. (2013). Evaluation of services for children with complex needs: mapping service provision in one NHS Trust. *Primary Health Care Research & Development*, *14*(1),52-62.
2. Brown, S.M., Klein, S. & McCrae, J.S. (2014). Collaborative relationships and improved service coordination among child welfare and early childhood systems. *Child Welfare, 93*(2), 91-116.
3. Bunger, A.C., Doogan, N.J. & Cao, Y. (2014). Building service delivery networks: Partnership evolution among children's behavioral health agencies in response to new funding. *Journal of the Society for Social Work and Research, 5*(4), 513-538.
4. Colvin, M.L. (2017). Mapping the inter-organizational landscape of child maltreatment prevention and service delivery: A network analysis. *Children and youth services review, 73*, 352-359.
5. Colvin, M.L. & Miller, S.E. (2020). The role of complexity theory and network analysis for examining child welfare service delivery systems. *Child & Youth Services, 41* (2), 160-83.
6. Nooteboom, L., Mulder, E.A., Kuiper, C.H.Z., Colins, O.F. & Vermeiren, R.R.J.M. (2021). Towards Integrated Youth Care: A Systematic Review of Facilitators and Barriers for Professionals. *Administration and Policy in Mental Health and Mental Health Services Research, 48*(1), 88-105.
7. Bustos, T.E. (2020). A Scoping Review of Social Network Analyses in Interorganizational Collaboration Studies for Child Mental Health. *Children and Youth Services Review, 119*, 105569.
8. Cooper, M., Evans, Y. & Pybis, J. (2016). Interagency collaboration in children and young people's mental health: a systematic review of outcomes, facilitating factors and inhibiting factors. *Child: Care, Health and Development, 42*(3), 325-342.
9. Abimbola, S., Baatiema, L. & Bigdeli, M. (2019). The impacts of decentralization on health system equity, efficiency and resilience: a realist synthesis of the evidence. *Health policy and planning, 34*(8), 605-617.
10. Anttonen A., Baldock, J. & Sipilä, J. (2003). *The young, the old, and the state: social care systems in five industrial nations*. Edward Elgar Publishing.
11. Jiménez-Rubio, D. & García-Gómez, P. (2017). Decentralization of health care systems and health outcomes: Evidence from a natural experiment. *Social Science & Medicine*, *188*, 69-81.
12. Muñoz, D.C., Amador, P.M., Llamas, L.M., Hernandez, D.M. & Sancho, J.M.S. (2017). Decentralization of health systems in low and middle income countries: a systematic review. *International journal of public health, 62*(2), 219-229.

13. Sellers, J.M. & Lidström, A. (2007). Decentralization, local government, and the welfare state. *Governance, 20*(4), 609-632.
14. Senkubuge, F., Modisenyane, M. & Bishaw, T. (2014). Strengthening health systems by health sector reforms. *Global health action, 7*(1), 23568.
15. Agranoff R. (2007). *Managing within networks: Adding value to public organizations*. Georgetown University Press.
16. Castells M. (2011). *The rise of the network society*. John wiley & sons.
17. McGuire M. (2002). Managing networks: Propositions on what managers do and why they do it. *Public administration review*, *62*(5), 599-609.
18. Sellers, J.M. (2002). *Governing from below: Urban regions and the global economy*. Cambridge University Press.
19. *Child and Youth Act*. (2014). https://wetten.overheid.nl/BWBR0034925/2019-04-02
20. Milward, H.B., Provan, K.G. (2006). *A manager's guide to choosing and using collaborative networks*. IBM Center for the Business of Government, Washington, DC.
21. Isett, K.R., Mergel, I.A., LeRoux, K., Mischen, P.A. & Rethemeyer, R.K (2011). Networks in public administration scholarship: Understanding where we are and where we need to go. *Journal of public administration research and theory, 21*(suppl_1), i157-i173.
22. Kramer, A.E. (2014). *Resilient networks in healthcare: Effects of structural and cognitive embeddedness on network commitment*. Tilburg University, School of Economics and Management.
23. McGuire, M. (2006). Collaborative public management: Assessing what we know and how we know it. *Public administration review*, *66*, 33-43.
24. Popp, J., Milward, H.B., MacKean, G., Casebeer, A. & Lindstrom, R. (2014). *Inter-organizational networks: a review of the literature to inform practice*. IBM Center for the Business of Government.
25. Provan, K.G. & Kenis, P. (2008). Modes of network governance: Structure, management, and effectiveness. *Journal of public administration research and theory, 18*(2), 229-252.
26. Provan, K.G. & Lemaire, R.H. (2012). Core concepts and key ideas for understanding public sector organizational networks: Using research to inform scholarship and practice. *Public Administration Review, 72*(5), 638-648.
27. Provan, K.G. & Milward, H.B. (1995). A Preliminary Theory of Interorganizational Network Effectiviness: A Comparative Study of Four Community Mental Health Systems. *Administrative Science Quarterly, 40*(1), 1-33.
28. Provan, K.G. & Milward, H.B. (2001). Do networks really work? A framework for evaluating public-sector organizational networks. *Public administration review, 61*(4), 414-423.
29. Raab, J., Mannak, R.S. & Cambré, B. (2015). Combining structure, governance, and context: A configurational approach to network effectiveness. *Journal of public administration research and theory, 25*(2), 479-511.

30. Saz-Carranza, A. & Ospina, S.M. (2011). The behavioral dimension of governing interorganizational goal-directed networks—Managing the unity-diversity tension. *Journal of Public Administration Research and Theory, 21*(2), 327-365.
31. Smith, J.G. (2020). Theoretical Advances in Our Understanding of Network Effectiveness. *Perspectives on Public Management and Governance, 3*(2), 1-16.
32. Turrini, A., Cristofoli, D., Frosini, F. & Nasi, G. (2010). Networking literature about determinants of network effectiveness. *Public Administration, 88*(2), 528-550.
33. Iborra, S.S., Saz-Carranza, A., Fernández-i-Marín, X., Albareda, A. (2017) The Governance of Goal-Directed Networks and Network Tasks: An Empirical Analysis of European Regulatory Networks. *Journal of Public Administration Research and Theory, 28*(2), 270-92.
34. Rowley, T. J., & Baum, J. (2008). The dynamics of network position. *Advances in Strategic Management, 25*, 563-93.
35. Casciaro T. (1998). Seeing things clearly: Social structure, personality, and accuracy in social network perception. *Social Networks*, *20*(4), 331-51.
36. Knoben, J., Oerlemans, L.A., Krijkamp, A.R. & Provan, K.G. (2018). What do they know? The antecedents of information accuracy differentials in interorganizational networks. *Organization Science*, *29*(3), 471-88.
37. Krackhardt, D. (1990). Assessing the political landscape: Structure, cognition, and power in organizations. *Administrative science quarterly*, 342-69.
38. Kenis, P. & Provan, K.G. (2009). Towards an exogenous theory of public network performance. *Public administration, 87*(3), 440-456.
39. Kenis, P. & Raab, J. (2020). Back to the future: Using organization design theory for effective organizational networks. *Perspectives on Public Management and Governance, 3*(2), 109-123.
40. Balkundi, P. & Kilduff, M. (2006). The ties that lead: A social network approach to leadership. *The leadership quarterly, 17*(4), 419-39.
41. Kilduff, M. & Krackhardt, D. (2008). *Interpersonal networks in organizations: Cognition, personality, dynamics, and culture*. Cambridge University Press.
42. Provan, K.G., Huang, K. & Milward, H.B. (2009). The evolution of structural embeddedness and organizational social outcomes in a centrally governed health and human services network. *Journal of Public Administration Research and Theory, 19*(4), 873-893.
43. Klijn, E.-H., Edelenbos, J. & Steijn, B. (2010). Trust in governance networks: Its impacts on outcomes. *Administration & Society, 42*(2), 193-221.
44. Zaheer, A., McEvily, B. & Perrone, V. (1998). Does trust matter? Exploring the effects of interorganizational and interpersonal trust on performance. *Organization science, 9*(2), 141-159.
45. Cook, K.S. & Emerson, R.M. (1978). Power, equity and commitment in exchange networks. *American sociological review*, 721-39.

46. Nooteboom, B., Berger, H. & Noorderhaven, N.G. (1997). Effects of trust and governance on relational risk. *Academy of management journal, 40*(2), 308-338.
47. Scott, J. & Carrington, P.J. (2011). *The SAGE handbook of social network analysis*. Sage publications, Thousand Oaks, CA.
48. Collins, K.M., Onwuegbuzie, A.J. & Jiao, Q.G. (2007). A mixed methods investigation of mixed methods sampling designs in social and health science research. *Journal of mixed methods research, 1*(3), 267-294.
49. Swanborn, P. (2010). *Case study research: What, why and how?* Sage publications, Thousand Oaks, CA.
50. Laumann, E.O., Marsden, P.V. & Prensky, D. (1989). The boundary specification problem in network analysis. *Research methods in social network analysis*, *61*, 87.
51. Wasserman, S. & Faust, K. (1994). *Social network analysis: Methods and applications*. Cambridge university press.
52. Williams, P. (2002). The competent boundary spanner. *Public administration, 80*(1), 103-124.
53. Provan KG, Harvey J, Guernsey de Zapien J. Network structure and attitudes toward collaboration in a community partnership for diabetes control on the US-Mexican border. Journal of Health Organization and Management. 2005;19(6):504-18.
54. Provan KG, Veazie MA, Staten LK, Teufel-Shone NI. The use of network analysis to strengthen community partnerships. Public Administration Review. 2005;65(5):603-13.
55. Borgatti, S.P., Everett, M.G. & Freeman, L.C. (2002). *Ucinet for Windows: Software for social network analysis*. (Vol. 6), Analytic technologies, Harvard, MA.
56. Hox, J.J., Moerbeek, M. & Van de Schoot, R. (2010). *Multilevel analysis: Techniques and applications*. Routledge.
57. Ahuja, G., Soda, G. & Zaheer, A. (2012). The genesis and dynamics of organizational networks. *Organization science, 23*(2), 434-448.
58. Lemaire, R.H., Mannak, R.S., Ospina, S.M. & Groenleer, M. (2019). Striving for State of the Art with Paradigm Interplay and Meta-Synthesis: Purpose-oriented Network Research Challenges and Good Research Practices as a Way Forward. *Perspectives on Public Management and Governance, 2*(3), 175-186.
59. Page, S.B., Stone, M.M., Bryson, J.M. & Crosby, B.C. Coping with Value Conflicts in Interorganizational Collaborations. *Perspectives on Public Management and Governance*, *1*(4), 239-55.
60. Hahl, O., Kacperczyk, A.O. & Davis, J.P. (2016), Knowledge asymmetry and brokerage: Linking network perception to position in structural holes. *Strategic Organization*, *14*(2), 118-43.
61. Knoben, J., Gilsing, V.A. & Krijkamp, A.R. (2019). From homophily through embeddedness to strategy: The role of network accuracy in partner selection choices. *Long Range Planning, 52*(1), 86-102.

62. Krijkamp, A.R., Knoben, J., Oerlemans, L.A. & Leenders, R.T. (2021). An ace in the hole: The effects of (in) accurately observed structural holes on organizational reputation positions in whole networks. *Journal of Business Research*, *129*, 703-13.
63. Fonti, F., Maoret, M., Whitbred, R. (2015). Cognitive categorization and network perception: Cognitive aggregated social structures in opaque networks. In: *Cognition and strategy*. Emerald Group Publishing Limited.
64. Carley, K. (1991). A theory of group stability. *American sociological review*, 331-54.
65. Jack, S.L. (2005). The role, use and activation of strong and weak network ties: A qualitative analysis. *Journal of management studies, 42*(6), 1233-1259.
66. Marsden, P.V. & Campbell, K.E. (1984). Measuring tie strength. *Social forces, 63*(2), 482-501.
67. Kilduff, M. & Brass, D.J. (2010). Organizational social network research: Core ideas and key debates. *The academy of management annals, 4*(1), 317-357.
68. Minkman, M. (2017). *Verlangen naar integraliteit. Innovatie van organisatie en governance van langdurende integrale zorg*. Rede Prof. dr. Mirella Minkman, Tilburg University.
69. Minkman, M., Zonneveld, N. & Shaw, J. (2021) Positioning Integrated Care Governance: Key Issues and Core Components. In: *Handbook Integrated Care*. Springer, 149-64.
70. Blanken, M., Mathijssen, J., Van Nieuwenhuizen Ch., Raab, J. & Van Oers, H. (2022). Cross-sectoral collaboration: comparing complex child service delivery systems. *Journal of Health Organization and Management, 36*(9), 79-94.
71. Allen, A.D., Hyde, J. & Leslie, L.K. (2012). "I Don't Know What They Know": Knowledge transfer in mandated referral from child welfare to early intervention. *Children and Youth Services Review, 34*(5), 1050-1059.
72. Blanken, M., Mathijssen, J., Van Nieuwenhuizen, Ch., Raab, J., & Van Oers, H. (2022). Intersectoral collaboration at a decentralized level: information flows in child welfare and healthcare networks. *BMC Health Services Research, 22*(1), 449.
73. Alexander, V.D. (1996). Pictures at an exhibition: Conflicting pressures in museums and the display of art. *American journal of Sociology*, *101*(4), 797-839.
74. Huang, K. & Provan, K.G. (2006). Resource Tangibility and Patterns of Interaction in a Publicly Funded Health and Human Services Network. *Journal of Public Administration Research and Theory*, *17*(3), 435-54.
75. Provan, K.G. & Huang, K. (2012). Resource tangibility and the evolution of a publicly funded health and human services network. *Public Administration Review, 72*(3), 366-375.
76. Phelps, C., Heidl, R. & Wadhwa, A. (2012). Knowledge, networks, and knowledge networks: A review and research agenda. *Journal of management*, *38*(4), 1115-66.
77. Nowell, B., Steelman, T., Velez, A-L.K. & Yang, Z. (2018). The structure of effective governance of disaster response networks: Insights from the field. *The American Review of Public Administration*, *48*(7), 699-715.

78. Hanneman, R.A. & Riddle, M. (2005). *Introduction to social network methods*. University of California, Riverside, CA.
79. Allers, M.A. (2013). Decentralization with national standards. The case of the Netherlands. *Balance between decentralization and merit*, 119-30.
80. Bosscher, N. (2012). *The decentralisation and transformation of the Dutch youth care system*. (Accessed 30 September 2013) https://www.nji.nl.
81. Dijkhoff, T. (2014). The Dutch Social Support Act in the shadow of the decentralization dream. *Journal of Social Welfare and Family Law, 36*(3), 276-294.
82. Provan, K.G., Leischow, S.J., Keagy, J. & Nodora, J. (2010). Research collaboration in the discovery, development, and delivery networks of a statewide cancer coalition. *Evaluation and program planning, 33*(4), 349-355.

Chapter 4

INTERSECTORAL COLLABORATION AT A DECENTRALIZED LEVEL:

information flows in child welfare and healthcare networks

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Abstract

As needs of families with social and behavioral health problems often exceed the expertise and possibilities of a single professional, service or organization, cross-service collaboration is indispensable to adequately meeting those needs. Despite the progressive focus on organizing integrated care, service fragmentation and service duplication remain persistent problems in child welfare and healthcare service delivery systems. A crucial factor to overcome these problems is information exchange between organizations. This study explores and compares the development over time of structures of information exchange in networks, concerning both material and knowledge-based information.

A comparative case study and social network analysis of three inter-organizational networks of child welfare and healthcare services in different-sized municipalities in the Netherlands. The research population consisted of organizations from various sectors participating in the networks. Data were collected at two moments in time with a mixed method: semi-structured interviews with network managers and an online questionnaire for all network members. Density and degree centralization were used to examine the information exchange structures. Ucinet was used to analyze the data, with use of the statistical tests: Compare Density Procedure and Quadratic Assignment Procedure.

This study shows that different structures of information exchange can be distinguished, concerning both material and knowledge-based information. The overall connectedness of the studied structures of the networks are quite similar, but the way in which the involvement is structured turns out to be different between the networks. Over time, the overall connectedness of those structures appears to be stable, but the internal dynamics reveals a major change in relationships between organizations in the networks.

Our study yields empirical evidence for the existence of and the differences between structures and dynamics of both material and knowledge-based information exchange relationships. With a loss of more than a half of

the relations in a year, the relationships between the organizations in the network are not very stable over time. The contrast between major internal dynamics and the stable overall connectedness is an important point of concern for network managers and public officials, since this impermanence of relations means that long-term integrated care cannot be guaranteed.

Background

As needs of families with social and behavioral health problems often exceed the expertise and possibilities of a single professional, service or organization, cross-service collaboration is indispensable to adequately meeting those needs [1-3]. It is for that reason important that organizations within the child welfare and healthcare service system collaborate sufficiently, for instance by sharing resources such as staff, equipment, information about clients' conditions and effective treatment. Otherwise, the risk that these families receive an inadequate treatment or fall through the organizational cracks of that system is considerable [4, 5]. To this end, there has been - in the past ten years - a progressive focus on organizing integrated care through collaborating in cross-sectoral service delivery networks [6-11]. Unfortunately, service fragmentation and service duplication remain persistent problems in child welfare and healthcare service delivery systems [4, 5].

A crucial means to overcome these problems is information exchange between the organizations that constitute a network of welfare and healthcare services [2, 5, 9, 12-16]. There is strong evidence that sharing information - including case reports and substantive expertise - in an accessible and comprehensible way is an important facilitator to provide integrated care [5, 8, 17]. Information exchange between organizations is vital for a shared understanding of families' needs, a timely response and inter-professional collaboration within a welfare and healthcare service system [2, 17]. Therefore, to get a grip on these key processes and to ultimately achieve an effectively operating care network, insight into the flow of information is essential not only for public management scholars building theory on networks, but also for network managers and public policy officials [4, 18]. One way of achieving a better understanding of information flows is by analyzing the structure of information exchange relationships [19]. In knowledge networks literature, the focus is frequently on the structural properties of networks [20].

Within a network, different structures can exist. Resource dependency theory argues that organizations in a network will interact with those other network members that control access to the resources they need [21]. The type of resource being considered in the interactions affects the structural properties of networks, because it influences the intrinsic characteristics of organizations. These intrinsic characteristics, such as resource dependency and remit of activity, determine the position and role played by organizations in the interorganizational network [22]. As a result, structures of network relationships can be explained by the tangibility of resources being exchanged in the network [23-25]. Examples of resources are staff, equipment, influence, reputation, referrals, and information. The more tangible the resources that are exchanged in a network, the more likely it is that the structure of relationships based on that resource will be centralized around one or a small number of key organizations, as this organization controls (or these organizations control) access to these resources [25]. The exchange of intangible resources, on the other hand, tends to be diffused among several organizations in the network [25]. This distinction in terms of tangibility also applies for the nature of information, ranging from tangible, material information (contracts, directives, commissions, and invoices) to intangible, knowledge-based information (verbal case reports, interprofessional consultation regarding clients' conditions and effective treatment), more referred to as the tacit–explicit dimension of knowledge [20]. Therefore, we expect that there will be different structures of information exchange within a network. However, given the limited prior research on this topic [26], it is unclear whether such structures of information exchange exist within networks and if so, to what extent networks differ amongst each other in this respect.

In addition, networks are not static but dynamic systems [27-29]. Consequently, it is to be expected that information exchange relationships are continuously evolving, as information exchange is one of the key processes in a network [30, 31]. As a network system matures over time, relationships may become more cemented and robust [32, 33]. Such stability of network relationships turns out to be a major factor in explaining network effectiveness regarding client services [34]. Conversely, flexibility is

important for ensuring rapid network responses in ways that meet changing families' needs [35]. However, studies applying longitudinal network analyses in the field of (child) welfare and healthcare services are scarce [4, 26, 36, 37]. Therefore, it is unclear how structures of a network vary over time and whether the relations between the individual organizations, i.e., the internal network dynamics, remain the same over time.

Hence, this study explores and compares the development of structures of information exchange in networks over time, concerning both material and knowledge-based information. The research questions are: 1) To what extent can structures of respectively material and knowledge-based information exchange be distinguished in child welfare and healthcare networks? and 2) To what extent do these overall structures change over time and is that pattern similar to the internal network dynamics?

Methods

Research setting

The research field of this study was the societal and administrative context of the Dutch child welfare and healthcare service delivery system. Like many other countries, the Netherlands implemented welfare and healthcare state reforms that shifted key responsibilities from the central to local levels of government [38-43]. Since 2015, municipalities are fully responsible for the child welfare and healthcare service delivery system [44].

In this study, we used a comparative case study approach and social network analysis on three inter-organizational networks of child welfare and healthcare services in different-sized municipalities in the Netherlands [45, 46]. Network I was located in a midsize municipality (around 180,000 citizens), Network II was located in a small municipality (around 66,000 citizens), and Network III covered four very small municipalities that collaborate in providing child welfare and healthcare services (with 13,000-20,000 citizens per municipality, i.e., a total of about 60,000 citizens).

Research population

The research population consisted of organizations that participated in the child welfare and healthcare service delivery networks, i.e. network members, with the representatives of these network members as the units of observation [19]. The following definition of a network was used: *the network of child welfare and healthcare services consists of organizations with whom the local government, according to the network manager, works together to achieve the main network goal of the Child and Youth Act*. Employees who act as boundary spanners between the organizations in the network were the respondents [47, 48]. The network managers - the responsible managers of the municipalities' child and youth support departments - were asked to identify the network members and to categorize them into different sectors, and to select the boundary spanners.

The networks were composed of organizations from various sectors. Table 1 presents the different sectors and provides examples of organizations and professional groups that belong to a sector. Even though they differ in size, the three networks have the same composition. Network I, with 135 and 132 participating organizations in respectively 2018 and 2019, is the largest network compared to Network II with respectively 86 and 67, and Network III with 75 and 73 organizations. All sectors are present in the networks, except for volunteer organizations in Network II, since the network manager did not list them as network members.

Table 1. Sectors and examples of organizations and professional groups in the network

	Sectors	Examples of organizations and professional groups
1.	Center for youth and family	child and youth welfare and healthcare center
2.	Municipal government	youth care expert team, youth and family team, school attendance officers, youth/social support/community service/employment/safety/procurement & contracting departments of the municipal government
3.	Basic social organization	social work, welfare work, disabled support, youth and family support, library, food bank, refugee council
4.	Education	care coordinators primary and secondary education
5.	General practitioners	child and family doctors
6.	Health and prevention	child and youth health care center, infant welfare center
7.	Childcare and nursery	pre-school, child day-care center, nursery, after school-care including homework support
8.	Specialized youth care	youth mental health care, child and youth care, (forensic) psychiatry, orthopedagogy, psychology, disabled childcare
9.	Protection & social rehabilitation	youth protection, youth probation officers, juvenile social rehabilitation
10.	Safety	police officers responsible for juveniles, protection against child maltreatment, safe houses (crime prevention), public prosecution department, family & youth court, juvenile prison, childcare & protection board, community service supervisor
11.	Volunteer organization	Village or ward council, social policy advisory council, informal help for family or neighbors, community center, scouting/music/sport/leisure clubs

Since the individual professionals of some network members operated within a limited working area – such as school care coordinators in education organizations, school attendance officers in municipal organizations, general practitioners (family doctors) and organizations for childcare and nursery – we invited more than one boundary spanner from these network members for the survey. For example, in Network I there were a total of thirty family doctors in the municipality. As the working area of one family doctor was limited to a small part of the municipality, we invited them all to participate in this study. Since the organization is the level of data analysis, we aggregated the results for these boundary spanners to the level of their organization or professional group (see data analysis for information on the applied rules).

For Network I, we also used a threshold for the selection of network members from the sector 'specialized youth care organizations'. As a relatively large number of these organizations only had a few juveniles in treatment in one year and therefore had peripheral positions in the network, we selected only the organizations that had a minimum of six juveniles receiving care in 2017 (94 of 162 organizations) and in 2018 (92 of 172 organizations). This threshold is generally used for privacy reasons. The final selection of specialized care organizations per network together comprised between 82% and 98% of all juveniles residing in that municipality who received specialized care in the years 2017 or 2018. In this way, we were able to strike a balance between a questionnaire that is manageable for the respondents and yields representative information about the specialized youth care organizations. Table 2 displays the number of network members, including the response rates of the online questionnaire.

Table 2. Summary of research population and response

	Network I*		Network II*		Network III*	
	2018	2019	2018	2019	2018	2019
Number of invited network members	135	132	86	67	75	73
Number of responding network members	70	77	49	39	51	44
Response percentage network members	52%	58%	57%	58%	68%	60%

* Network I in municipality with around 180,000 citizens, Network II in municipality with around 66,000 citizens, and Network III in four municipalities with a total of about 60,000 citizens.

Data collection

Data of the three networks were collected at two points in time. The first data collection took place in the period of November 2017 to September 2018 and the second between April to September 2019. Both data collections consisted of two steps. First, semi-structured interviews with the network managers were conducted. The aim of the interviews was to identify the boundaries of the network by determining the network members and categorizing them into different sectors, and to select representatives of the network members as potential respondents for the online questionnaire. Second, an online questionnaire was sent out to the representatives of all the network members, to collect data about both material and knowledge-based information exchange relations between the organizations.

Measures

To measure relationships between the organizations, the respondents were presented a list of all the organizations of the network and were asked to identify the organizations with which their organization had contact at least once a year, including face-to-face contact (meeting, consultation, conference), by telephone or email. Then, to measure the two types of information exchange relationships between the organizations, the respondents were asked to indicate if their organization had contact with the other organizations specifically for sharing material information (practical information such as official directives, contracts, commissions, annual

account, and invoices) and/or knowledge-based information (verbal case reports, and interprofessional consultation regarding clients' conditions and effective treatment).

Density and *degree centralization*, as two global measures of network structure [19], were used to examine the pattern of interaction in information exchange structures, for both material and knowledge-based information. Network density indicates the overall connectedness among organizations in the network, while degree centralization shows how the involvement is structured [25]. *Density* is calculated by dividing the total number of ties in a network by the maximum number of ties possible [49]. The higher the score (ranging from 0 to 1), the more connected the network [50]. *Degree centralization* is the extent to which links are concentrated (or distributed) among the nodes of the network [51]. It refers to the power and control structure of the network [32, 49, 52, 53]. Degree centralization is calculated as the sum of the difference in centrality between the most central node and every other node divided by the sum of the difference between the theoretically most centralized node and every other node [54]. This denominator represents a star network with one node in the middle connected to every other node (while all the other nodes are not connected). Scores range between 0 and 1, with 1 being the highest possible centralization. In a network with a high level of degree centralization, one or more organizations occupy a more central position than others [51].

Data analysis

To analyze the data and to calculate the density and degree centralization of the networks, we used Excel and Ucinet [54]. In Excel, the relational data (material and knowledge-based information exchange) were converted into adjacency matrices that were then inserted in Ucinet. To reflect relationships reported by each organizational dyad and in that way capturing any link, the networks were symmetrized [55]. This method examines unconfirmed or unidirectional network ties, which are ties where a respondent identifies a link between their own and another organization, but the other organization does not confirm (including non-response) this collaboration [53 pp. 350-351]. We applied the following rule to create the adjacency matrices: a

relation between two network members was coded as existing if at least one of the (boundary spanners of the) network members indicated this relation. The missing values were entered as a reciprocal relationship per responding organization (i.e., transposing the column in an adjacency matrix with the corresponding missing rows). This method is known as the procedure of labeled reconstruction to manage non-response [56]. Then, in Ucinet, we computed the global network measures (density and degree centralization) per full network per year.

Subsequently, to compare the overall network structures, we conducted the same analyses of density and degree centralization focusing on only the organizations that are members of the networks in both years (respectively 119, 65 and 71 organizations in Network I, II and III). We used this selection, as statistical tests to compare network structures and over time requires networks with the same actors [57]. To examine whether the connectedness of the material and knowledge-based information exchange structures per network significantly differ from each other and whether the connectedness of the structures significantly changed over time, we used Compare Density Procedure in Ucinet. This procedure uses a bootstrap technique (bootstrap paired sample t-test) to compare the densities of two not necessarily independent networks with the same actors [58].

Finally, to examine the internal network dynamics – i.e., whether the relations between the individual organizations in 2019 were the same as those in 2018 – we used the QAP (quadratic assignment procedure) correlation procedure of Ucinet. QAP identifies the extent of the association in situations where there really is not any systematic connection between the two networks [57]. It compares the observed matching rate of the same type of relationship across two data collection periods (having the same nodes), to the average of a large number of trials in which the actors in the network are randomly matched [25]. As the relations are binary, we used the Jaccard Coefficient. Scores range between 0 and 1, with 0 indicating no overlap and 1 complete overlap between the networks [57].

Results

As Table 3 shows, the material and knowledge-based information exchange structures are clearly distinguishable per full network. In all three networks, the knowledge-based information structure has more than twice as many relations (ties) between organizations as well as a larger overall connectedness (density) compared to the material information structures. In addition, except for Network II in 2019, the exchange of material information takes place in a more centralized structure than the exchange of knowledge-based information, as the degree centralization scores for the material information structures are higher. In 2019, the knowledge-based information structure of Network III had a relatively high density score (.28 the highest score) coupled with a relatively low degree centralization score (.46 the lowest score).

Table 3. Comparative statistics for information exchange structures for the ***full*** networks in each year

Network	Information exchange structures	Number of ties		Density		Degree centralization	
		2018	2019	2018	2019	2018	2019
Network I *N=135 (2018), N=132 (2019)*	Material	1090	1082	0.06	0.06	0.71	0.86
	Knowledge-based	2340	2910	0.13	0.17	0.51	0.76
Network II *N=86 (2018), N=67 (2019)*	Material	572	432	0.08	0.10	0.76	0.67
	Knowledge-based	1230	964	0.17	0.22	0.61	0.76
Network III *N=75 (2018), N=73 (2019)*	Material	562	636	0.10	0.12	0.65	0.55
	Knowledge-based	1426	1464	0.26	0.28	0.64	0.46

To test the significance of the differences between the material and knowledge-based information exchange structures and the significance of the differences over time, we conducted the same analyses focusing on only the organizations that are members of the networks in both years (respectively 119, 65 and 71 organizations in Network I, II and III). Table 4 presents, per network, the results of the compare density procedure of two

types of information exchange structures. For all three networks in both years, there is a significant difference between the densities of the material and knowledge-based information exchange structures. Over time, there was no change in density for material information exchange per network. For knowledge-based information exchange, only the density in Network I increased statistically significantly (from .15 to .19).

Table 4. Compare density procedure of information exchange structures for organizations that are members of the networks in ***both*** years

Network	Information exchange structure	Number of ties		Density	
		2018	2019	2018	2019
Network I (N=119)	Material	948	996	0.07	0.07
	Knowledge-based	2106	2634	0.15[A]	0.19[AB]
Network II (N=65)	Material	426	402	0.10	0.10
	Knowledge-based	880	894	0.21[A]	0.22[A]
Network III (N=71)	Material	526	566	0.11	0.11
	Knowledge-based	1348	1298	0.27[A]	0.26[A]

[A] significant difference in density between material and knowledge-based information exchange structures per network per year $p < .01$ (two-tailed, bootstrap 5000 samples)

[B] significant change in density over time per structure per network $p < .01$ (two-tailed, bootstrap 5000 samples)

Table 5 presents the degree centralization scores for the three networks, focusing on only the organizations that are members of the networks in both years. For material information exchange, in Network II and III, there was just a small change in network degree centralization from 2018 to 2019. In Network I the degree centralization of the material information structure increased from .72 to .86. Once again, for all three knowledge-based information exchange structures, the degree centralization scores changed over time. In Network I, there is a large increase of degree centralization (from .54 to .75). Network II also saw an increase in degree centralization (from .60 to .76), but the knowledge-based information exchange in Network III became more diffused, as the degree centralization score decreased from .62 to .47.

Table 5. Degree centralization scores for information exchange structures for organizations that are members of the networks in ***both*** years

Network	Information exchange structures	Number of ties		Degree centralization	
		2018	2019	2018	2019
Network I (N=119)	Material	948	996	0.72	0.86
	Knowledge-based	2106	2634	0.54	0.75
Network II (N=65)	Material	426	402	0.68	0.66
	Knowledge-based	880	894	0.60	0.76
Network III (N=71)	Material	526	566	0.63	0.56
	Knowledge-based	1348	1298	0.62	0.47

Beside the changes in the overall structures, the internal network dynamics were examined by calculating the overlap between the structures in both years. Table 6 presents the results of the QAP correlation procedure. There are statistically significant correlations between both material and knowledge-based information exchange structures over time. In Network I, 42% of the knowledge-based information exchange relations between organizations within this structure in 2019 were the same as those in 2018. For Network II and Network III, that is respectively 45% and 50% of the relations. For material information exchange, the sizes of the significant correlation are smaller, ranging from 22% to 39% of the relations.

Table 6. QAP Jaccard correlation between information exchange structures in 2018 and 2019 for organizations that are members of the networks in ***both*** years

	Material information exchange	Knowledge-based information exchange
Network I (N=119)	0.224**	0.422**
Network II (N=65)	0.394**	0.449**
Network III (N=71)	0.285**	0.495**

** $p < .01$ (two-tailed, 2500 permutations)

Discussion

This study shows that in child welfare and healthcare networks, different structures of information exchange can be distinguished, comprising material and knowledge-based information. The overall connectedness (density) of the studied structures of the networks is quite similar, but the way in which the involvement is structured – degree centralization – turns out to differ between the networks. Over time, the overall connectedness of those structures appears to be stable, but the internal dynamics reveals a major change in relationships between organizations in the networks.

Our findings regarding the first research question of this study generally are consistent with results of earlier research on resource tangibility [24, 25]. Based on the global measures of density and degree centralization, the difference in information tangibility distinguishes significant different structures in the networks. The exchange of knowledge-based information (verbal case reports, interprofessional consultation regarding clients' conditions and effective treatment) clearly takes place in a more connected and less centralized structure than the exchange of material information (contracts, directives, commissions, invoices). The three studied child welfare and healthcare networks generally show the same pattern. Further analysis of the degree centrality scores per organization shows that the structures of relationships based on material information exchange are centralized around one organization, while for knowledge-based information exchange the relations are centralized around a group of five to six key organizations. This means that in the exchange of material information one organization plays a central role, while in the exchange of knowledge-based information five to six central organizations are closely involved. This structural pattern can be explained by the functions of the organizations in the network that are involved in exchanging material or knowledge-based information. Just the gatekeeper or the municipal government's procurement and contracting department plays a central role in the exchange of material information. Gatekeepers are organizations that are legally authorized to commission child and youth services covered by the Child and Youth Act. By contrast, the exchange of knowledge-based information involves five to six organizations

with various tasks (gatekeeper, signaling and providing services). Thus, despite the relatively high degree centralization scores of the knowledge-based information exchange structures in Network I and II in 2019 (resp. 0.75 and 0.76), the exchange of knowledge-based information is diffused among several functions in the network.

According to resource dependency theory, whoever has control over resources has power over those who need these resources [21]. Based on this logic, we expect that the presence of two highly different information exchange structures within a network could potentially have consequences for the governance of the network, as these different structures influence the power and control mechanisms in the network [34, 49]. Network managers should acknowledge that the diffused exchange of knowledge-based information among several organizations in the network indicates high levels of professional autonomy. That requires a different approach than the highly centralized material information exchange, suggesting a high level of administrative control over the organizations in the network [24]. To further explore to what extent the power and control structure may be influenced by different structures in a network, further research should examine which organizations fulfill a key role and linking-pin position within these structures of the network.

Our findings regarding the second research question of this study stand out. Comparing the networks over time, we found that the information exchange relationships within the networks are not very cemented. With a loss of more than a half of the relations, the relationships between the organizations in the network are not very stable over time. The material information exchange relationships changed significantly; in 2019, only 22% to 39% of these relations were the same as in 2018. This is notable, as the number of material information exchange relations per network are relatively low and with a high degree centralization. As a network matures over time, knowledge and information about network members, especially regarding core organizations, will spread and relationships become more cemented [32]. For that reason, it is to be expected that the highly centralized material exchange relations are relatively easy to stabilize. On the other hand, one

should consider that any change in an originally low number of relations will already imply a relatively large loss of relations.

Based on the finding that while the overall connectedness of the networks is relatively stable, the relationships between organizations and the way in which these relationships are distributed change considerably over time, we argue that time matters for child welfare and healthcare networks. Apparently, information exchange structures need more than three years to regroup after a major shakeup like a decentralization of the child welfare and healthcare system: a period previously indicated as sufficient time for networks to stabilize [59]. The found instability of relations within the network is relevant, as the welfare and healthcare state reforms were precisely meant to strengthen the relations between the different child welfare and healthcare services [60-62]. In addition, it is known from business and industry sectors that loss of relations is an important factor for social networks, as it leads to a loss of social capital and ultimately affects service sustainability [63]. Accordingly, it is very important to understand the loss of information exchange relationships, especially knowledge-based information exchange relations, since stability in such relations is crucial for interprofessional collaboration and integrated care [2]. To examine whether the time required to stabilize is longer for information exchange relationships or whether these relationships are always flexible, further research should be longitudinal with several measuring points in time.

Limitations of the study

Several methodological comments can be made regarding this study. First, the network boundaries were determined by the respective network managers of the municipalities. All organizations partnered by a local government to achieve the main network goal of the Child and Youth Act were included. However, there could be other organizations that contribute to the network goal but that do not collaborate with the local government but only with other members of the network. Nevertheless, we chose this strict determination since the application of this clear criterion makes it easier to reproduce the results [36]. Second, as whole network data allows for very powerful descriptions and analyses of social structures, we used

the whole network approach which yields the maximum of information [57]. This means that the networks were symmetrized in order to reflect relationships reported by each organizational dyad and to capture any link [55]. However, as this approach examines unconfirmed ties, it may have led to an overestimation of some network ties, especially for the non-response organizations, which need to be interpreted with caution Fortunately, except for the general practitioners, all the expected core network members responded. That is positive, as most measures have the greatest bias when more central nodes are missing and the least when peripheral nodes are missing [64]. Most of the non-responders were network members at the periphery of the network, such as the municipal government's department of safety, organizations for childcare and nursery, or organizations for youth protection and social rehabilitation.

Conclusion

Our study emphasizes that child welfare and healthcare networks can be defined as complex collaborations with very different information flows, as it provides empirical evidence of the existence of and differences between structures and dynamics of both material and knowledge-based information exchange relationships. Due to the scarcity of longitudinal comparative whole network research in the field and despite the limitations, the strength of this study is a deeper understanding of structures within networks. The discovery of the contrast between the major internal dynamics and the stable overall connectedness has implications for network policy and management. It has implications for what to expect of interprofessional collaboration and the delivery of integrated care, which has been one of the main goals of the decentralization [60-62]. An important point of concern for network managers and public officials is that stability of information exchange relationships is not at all a matter of course. Due to this impermanence of relationships, integrated care cannot be guaranteed, and for that reason, management strategies to build and preserve internal stability should be considered [65].

References

1. Brooks, F., Bloomfield, L., Offredy, M. & Shaughnessy, P. (2013). Evaluation of services for children with complex needs: mapping service provision in one NHS Trust. *Primary Health Care Research & Development, 14*(1),52-62.
2. Nooteboom, L. (2021). *Towards increased understanding of integrated Youth Care: a qualitative evaluation of facilitators and barriers for professionals*. Leiden University.
3. Tausendfreund, T., Knot-Dickscheit, J., Schulze, G.C., Knorth, E.J. & Grietens, H. (2016). Families in multi-problem situations: backgrounds, characteristics, and care services. *Child & Youth Services, 37*(1), 4-22.
4. Bustos, T.E. (2020). A Scoping Review of Social Network Analyses in Interorganizational Collaboration Studies for Child Mental Health. *Children and Youth Services Review*, *119*, 105569.
5. Cooper, M., Evans, Y. & Pybis, J. (2016). Interagency collaboration in children and young people's mental health: a systematic review of outcomes, facilitating factors and inhibiting factors. *Child: Care, Health and Development*, *42*(3), 325-342.
6. Goodwin, N. (2013). Understanding integrated care: a complex process, a fundamental principle. *International journal of integrated care*, *13*.
7. Valentijn, P.P., Schepman, S.M., Opheij, W. & Bruijnzeels, M.A. (2013). Understanding integrated care: a comprehensive conceptual framework based on the integrative functions of primary care. *International journal of integrated care, 13*.
8. Nooteboom, L., Mulder, E.A., Kuiper, C.H.Z., Colins, O.F. & Vermeiren, R.R.J.M. (2021). Towards Integrated Youth Care: A Systematic Review of Facilitators and Barriers for Professionals. *Administration and Policy in Mental Health and Mental Health Services Research, 48*(1), 88-105.
9. Baxter, S., Johnson, M., Chambers, D., Sutton, A., Goyder, E. & Booth, A. (2018). The effects of integrated care: a systematic review of UK and international evidence. *BMC health services research, 18*(1), 1-13.
10. Kodner, D.L. (2009). All together now: a conceptual exploration of integrated care. *Healthcare Quarterly*, *13*, 6-15.
11. Wodchis, W.P., Dixon, A., Anderson, G.M. & Goodwin, N. (2015). Integrating care for older people with complex needs: key insights and lessons from a seven-country cross-case analysis. *International Journal of Integrated Care*, *15*.
12. Bolland, J.M. & Wilson, J.V. (1994). Three faces of integrative coordination: a model of interorganizational relations in community-based health and human services. *Health services research, 29*(3), 341.
13. Bunger, A.C., Doogan, N.J. & Cao, Y. (2014). Building service delivery networks: Partnership evolution among children's behavioral health agencies in response to new funding. *Journal of the Society for Social Work and Research, 5*(4), 513-538.

14. Sowa, J.E. (2009). The collaboration decision in nonprofit organizations: Views from the front line. *Nonprofit and Voluntary Sector Quarterly, 38*(6), 1003-1025.
15. Pettitt, B. (2003). *Effective joint working between child and adolescent mental health services (CAMHS) and schools*. Citeseer.
16. Hwang, S.H.J., Mollen, C.J., Kellom, K.S., Dougherty, S.L. & Noonan, K.G. (2017). Information sharing between the child welfare and behavioral health systems: Perspectives from four stakeholder groups. *Social Work in Mental Health, 15*(5), 500-523.
17. Allen, A.D., Hyde, J. & Leslie, L.K. (2012). "I Don't Know What They Know": Knowledge transfer in mandated referral from child welfare to early intervention. *Children and Youth Services Review*, *34*(5), 1050-1059.
18. Smith, J.G. (2020). Theoretical Advances in Our Understanding of Network Effectiveness. *Perspectives on Public Management and Governance, 3*(2), 1-16.
19. Wasserman, S. & Faust, K. (1994). *Social network analysis: Methods and applications*. Cambridge university press.
20. Phelps, C., Heidl, R. & Wadhwa, A. (2012). Knowledge, networks, and knowledge networks: A review and research agenda. *Journal of management*, *38*(4), 1115-66.
21. Pfeffer, J. & Salancik, G.R. (2003). *The external control of organizations: A resource dependence perspective*. Stanford University Press.
22. Biosca, O. & Galaso, P. (2020). What makes a key player in interorganizational social policy networks? The case of Uruguay. *International Journal of Public Administration*, *43*(13), 1156-68.
23. Alexander, V.D. (1996). Pictures at an exhibition: Conflicting pressures in museums and the display of art. *American journal of Sociology*, *101*(4), 797-839.
24. Huang, K. & Provan, K.G. (2006). Resource Tangibility and Patterns of Interaction in a Publicly Funded Health and Human Services Network. *Journal of Public Administration Research and Theory*, *17*(3), 435-54.
25. Provan, K.G. & Huang, K. (2012). Resource tangibility and the evolution of a publicly funded health and human services network. *Public Administration Review*, *72*(3), 366-375.
26. Kapucu, N., Hu, Q. & Khosa, S. (2017). The state of network research in public administration. *Administration & Society, 49*(8), 1087-1120.
27. Lemaire, R.H., Mannak, R.S., Ospina, S.M. & Groenleer, M. (2019). Striving for State of the Art with Paradigm Interplay and Meta-Synthesis: Purpose-oriented Network Research Challenges and Good Research Practices as a Way Forward. *Perspectives on Public Management and Governance*, *2*(3), 175-186.
28. Popp, J., Milward, H.B., MacKean, G., Casebeer, A. & Lindstrom, R. (2014). *Inter-organizational networks: a review of the literature to inform practice*. IBM Center for the Business of Government.
29. Human, S.E. & Provan, K.G. (2000). Legitimacy building in the evolution of small-firm multilateral networks: A comparative study of success and demise. *Administrative science quarterly, 45*(2), 327-365.

30. Brown, S.M., Klein, S. & McCrae, J.S. (2014). Collaborative relationships and improved service coordination among child welfare and early childhood systems. *Child Welfare, 93*(2), 91-116.
31. Colvin, M.L. & Miller, S.E. (2020). The role of complexity theory and network analysis for examining child welfare service delivery systems. *Child & Youth Services, 41* (2), 160-83.
32. Provan, K.G., Huang, K. & Milward, H.B. (2009). The evolution of structural embeddedness and organizational social outcomes in a centrally governed health and human services network. *Journal of Public Administration Research and Theory*, *19*(4), 873-893.
33. Ahuja, G., Soda, G. & Zaheer, A. (2012). The genesis and dynamics of organizational networks. *Organization science*, *23*(2), 434-448.
34. Provan, K.G. & Milward, H.B. (1995). A Preliminary Theory of Interorganizational Network Effectiviness: A Comparative Study of Four Community Mental Health Systems. *Administrative Science Quarterly*, *40*(1), 1-33.
35. Provan, K.G. & Kenis, P. (2008). Modes of network governance: Structure, management, and effectiveness. *Journal of public administration research and theory*, *18*(2), 229-252.
36. Provan, K.G., Fish, A. & Sydow, J. (2007). Interorganizational networks at the network level: A review of the empirical literature on whole networks. *Journal of management, 33*(3), 479-516.
37. Robinson, S.E. (2006). A decade of treating networks seriously. *Policy Studies Journal, 34*(4), 589-598.
38. Abimbola, S., Baatiema, L. & Bigdeli, M. (2019). The impacts of decentralization on health system equity, efficiency and resilience: a realist synthesis of the evidence. *Health policy and planning*, *34*(8), 605-617.
39. Anttonen A., Baldock, J. & Sipilä, J. (2003). *The young, the old, and the state: social care systems in five industrial nations*. Edward Elgar Publishing.
40. Jiménez-Rubio, D. & García-Gómez, P. (2017). Decentralization of health care systems and health outcomes: Evidence from a natural experiment. *Social Science & Medicine*, *188*, 69-81.
41. Muñoz, D.C., Amador, P.M., Llamas, L.M., Hernandez, D.M. & Sancho, J.M.S. (2017). Decentralization of health systems in low and middle income countries: a systematic review. *International journal of public health*, *62*(2), 219-229.
42. Sellers, J.M. & Lidström, A. (2007). Decentralization, local government, and the welfare state. *Governance*, *20*(4), 609-632.
43. Senkubuge, F., Modisenyane, M. & Bishaw, T. (2014). Strengthening health systems by health sector reforms. *Global health action*, *7*(1), 23568.
44. *Child and Youth Act*. (2014). https://wetten.overheid.nl/BWBR0034925/2019-04-02
45. Collins, K.M., Onwuegbuzie, A.J. & Jiao, Q.G. (2007). A mixed methods investigation of mixed methods sampling designs in social and health science research. *Journal of mixed methods research, 1*(3), 267-294.

46. Swanborn, P. (2010). *Case study research: What, why and how?* Sage publications, Thousand Oaks, CA.
47. Kramer, A.E. (2014). *Resilient networks in healthcare: Effects of structural and cognitive embeddedness on network commitment*. Tilburg University, School of Economics and Management.
48. Williams, P. (2002). The competent boundary spanner. *Public administration, 80*(1), 103-124.
49. Kilduff, M. & Brass, D.J. (2010). Organizational social network research: Core ideas and key debates. *The academy of management annals*, *4*(1), 317-357.
50. Colvin, M.L. (2017). Mapping the inter-organizational landscape of child maltreatment prevention and service delivery: A network analysis. *Children and youth services review, 73*, 352-359.
51. Freeman, L.C. (1978). Centrality in social networks conceptual clarification. *Social networks*, *1*(3), 215-39.
52. Provan, K.G. & Milward, H.B. (1995). A Preliminary Theory of Interorganizational Network Effectiviness: A Comparative Study of Four Community Mental Health Systems. *Administrative Science Quarterly*, *40*(1), 1-33.
53. Scott, J. & Carrington, P.J. (2011). *The SAGE handbook of social network analysis*. Sage publications, Thousand Oaks, CA.
54. Borgatti, S.P., Everett, M.G. & Freeman, L.C. (2002). *Ucinet for Windows: Software for social network analysis*. (Vol. 6), Analytic technologies, Harvard, MA.
55. Provan, K.G., Leischow, S.J., Keagy, J. & Nodora, J. (2010). Research collaboration in the discovery, development, and delivery networks of a statewide cancer coalition. *Evaluation and program planning*, *33*(4), 349-355.
56. Stork, D. & Richards, W.D. (1992). Nonrespondents in communication network studies: Problems and possibilities. *Group & Organization Management, 17*(2), 193-209.
57. Hanneman, R.A. & Riddle, M. (2005). *Introduction to social network methods*. University of California, Riverside, CA.
58. Snijders, T.A. & Borgatti, S.P. (1999). Non-parametric standard errors and tests for network statistics. *Connections*, *22*(2), 161-70.
59. Raab, J., Mannak, R.S. & Cambré, B. (2015). Combining structure, governance, and context: A configurational approach to network effectiveness. *Journal of public administration research and theory*, *25*(2), 479-511.
60. Boogers, M. & Reussing, R. (2019). Decentralisatie, schaalvergroting en lokale democratie. *Bestuurswetenschappen, 2*, 22-46.
61. Boogers, M., Schaap, L., Van den Munckhof, E. & Karsten, N. (2009). Decentralisatie als opgave. *Bestuurswetenschappen, 63*(1), 29-49.
62. Bosscher, N. (2012*). The decentralisation and transformation of the Dutch youth care system.* (Accessed 30 September 2013) https://www.nji.nl.

63. Karnstedt, M., Hennessy, T., Chan, J., Basuchowdhuri, P., Hayes, C. & Strufe, T. (2010). Churn in social networks. In: *Handbook of social network technologies and applications*. Springer, 185-220.
64. Smith, J.A., Moody, J. & Morgan, J.H. (2017). Network sampling coverage II: The effect of non-random missing data on network measurement. *Social networks*, *48*, 78-99.
65. Klijn, E.H., Steijn, B. & Edelenbos, J. (2010). The impact of network management on outcomes in governance networks. *Public administration*, *88*(4), 1063-82.

Chapter 5

EXAMINING PRECONDITIONS FOR INTEGRATED CARE:

a comparative social network analysis of the structure and dynamics of strong relations in child service networks

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Abstract

To help ensure that children and families get the right support and services at the right time, strong and stable relationships between various child service organizations are vital. Moreover, strong and stable relationships and a key network position for gatekeepers are important preconditions for interprofessional collaboration, the timely and appropriate referral of clients, and improved health outcomes. Gatekeepers are organizations that have specific legal authorizations regarding client referral. However, it is largely unclear how strong relations in child service networks are structured, whether the gatekeepers have strong and stable relationships, and what the critical relations in the overall structure are. The aim of this study is to explore these preconditions for integrated care by examining the internal structure and dynamics of strong relations.

A comparative case study approach and social network analysis of three inter-organizational networks consisting of 65 to 135 organizations within the Dutch child service system. Multiple network measures (number of active organizations, isolates, relations, average degree centrality, Lambda sets) were used to examine the strong relation structure and dynamics of the networks. Ucinet was used to analyze the data, with use of the statistical test: Quadratic Assignment Procedure. Visone was used to visualize the graphs of the networks.

This study shows that more than 80% of the organizations in the networks have strong relations. A striking finding is the extremely high number of strong relations that gatekeepers need to maintain. Moreover, the results show that the most important gatekeepers have key positions, and their strong relations are relatively stable. By contrast, considering the whole network, we also found a considerable measure of instability in strong relationships, which means that child service networks must cope with major internal dynamics.

Our study addressed crucial preconditions for integrated care. The extremely high number of strong relations that particularly gatekeepers need to build and maintain, in combination with the considerable instability of strong relations considering the whole network, is a serious point of concern that need to be managed, in order to enable child service networks to improve internal coordination and integration of service delivery.

Background

Integrated care is widely recognized as an approach to promote the 'Triple Aim' goals in health system reform: higher cost efficiency, improved quality of care, and improved health outcomes [1, 2]. It requires a holistic and an inclusive approach, seeking to build trusted relationships between organizations in the health system and respecting each organization as an equal partner [3, 4]. To achieve this, many countries have shifted key responsibilities for child welfare and healthcare service delivery (hereinafter referred to as child service networks) from the central to local levels of government [5-12]. These state reforms were meant to facilitate integrated care in families' own environment by decompartmentalizing budgets and strengthening the relations between various child service organizations [11-16].

Strong and stable relationships facilitate trust as well as familiarity and enable fine-grained information exchange regarding clients' conditions and effective treatment. This makes such relationships crucial for interprofessional collaboration, the timely and appropriate referral of clients, and improved health outcomes [12, 15-17]. They are vital to help ensure that children and families get the support and services they need from professionals with the required skills in an efficient manner [15, 18-22]. Relationships become stronger when organizations interact more frequently with each other, when the contact requires reciprocity in the exchange of resources, and when organizations are connected in more than one way due to multiple resources exchange relationships with each other [23-25]. Stability occurs as relations mature over time [26-28].

In practice, however, maintaining a high number of relations, especially strong relations, can be challenging for organizations [12]. Organizations have limited resources, energy, time and cognitive capacity and can therefore not maintain a large number of strong relations [29]. Maintaining many relations therefore carries the risk of inefficient and ineffective functioning of these child service networks. Nonetheless, child service networks generally consist of many organizations working across several sectors, such as

mental healthcare, education, childcare and nursery, specialized youth care and community services [2, 12, 20, 21, 30-36]. Moreover, as networks are dynamic systems, it is to be expected that strong relations are continuously evolving and ending, networks therefore need to deal with internal dynamics [26, 29, 37]. Since the loss of relations leads to a loss of social capital, to an increase of fragmentation in care and ultimately affects service sustainability, integrated care cannot be guaranteed in networks with too few strong and stable relationships [16, 38, 39]. Consequently, there is a considerable risk that children and families in need do not get the right service at the right time or may even be overlooked and left untreated [40]. In effect, maintaining a crucial number of strong and stable relationships is a key challenge for the networks to be able to operate effectively.

Besides the presence of strong and stable relationships, how these relations are structured is critical for an effective functioning of the network as a whole [21, 25, 41-43]. This applies in particular to core organizations. Important core organizations in child service networks are organizations with a gatekeeper function. These gatekeeper organizations have specific legal authorizations regarding client referral, one of the core processes to ensure that the support services that children and families need are provided [19, 44-46]. Moreover, to optimize client referral and information flow between all organizations in the network, it is crucial to recognize the critical relations in the overall network structure. Critical relations are those relations in the network that form a bridge between (groups of) organizations within the network that otherwise would not be connected. In other words, any disruption to this bridge would result in a grave disruption to the flow of clients and information [29, 47]. Organizations that form these critical relations have a key position in the network.

Due to the scarcity of longitudinal comparative whole network research in the field of child service networks, it is largely unclear how strong relations in child service networks are structured, whether the gatekeepers have strong and stable relationships, and what the critical relations in the overall structure are [21, 30, 40-43, 48-56]. To further open the black box of integrated care and to enable child service networks to improve internal

coordination and integration of service delivery, it is very important to understand the internal structure and dynamics of strong relations in a network [19, 30, 57-61]. Therefore, this study aims to identify the overall structure of strong relationships between organizations in child service networks, the critical relations in these networks, and the extent of relation stability over time, by using social network analysis. In particular, the study focuses on the relationships of organizations with a gatekeeper function.

Methods

Since part of the collected data was used in previous publications of this study by the same authors, some elements of the methods have been described before [36, 37, 62].

Research setting

The research field of this study is the societal and administrative context of the Dutch child welfare and healthcare service delivery system [36, 37]. Like many other countries, the Netherlands implemented welfare and healthcare state reforms that shifted key responsibilities from the central to local levels of government [5-10]. Since 2015, municipalities have become fully responsible for the child welfare and healthcare service delivery system [37]. The gatekeepers are the centers for youth and family, general practitioners and child health care organizations, which means that they are legally authorized to commission child and youth services covered by the Child and Youth Act [46].

A comparative case study was conducted of three inter-organizational networks of child services in different-sized municipalities in the Netherlands [36, 62-64]. Network I was located in a midsize municipality (around 180,000 citizens), Network II in a small municipality (around 66,000 citizens), and Network III covered four very small municipalities that collaborate in providing child services (with 13,000-20,000 citizens per municipality, i.e., a total of about 60,000 citizens) [36, 37, 62].

Data collection

The data of the three networks were collected at two points in time. The first data collection took place in the period of November 2017 to September 2018, the second in the period of April to September 2019. Both data collections consisted of two steps. First, semi-structured interviews with the network managers were conducted. The aim of the interviews was to determine the goals of the network, to define the boundaries of the network by determining the network members, and to select representatives of the network members as potential respondents for the online questionnaire. Second, an online questionnaire was fielded among the representatives of the network members [36, 37, 62].

Research population and boundary specification

The study combined a nominalist and realist approach to network boundary specification [62]. We defined a criterion to include organizations first (nominal approach) and then used the judgment of participating individuals in the network to determine the boundaries (realist approach) [62, 65]. The following definition of a network was used: *the network of child services consists of organizations that, according to the network manager, work with the local government to achieve the main network goal of the Child and Youth Act* [36, 37, 62]. The research population consisted of organizations that participate in the child service networks, i.e., network members, with the representatives of the network members as the units of observation [66]. The respondents were employees who act as boundary spanners between organizations in the network [67, 68]. The network managers - the responsible managers of the municipalities' child and youth support departments - were asked to identify the network members and to select the boundary spanners for each network [36, 37, 62]. The selection of network members, including boundary spanners, was verified by colleagues of the municipalities' child and youth support department and compared to information on network members kept by the department's administrative system [36, 62].

Since the individual professionals of some network members operated within a limited working area – such as school care coordinators, school

attendance officers, general practitioners (family doctors) and organizations for childcare and nursery - we invited more than one boundary spanner from these network members. For example, in Network I there were a total of thirty general practitioners in the municipality. As the working area of one general practitioner was limited to a small part of the municipality, we invited them all to participate [36, 37, 62].

For Network I, we also used a threshold for the selection of network members from the sector 'specialized youth care organizations'. As a relatively large number of these organizations only had a few juveniles in treatment in one year and therefore held peripheral positions in the network, we selected only the organizations that had a minimum of six juveniles receiving care in 2017 (94 of 162 organizations) and in 2018 (92 of 172 organizations). This threshold is generally used for privacy reasons. The final selection of specialized care organizations per network together looked after between 82% and 98% of all juveniles residing in that municipality who received specialized care in the years 2017 or 2018. In this way, we were able to combine a representative participation of the specialized youth care organizations with a questionnaire that was manageable for all respondents [36, 37, 62]. The networks included organizations from various sectors performing different tasks. Organizations that exchange (early warning) signals of support needs by children, youth and families with other organizations in the network have a signaling task. Gatekeepers are organizations that are legally authorized to refer clients to child and youth services covered by the Child and Youth Act [36, 37]. Organizations tasked with providing services deliver various child and youth support and care services. Table 1 presents the different sectors, the division of tasks and gives examples of organizations and professional groups that belong to a sector [36, 37, 62].

Table 1. Sectors, task division and examples of organizations in the network

	Sectors	Tasks	Examples of organizations
1.	Center for youth and family	gatekeeper	child and youth welfare and healthcare center
2.	Municipality	signaling	youth care expert team, youth and family team*, school attendance officers, youth/social support/community service/employment/ safety/purchase & contracting departments of the municipality
3.	Basic social organization	signaling providing services	social work, welfare work, support for the disabled, youth and family support, library, food bank, refugee council
4.	Education	signaling	care coordinators primary and secondary education
5.	General practitioners	gatekeeper	child and family doctors
6.	Health and prevention**	signaling gatekeeper	child and youth health care center, infant welfare center
7.	Childcare and nursery	signaling providing services	pre-school, child day-care center, nursery, after school-care including homework support
8.	Specialized youth care	providing services	youth mental health care, child and youth care, (forensic) psychiatry, orthopedagogy, psychology, care for disabled children
9.	Protection & social rehabilitation	providing services	youth protection, youth probation officers, juvenile social rehabilitation
10.	Safety	signaling providing services	police officers responsible for juveniles, prevention of child maltreatment, safety houses (crime prevention), public prosecution service, family & youth court, juvenile detention, childcare & protection board, community service supervisor
11.	Volunteer organization	signaling providing services	Village or ward council, social policy advisory council, informal help for family or neighbors, community center, scouting/music/sport/ leisure clubs

* Youth and family teams also provide support services. ** The gatekeeper organization child health care is part of the sector health and prevention.

The three networks showed the same composition of organizations in terms of sectors. Network I, with 135 and 132 participating organizations in 2018 and 2019, respectively, is the largest network compared to Network II with 86 and 67, and Network III with 75 and 73 organizations, respectively. All sectors as listed in Table 1 are present in the networks, except for volunteer organizations in Network II since the network manager did not list them as network members [37, 62]. In 2018, the number of responding network members of Network I, II and III was 70 (52%), 49 (57%) and 51 (68%), respectively. In 2019, the response rates of Network I, II and III were 77 (58%), 39 (58%) and 44 (60%) organizations, respectively [37, 62]. Apart from the general practitioners, all the expected core network members responded. Most of the non-responders were network members that were expected to be at the network periphery, such as the municipality's department of safety, organizations for childcare and nursery, or organizations for youth protection & social rehabilitation [36, 37, 62].

Measurement

The strength of the relationship was measured with a combination of the dimensions of frequency, reciprocity and multiplexity [23-25]. To measure the frequency of the contact between the organizations, the respondents were presented a list of all the organizations of the network and were asked to identify the organizations with which their organization had contact. Then, they were asked to indicate the frequency of this contact, on a four-point scale: several times a year - several times a month - several times a week - (almost) every day. Subsequently, to measure the reciprocity in the contact, the type of resource exchange was measured. That is because, for example, clients can be referred to another organization by just a care assessment decision without the active participation of the other organization, while both organizations need to actively participate in the interaction to exchange knowledge-based information with each other. The respondents were asked to indicate whether their organization had contact with the other organizations specifically for sharing expertise and knowledge (verbal case reports, and interprofessional consultation regarding clients' conditions and effective treatment) and/or regarding client referral. The strength of a relationship is also determined by multiplex relations.

Organizations that exchange multiple resources with each other are connected in more than one way [25]. When one resource exchange relation stops, they are still connected to each other. Therefore, multiplex relations are stronger than relationships that exchange a single resource. Table 2 shows which combination of dimensions was used to indicate a strong relationship.

Table 2. Indication of strong relations based on frequency, type of resource exchange (reciprocity) and multiplexity

Type of resource exchange (reciprocity) and multiplexity	**Frequency**			
	Daily	Weekly	Monthly	Annual
Expertise & knowledge sharing and client referral	***strong***	***strong***	***strong***	-
Expertise & knowledge sharing	***strong***	***strong***	-	-
Client referral	-	-	-	-

Table 2 shows, for example, that a relation is considered strong if two organizations share their expertise and knowledge weekly. In addition, a relation is considered strong if two organizations engage in both expertise and knowledge sharing and client referral on a monthly basis.

To detect the critical relations in the overall structure of the networks we used the Lambda set approach. In this approach, each of the relationships in the network is ranked in terms of importance by evaluating how much of the resources flow among organizations in the network pass through each link. The relationship between two organizations which, if disconnected, would most significantly disrupt the flow among all of the actors is referred to as the Lambda set, or the most critical relation [29].

To measure the stability of strong relations - i.e., whether the strong relations between the individual organizations in 2019 were the same as those in 2018 – we used the QAP (quadratic assignment procedure) correlation procedure to calculate the overlap between the strong relation network structures of the networks in both years. QAP identifies the extent of the association in situations where there is no systematic connection between the two networks [29]. It compares the observed matching rate of the same type of relationship across two data collection periods (having the same nodes) to the average of a large number of trials in which the actors in the network are randomly matched [39]. As the relations are binary, we used the Jaccard Coefficient. Scores range between 0 and 1, with 0 indicating no overlap and 1 complete overlap between the networks [29].

Data analysis

To analyze the data, we used Excel, Ucinet and Visone [69, 70]. The latter was mainly used to visualize the network graphs. First, we selected the relational data (frequency and resource exchange) of only the organizations that are members of the networks in both years (respectively 119, 65 and 71 organizations in Network I, II and III) and converted it into adjacency matrices in Excel. We used this selection for the analysis, as statistical tests to compare network structures over time requires networks with the same actors [29]. Moreover, to reflect relationships reported by each organizational dyad, and in that way to capture all links, the networks were symmetrized [69, 71]. This method examines unconfirmed or unidirectional network relations, which are relations where a respondent identifies a link between their own and another organization, but the other organization does not confirm this collaboration (including non-response) [70 pp. 350-351, 72]. We applied the following rule to create the adjacency matrices: a relation between two network members was coded as existing if at least one of the (boundary spanners of the) network members indicated this relation. The missing values were entered as a reciprocal relationship per responding organization (i.e., transposing the column in an adjacency matrix with the corresponding missing rows). This method is known as the procedure of labeled reconstruction [73] to manage non-response.

Subsequently, the adjacency matrices (frequency and resource exchange) were added together and the relations that were identified as strong were selected (see Table 2 for selection criteria). After inserting these adjacency matrices of strong relations in Ucinet, we computed the multiple network measures (number of active organizations, isolates, relations, average degree centrality, i.e., average number of strong relations per organization in the network, and Lambda sets) per network. Then we inserted the adjacency matrices in Visone to visualize the graphs of the networks regarding strong relations. In the graph, we used various shapes for the nodes to show the different sectors, a bigger size for the nodes of the gatekeeper organizations and a thick line for the relations that are Lambda sets.

Finally, to examine the stability of the strong relations - i.e., to what extent the strong relations between the individual organizations in 2019 were the same as those in 2018 – we ran the QAP (quadratic assignment procedure) correlation procedure of Ucinet for the whole networks and separately for the gatekeepers. After that, to visualize the graphs of the networks regarding stable strong relations, we merged the adjacency matrices of 2018 and 2019 into adjacency matrices of stable strong relation and inserted those in Visone.

Results

The number of organizations that were members of the networks in both years was 119, 65 and 71 in Network I, II and III, respectively. All the sectors, including the gatekeeper organizations - as presented in Table 1 - were present in this selection. Most of the organizations that did not occur in both years belong to the specialized youth care sector (92%).

Strong relations structure and critical relations

Table 3 presents the descriptive statistics for network structures regarding strong relations for organizations that are member of the networks in both years.

Table 3. Descriptive statistics for the network structures regarding strong relations in 2018 and 2019

	Network I		Network II		Network III	
	2018	**2019**	**2018**	**2019**	**2018**	**2019**
Number of organizations	119	119	65	65	71	71
Number of organizations with strong relations *(% of all organizations)*	100 *(84%)*	100 *(84%)*	52 *(80%)*	55 *(85%)*	57 *(80%)*	58 *(82%)*
Average degree centrality *(range)*	7 *(0-54)*	8 *(0-61)*	5 *(0-28)*	6 *(0-31)*	9 *(0-38)*	9 *(0-41)*
Number of strong relations *(% of all relations in the network)*	782 *(30%)*	928 *(32%)*	304 *(29%)*	392 *(37%)*	604 *(41%)*	614 *(41%)*
Number of strong relations per gatekeeper organization:						
Center for youth and family	56	61	15	31	30	30
General practitioners	16	22	13	11	19	13
Child health care	38	35	6	14	37	32

As can be seen in Table 3, in both years a large majority of the organizations in the networks had strong relations (80-85%). Organizations without strong relations are mainly specialized youth care organizations and a few organizations from the municipality, childcare and nursery and basic social organization sectors (not in Table 3). Organizations have strong relations with an average of five to nine other organizations (range 0-61). In 2018 and 2019, respectively, the proportion of strong relations in Network III (41%, 41%) was the largest compared to Network I (30%, 32%) and Network II (29%, 37%). In both years, in all three networks, the organizations with a gatekeeper function had strong relations. In Network I and II, the center for youth and family has the strongest relations of the gatekeepers in the network, while in Network III this is child health care. Compared to the average number of strong relations per organization (five-nine organizations), most of the gatekeepers had many strong relations with other organizations. In particular, the center for youth and family in

Network I had many strong relations. In 2018 and 2019, it had 56 and 61 strong relations with other organizations, respectively. This means that a small number of organizations is responsible for a majority of the strong relations in the network while the majority of organizations has just a couple of strong relations. Figure 1 shows these power law distributions of strong relations in all three networks at both measurement points. In the scatterplots, the organizations in the networks are on the X-axis and their degree centrality score is on the Y-axis.

Figure 1. Scatter plots based on organizations' degree centrality of strong relations per network in 2018 and 2019

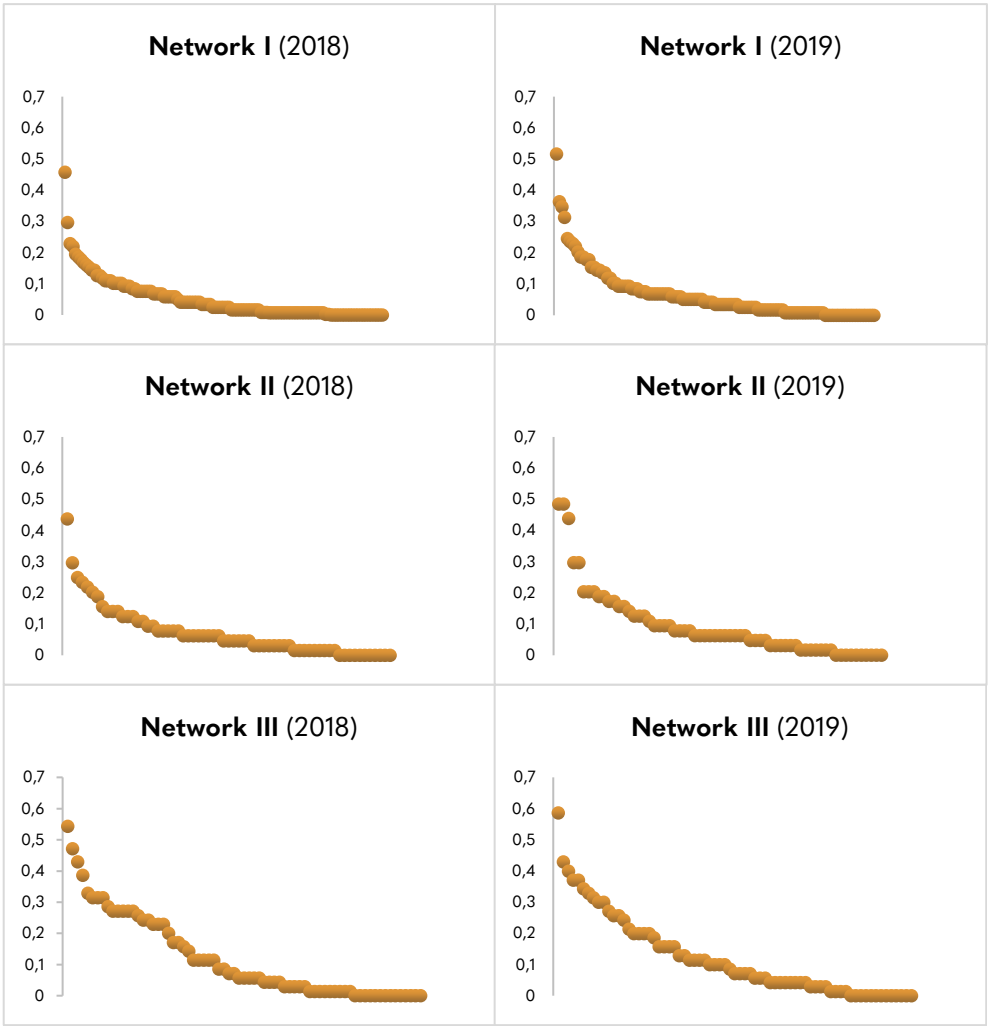
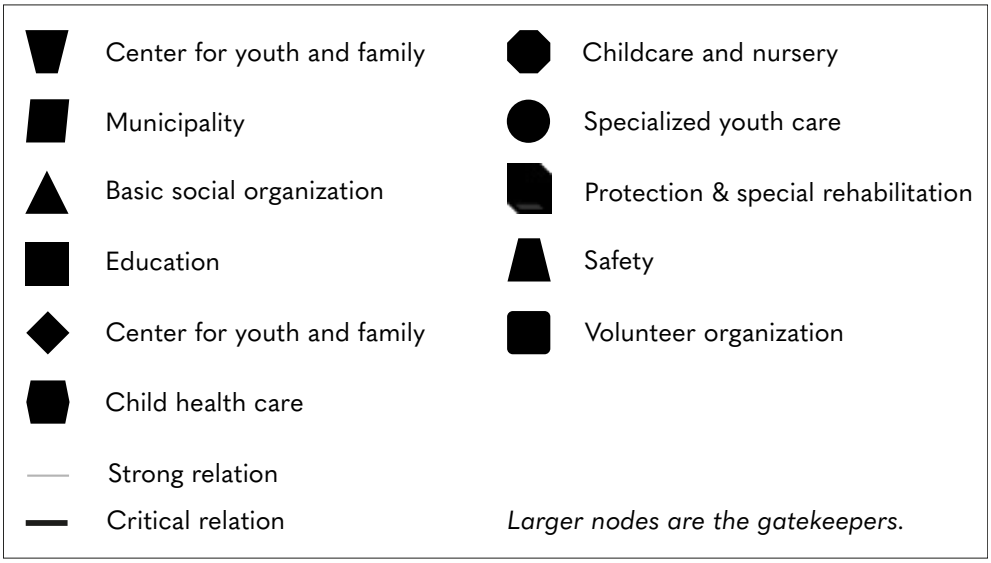
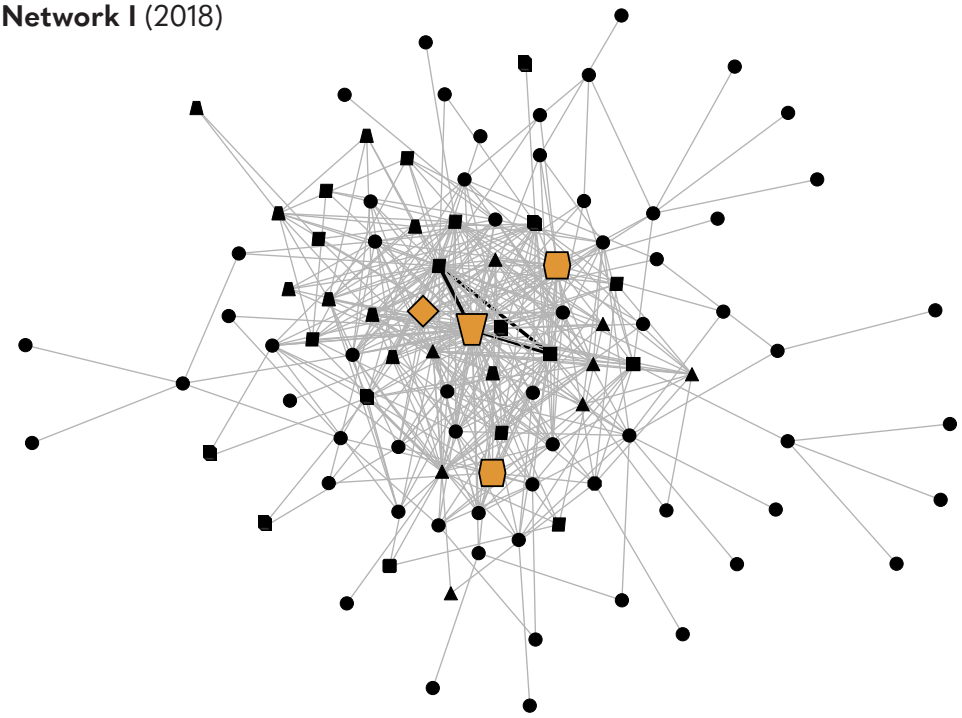


Figure 2 presents the network diagrams of the strong relations networks in 2018 and 2019. The different shapes of the nodes show the sectors to which the organizations belong. The nodes (organizations) and lines (relations) that are bigger in size are respectively the gatekeeper organizations and the critical relations in the network structure.

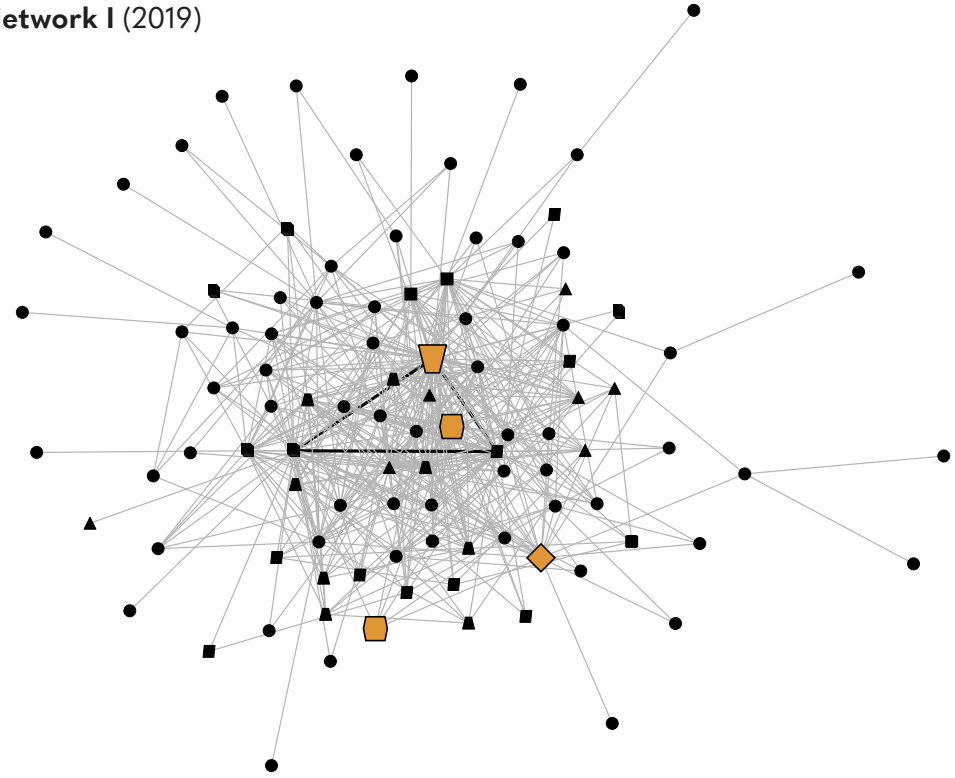
Figure 2. Structure of strong relations networks and critical relations in 2018 and 2019



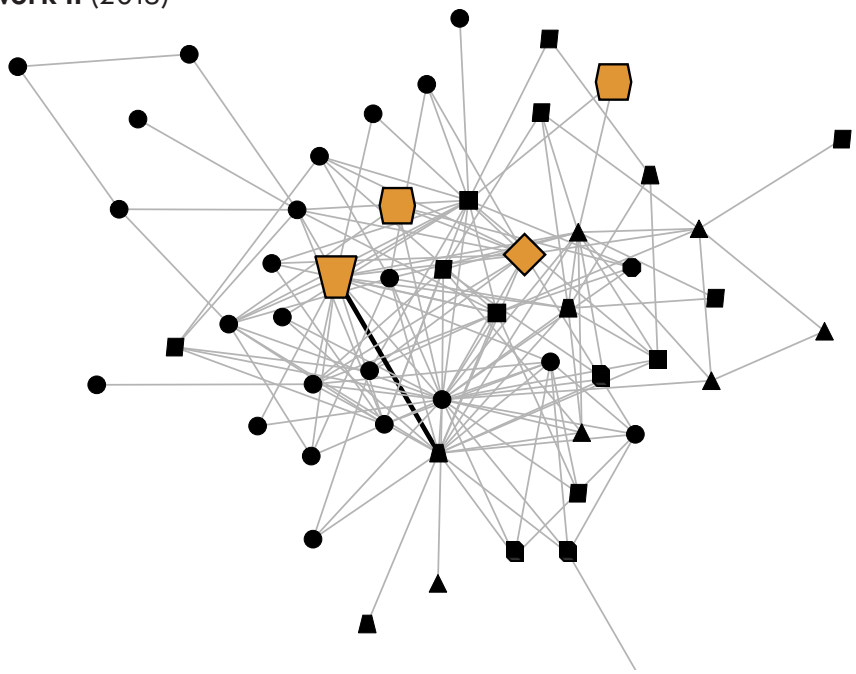
Network I (2018)



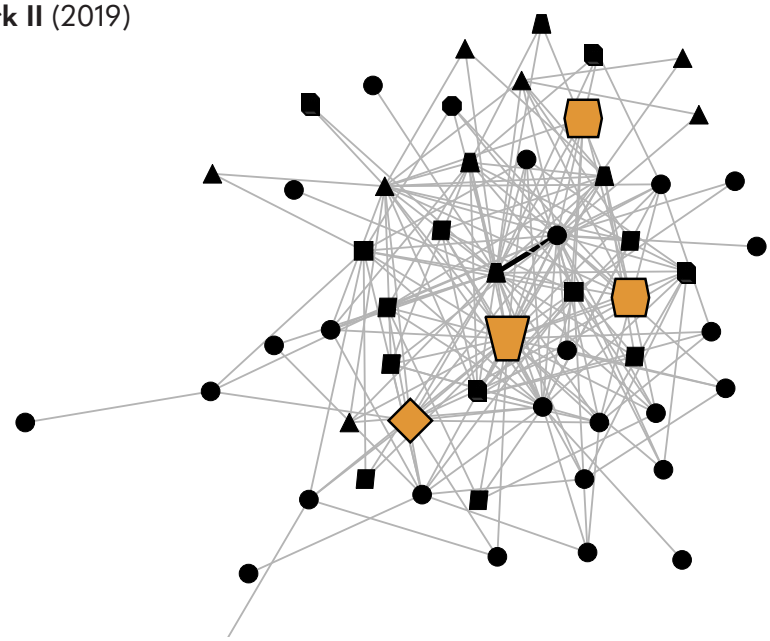
Network I (2019)



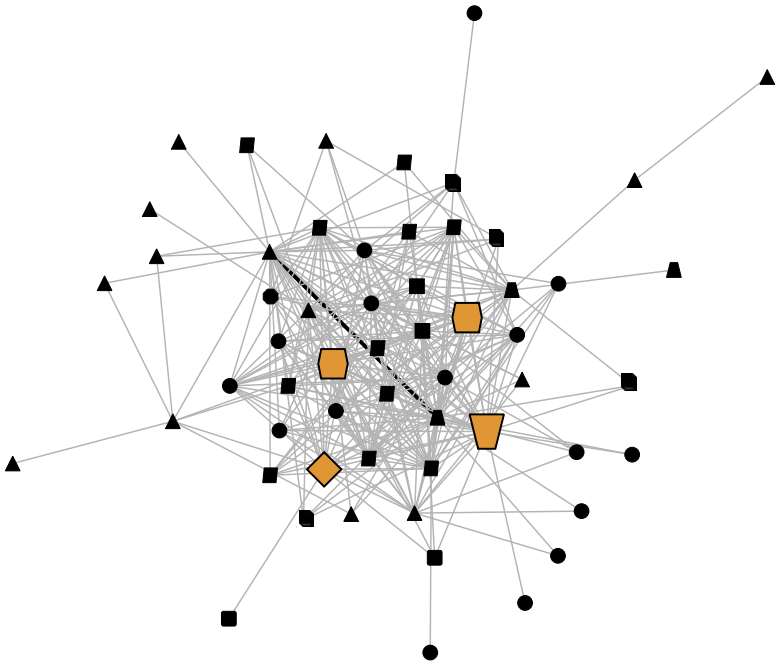
Network II (2018)



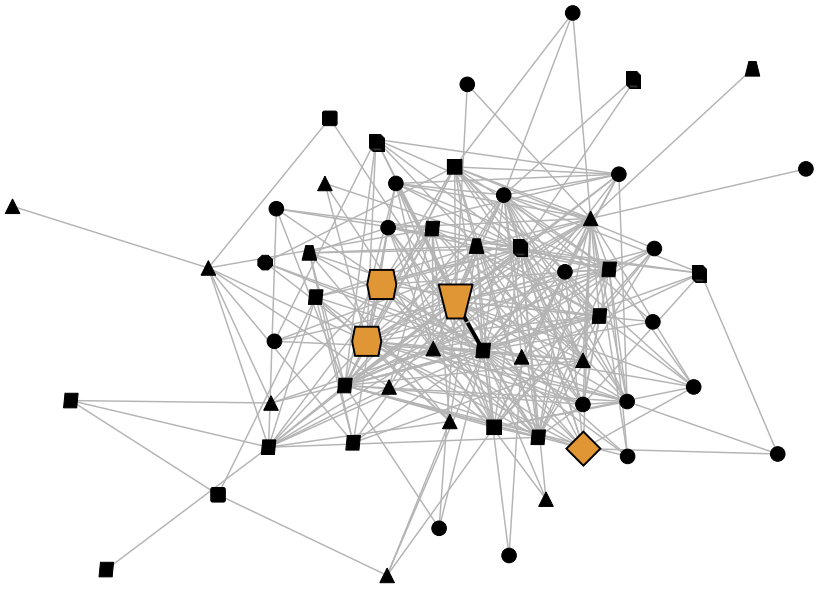
Network II (2019)



Network III (2018)



Network III (2019)



Comparing the three networks in Figure 2 clearly shows that Network II has fewer strong relations than Networks I and III. In all networks, most of the gatekeepers have a more central position in the network. Compared to the other gatekeepers, the child health care organizations in Network I in 2019 and in Network II in 2018 have a more peripheral position. Moreover, of the gatekeepers, the center for youth and family is the only one that has a key position, as it often forms a critical relation. The organizations with which the centers for youth and family have critical relations are school attendance officers, organizations for the prevention of child maltreatment, youth and family teams, care coordinators for secondary education, and organizations for youth protection & social rehabilitation. In Network II in 2019 and Network III in 2018, the critical relations are between organizations that are not gatekeepers. In both cases, it is the organization for the prevention of child maltreatment that held the key position in combination with youth and family support, and disabled childcare.

Relation stability

More than half of the organizations, including the gatekeepers, had strong relations that were stable across time (59%-66%). Across all the sectors as presented in Table 1, the number of organizations with stable strong relations was 73, 43 and 42 in Network I, II and III, respectively. The internal dynamics were examined by calculating the overlap between strong relation structures in both years and in particular the dynamics of the strong relations of the gatekeepers. Table 4 presents the results of the QAP correlation procedures.

Table 4. QAP Jaccard correlation between strong relationships regarding expertise & knowledge sharing and client referral in 2018 and 2019 for (gatekeeper) organizations that are members of the networks in both years

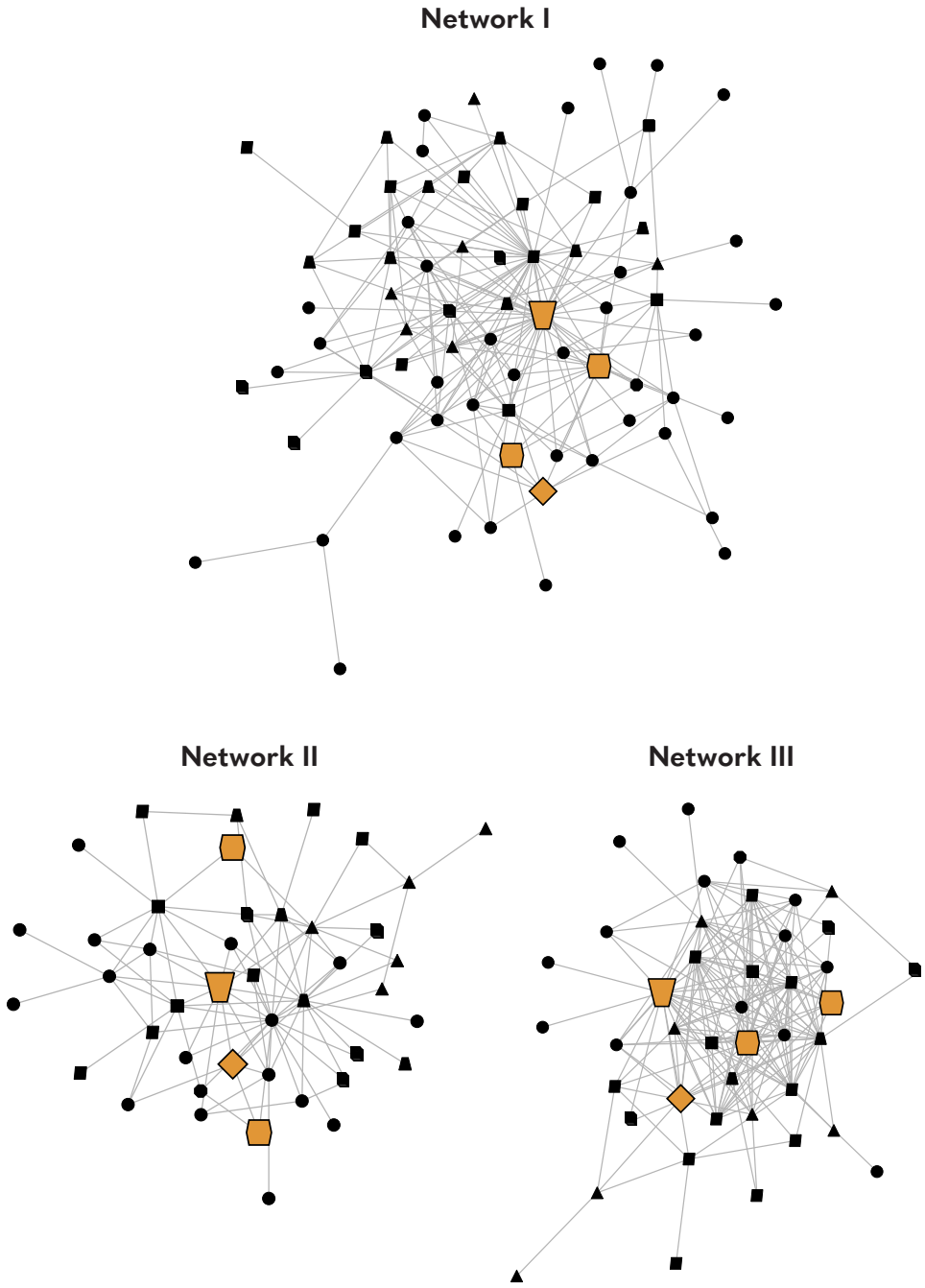
	Network I (N=119)	**Network II (N=65)**	**Network III (N=71)**
All organizations	0.290**	0.386**	0.390**
Center for youth and family	0.463**	0.394**	0.667**
General practitioners	0.188**	0.333**	0.391**
Child health care	0.521**	0.333**	0.500**

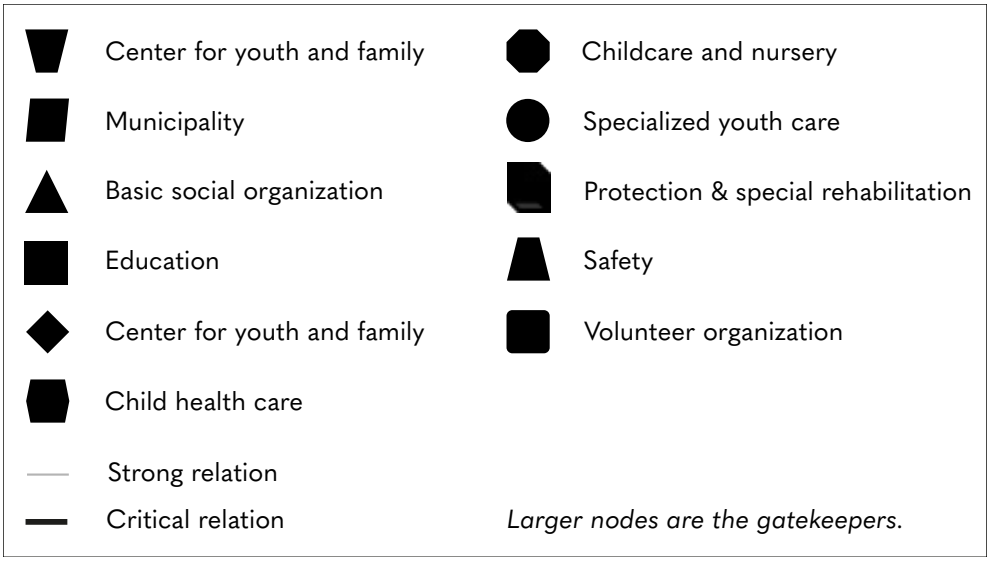
**p < .01 (two-tailed, 2500 permutations)

There are statistically significant correlations between the strong relation structures over time and between the strong relation structures of the gatekeepers over time. In Network I, 29% of the strong relations between organizations in 2019 were the same as those in 2018. This means that over 70% of the strong relations in Network I were lost in one year. For both Network II and Network III, 40% of the strong relations are stable over time. In Network I and III, the centers for youth and family and the child health care organizations had more stable strong relations than the general practitioners. This applies in particular for the center for youth and family in Network III, with 67% of its strong relations remaining stable across time.

Figure 3 presents the network diagrams of the stable strong relations across time. The total number of stable strong relations in Network I, II and III were 384, 194, and 342, respectively. As the number of nodes reveals, the total number of organizations with stable strong relations in Network II and III are comparable. However, the number of lines in the diagrams shows that, between 2018 and 2019, Network III had more stable strong relations than Network II.

Figure 3. The stability of strong relations between 2018-2019





Discussion

This study examined the strong relations structure, the critical relations and internal dynamics of three child service networks. Particularly, we assessed the strong relations of the gatekeeper organizations, i.e., the centers for youth and family, general practitioners and child health care organizations. Results show that more than 80% of the organizations within child service networks have strong relationships with other organizations. All gatekeepers are included in the strong relations structure. On average, an organization has strong relationships with 5-9 organizations. However, the strong relations are very unequally distributed across the organizations. In all three cases at both measurement points, a small number of organizations is responsible for the majority of the strong relations in the network. We found that most of the gatekeepers maintain an extremely high number of strong relationships within the network. The center for youth and family in Network I, for instance, had strong relations with 61 organizations in 2019. Due to this high number – combined with the center's limited resources, energy and time – there is a serious risk of inefficient and ineffective functioning of the network as a whole [29]. In all three cases, the center for youth and family holds a critical relationship in the network at, at least,

one measurement point. This means this center has a key position in the network: it controls the most important relations in the networks, and most of the resources flowing between organizations in the networks run through this critical relation [29].

The development over time shows that child service networks are highly dynamic systems. Despite more than half of the organizations having stable strong relations, the individual strong relationships within the networks appear to be rather unstable. With a loss of 60 to 70% of the strong relations in a year, strong relationships in the networks are clearly subject to major internal network dynamics. For example, the strong relations of the general practitioners with other organizations were relatively unstable; in 2019, only 19 to 39% of their strong relations with other organizations were the same as in 2018. Since unstable relationships jeopardize the exchange of more fine-grained and tacit information regarding clients' conditions and effective treatment, the found instability is relevant [26-28]. A notable finding is the relatively high stability of the strong relations of some of the gatekeepers. Compared to all the strong relationships in the networks (30-40%), the strong relations of the centers for youth and family and the child health care organizations in two of the three networks are relatively stable over time (47-67%).

The time between the two measurement points was about one year, which might be rather short to examine developments over time properly. At the same time, the internal dynamics have become visible over the course of a single year. That is striking, since the research started three years after the decentralization of the key responsibilities for child welfare and healthcare service delivery from the central to local levels of government: a period previously indicated as sufficient time for networks to stabilize [74]. Apparently, strong relation structures need more than three years to regroup after such a major shakeup of the system. The found instability of strong relations within the networks is relevant, as the child welfare and healthcare state reform was precisely meant to strengthen the relations between the various child service organizations [11, 13, 14]. To examine whether the time required to stabilize is longer for strong relationships or whether these

relationships are always flexible, further research should be longitudinal with several measuring points in time or at least a longer period than one year between the two measurements [37]. Also, the case study design should be used to also reflect upon the results of the quantitative network analyses.

Although strong and stable relations are crucial preconditions for integrated care, it is uncertain whether it is necessary to have strong relations between all the different organizations in the network or whether it is sufficient for the gatekeeper organizations and some of the organizations per sector (see Table 1) to have strong relations. In terms of network governance, the latter would imply a hub and spoke structure, whereby one central gatekeeper organization is connected to a smaller core group of organizations which function as brokers to the peripheral organizations in the network [75]. This especially applies to the centers for youth and family, as these centers were specifically formed – on account of the child welfare and healthcare state reform – to become the hub between preventive support (e.g. basic social organizations, education, health and prevention, childcare and nursery, volunteer organizations), primary care (e.g. child healthcare, general practitioners, social work, youth and family support) and specialized care (e.g. specialized youth care, protection and social rehabilitation, safety organizations) [12, 14, 36].

The found combination of considerable instability of strong relations at the whole network level and the fairly high stability of strong relations of (part of) the gatekeepers (at the organization level) highlights the contradictory logic of desired stability and flexibility [75]. On the one hand, networks strive for relationship stability, as this is critical to maintaining legitimacy inside and outside the network. Moreover, the stability of relationships of core organizations appears to be a major factor in explaining network effectiveness regarding client services, especially in case of vulnerable client populations [76]. On the other hand, relationship flexibility on account of new task demands gives networks their advantage over vertically integrated organizations, which can be rigid and bureaucratic [60, 75].

Thus, the considerable instability of strong relations can also be seen as the

flexible operation of strong relations networks. This flexibility is essential for the delivery of comprehensive, tailor-made services. Indeed, instead of routinely referring clients, gatekeepers need to refer clients in a targeted manner so that children and families in need get the most appropriate support and services, and that requires a higher relationship turnover of strong relations. At the same time, our study shows that the gatekeepers – or at least the most important gatekeeper, i.e., the centers for youth and family – have stable strong relationships that connect the large diversity of service organizations to form an interconnected network, i.e., a hub and spoke structure. This stability is essential to successfully perform core functions such as early-warning signaling, triage, service delivery, client referral, and interprofessional consultation [3, 4, 19, 25, 42, 43].

However, this setup would still mean that the centers for youth and family need to maintain a fairly large number of strong relationships with a core group of broker organizations that at least represent the ten other sectors in the youth care system. Since the decentralization was accompanied with an overall cost reduction, it could be quite possible that these typically larger organizations do not have resources specifically dedicated to build and maintain strong ties. Network managers should realize that even a more centrally organized child service network demands extra attention, time and resources to achieve the integration necessary to successfully accomplish a cohesive youth care system that facilitates integrated care in families' own environment [59]. Further research should examine what the maximum number of strong relations is that such an organization and a network as a whole can efficiently and effectively build and maintain. Specifically, it should address what additional effort – attention, time and resources – is required to build and maintain a successfully functioning strong relations network [59].

For this study, some methodological remarks can be made. First, our focus on Dutch child service networks may limit the generalizability of our findings. However, since we used a broad context and many other countries have also implemented governance reforms including a decentralization of health systems, our results are probably also applicable to other contexts

and countries [5, 7, 8, 10]. Second, to obtain the maximum amount of information, we used the whole network approach. After all, whole network data allows for very powerful descriptions and analyses of social structures [29]. In order to reflect relationships reported by each organizational dyad and to apprehend any link, the networks were symmetrized [71]. However, this means that we examined unconfirmed ties, which may have led to an overestimation of some network relations. Specifically, the relations of the non-response organizations need to be interpreted with caution. Fortunately, the responders included all the expected core network members, with the exception of the general practitioners. That is positive, as the greatest bias in most network measures occur if more central organizations are missing, and the least bias if peripheral organizations are missing [77]. Most of the non-responders were network members at the periphery of the network.

Conclusion

By examining the structure and dynamics of strong interorganizational relationships from a network perspective, this study addressed crucial preconditions for integrated care. The child service networks have appropriate strong relations structures. The important gatekeepers have key positions and their strong relations are relatively stable. Around these core organizations, there is a large diversity of service organizations with flexible strong relations. However, the extremely high number of strong relations that particularly gatekeepers need to build and maintain, in combination with the considerable instability of strong relations considering the whole network, is a serious point of concern that needs to be addressed by the management of the network.

References

1. Berwick, D.M., Nolan, T.W. & Whittington, J. (2008). The triple aim: care, health, and cost. *Health affairs, 27*(3), 759-769.
2. Amelung, V., Stein, V., Goodwin, N., Balicer, R., Nolte, E., & Suter, E. (2017). *Handbook integrated care*. Springer International Publishing.
3. Stoop, A., Lette, M., Ambugo, E.A., Gadsby, E.W., Goodwin, N., Maclnns, J. et al. (2020). Improving person-centredness in integrated care for older people: experiences from thirteen integrated care sites in Europe. *International journal of integrated care, 20*(2).
4. Stein, K.V. & Amelung, V. (2021). *Refocussing Care - What Does People-Centredness Mean?* Handbook Integrated Care. Springer, 27-38.
5. Abimbola, S., Baatiema, L. & Bigdeli, M. (2019). The impacts of decentralization on health system equity, efficiency and resilience: a realist synthesis of the evidence. *Health policy and planning*, *34*(8), 605-617.
6. Anttonen A., Baldock, J. & Sipilä, J. (2003). *The young, the old, and the state: social care systems in five industrial nations*. Edward Elgar Publishing.
7. Jiménez-Rubio, D. & García-Gómez, P. (2017). Decentralization of health care systems and health outcomes: Evidence from a natural experiment. *Social Science & Medicine*, *188*, 69-81.
8. Muñoz, D.C., Amador, P.M., Llamas, L.M., Hernandez, D.M. & Sancho, J.M.S. (2017). Decentralization of health systems in low and middle income countries: a systematic review. *International journal of public health, 62*(2), 219-229.
9. Sellers, J.M. & Lidström, A. (2007). Decentralization, local government, and the welfare state. *Governance*, *20*(4), 609-632.
10. Senkubuge, F., Modisenyane, M. & Bishaw, T. (2014). Strengthening health systems by health sector reforms. *Global health action*, *7*(1), 23568.
11. Boogers, M. & Reussing, R. (2019). Decentralisatie, schaalvergroting en lokale democratie. *Bestuurswetenschappen*, *2*, 22-46.
12. Nooteboom, L., Mulder, E.A., Kuiper, C.H.Z., Colins, O.F. & Vermeiren, R.R.J.M. (2021). Towards Integrated Youth Care: A Systematic Review of Facilitators and Barriers for Professionals. *Administration and Policy in Mental Health and Mental Health Services Research, 48*(1), 88-105.
13. Boogers, M., Schaap, L., Van den Munckhof, E. & Karsten, N. (2009). Decentralisatie als opgave. *Bestuurswetenschappen*, *63*(1), 29-49.
14. Bosscher, N. (2012*). The decentralisation and transformation of the Dutch youth care system.* (Accessed 30 September 2013) https://www.nji.nl.
15. Allen, A.D., Hyde, J. & Leslie, L.K. (2012). "I Don't Know What They Know": Knowledge transfer in mandated referral from child welfare to early intervention. *Children and Youth Services Review*, *34*(5), 1050-1059.

16. Cooper, M., Evans, Y. & Pybis, J. (2016). Interagency collaboration in children and young people's mental health: a systematic review of outcomes, facilitating factors and inhibiting factors. *Child: Care, Health and Development*, *42*(3), 325-342.
17. Gulati, R., Dialdin, D.A. & Wang, L. (2002). *Organizational networks*. The Blackwell companion to organizations, 281-303.
18. Bolland, J.M. & Wilson, J.V. (1994). Three faces of integrative coordination: a model of interorganizational relations in community-based health and human services. *Health services research*, *29*(3), 341.
19. Brown, S.M., Klein, S. & McCrae, J.S. (2014). Collaborative relationships and improved service coordination among child welfare and early childhood systems. *Child Welfare, 93*(2), 91-116.
20. Bunger, A.C., Doogan, N.J. & Cao, Y. (2014). Building service delivery networks: Partnership evolution among children's behavioral health agencies in response to new funding. *Journal of the Society for Social Work and Research, 5*(4), 513-538.
21. Colvin, M.L. & Miller, S.E. (2020). The role of complexity theory and network analysis for examining child welfare service delivery systems. *Child & Youth Services, 41* (2), 160-83.
22. Sowa, J.E. (2009). The collaboration decision in nonprofit organizations: Views from the front line. *Nonprofit and Voluntary Sector Quarterly*, *38*(6), 1003-1025.
23. Jack, S.L. (2005). The role, use and activation of strong and weak network ties: A qualitative analysis. *Journal of management studies*, *42*(6), 1233-1259.
24. Marsden, P.V. & Campbell, K.E. (1984). Measuring tie strength. *Social forces*, *63*(2), 482-501.
25. Provan, K.G. & Milward, H.B. (2001). Do networks really work? A framework for evaluating public-sector organizational networks. *Public administration review*, *61*(4), 414-423.
26. Ahuja, G., Soda, G. & Zaheer, A. (2012). The genesis and dynamics of organizational networks. *Organization science*, *23*(2), 434-448.
27. Provan, K.G., Huang, K. & Milward, H.B. (2009). The evolution of structural embeddedness and organizational social outcomes in a centrally governed health and human services network. *Journal of Public Administration Research and Theory*, *19*(4), 873-893.
28. Uzzi, B. (1996). The Sources and Consequences of Embeddedness for the Economic Performance of Organizations: The Network Effect. *American Sociological Review*, *61*(4), 674-698.
29. Hanneman, R.A. & Riddle, M. (2005). *Introduction to social network methods*. University of California, Riverside, CA.
30. Colvin, M.L. (2017). Mapping the inter-organizational landscape of child maltreatment prevention and service delivery: A network analysis. *Children and youth services review, 73*, 352-359.

31. Goodwin, N. (2013). Understanding integrated care: a complex process, a fundamental principle. *International journal of integrated care*, *13*.
32. Goodwin, N. (2017). Change management. In: *Handbook integrated care*. Springer, 253-275.
33. Minkman, M.M. (2012). Developing integrated care. Towards a development model for integrated care. *International Journal of Integrated Care*, *12*.
34. Valentijn, P.P., Schepman, S.M., Opheij, W. & Bruijnzeels, M.A. (2013). Understanding integrated care: a comprehensive conceptual framework based on the integrative functions of primary care. *International journal of integrated care, 13*.
35. Wodchis, W.P., Dixon, A., Anderson, G.M. & Goodwin, N. (2015). Integrating care for older people with complex needs: key insights and lessons from a seven-country cross-case analysis. *International Journal of Integrated Care*, *15*.
36. Blanken, M., Mathijssen, J., Van Nieuwenhuizen Ch., Raab, J. & Van Oers, H. (2022). Cross-sectoral collaboration: comparing complex child service delivery systems. *Journal of Health Organization and Management, 36*(9), 79-94.
37. Blanken, M., Mathijssen, J., Van Nieuwenhuizen, Ch., Raab, J., & Van Oers, H. (2022). Intersectoral collaboration at a decentralized level: information flows in child welfare and healthcare networks. *BMC Health Services Research, 22*(1), 449.
38. Nicaise, P., Tulloch, S., Dubois, V., Matanov, A., Priebe, S. & Lorant, V. (2013). Using social network analysis for assessing mental health and social services inter-organisational collaboration: findings in deprived areas in Brussels and London. *Administration and Policy in Mental Health and Mental Health Services Research, 40*(4), 331-339.
39. Provan, K.G. & Huang, K. (2012). Resource tangibility and the evolution of a publicly funded health and human services network. *Public Administration Review*, *72*(3), 366-375.
40. Bustos, T.E. (2020). A Scoping Review of Social Network Analyses in Interorganizational Collaboration Studies for Child Mental Health. *Children and Youth Services Review*, *119*, 105569.
41. Berthod, O., Grothe-Hammer, M. & Sydow, J. (2017). Network ethnography: A mixed-method approach for the study of practices in interorganizational settings. *Organizational Research Methods, 20*(2), 299-323.
42. Provan, K.G., Fish, A. & Sydow, J. (2007). Interorganizational networks at the network level: A review of the empirical literature on whole networks. *Journal of management*, *33*(3), 479-516.
43. Van der Ham, A., Van Merode, F., Ruwaard, D. & Van Raak, A. (2020). Identifying integration and differentiation in a Hospital's logistical system: a social network analysis of a case study. *BMC Health Services Research, 20*(1), 857.
44. Sripa, P., Hayhoe, B., Garg, P., Majeed, A. & Greenfield, G. (2019). Impact of GP gatekeeping on quality of care, and health outcomes, use, and expenditure: a systematic review. *British Journal of General Practice, 69*(682), e294-e303.

45. Reibling, N. & Wendt, C. (2012). Gatekeeping and provider choice in OECD healthcare systems. *Current Sociology, 60*(4), 489-505.
46. *Child and Youth Act*. (2014). https://wetten.overheid.nl/BWBR0034925/2019-04-02
47. Cropper, S. (Ed.) (2008). *The Oxford handbook of inter-organizational relations*. Oxford Handbooks Online.
48. Carroll, A. (2021). Integrated Care Through the Lens of a Complex Adaptive System. In: *Handbook Integrated Care*. Springer, 595-609.
49. Kitson, A., Brook, A., Harvey, G., Jordan, Z., Marshall, R., O'Shea, R. & Wilson, D. (2018). Using complexity and network concepts to inform healthcare knowledge translation. *International Journal of Health Policy and Management, 7*(3), 231.
50. Minkman, M., Zonneveld, N. & Shaw, J. (2021) Positioning Integrated Care Governance: Key Issues and Core Components. In: *Handbook Integrated Care*. Springer, 149-64.
51. Morçöl, G. & Wachhaus, A. (2009). Network and complexity theories: A comparison and prospects for a synthesis. *Administrative Theory & Praxis, 31*(1), 44-58.
52. Quinn, A., Woehle, R. & Tiemann, K. (2012). Social network analysis for analyzing groups as complex systems. *Journal of Social Service Research, 38*(5), 605-618.
53. Stevens, I. & Hassett, P. (2007). Applying complexity theory to risk in child protection practice. *Childhood, 14*(1), 128-144.
54. Stevens, I. & Cox, P. (2008). Complexity theory: Developing new understandings of child protection in field settings and in residential child care. *British Journal of Social Work, 38*(7), 1320-1336.
55. Benham-Hutchins, M. & Clancy, T.R. (2010). Social networks as embedded complex adaptive systems. *JONA: The Journal of Nursing Administration, 40*(9), 352-356.
56. D'Amour, D., Ferrada-Videla, M., San Martin Rodriguez, L. & Beaulieu, M-D. (2005). The conceptual basis for interprofessional collaboration: core concepts and theoretical frameworks. *Journal of interprofessional care*, *19*(sup1), 116-131.
57. Brooks, F., Bloomfield, L., Offredy, M. & Shaughnessy, P. (2013). Evaluation of services for children with complex needs: mapping service provision in one NHS Trust. *Primary Health Care Research & Development, 14*(1),52-62.
58. Goodwin, N. (2019). Improving integrated care: can implementation science unlock the 'black box'of complexities? *International journal of integrated care*, *19*(3).
59. Kenis, P. & Raab, J. (2020). Back to the future: Using organization design theory for effective organizational networks. *Perspectives on Public Management and Governance, 3*(2), 109-123.
60. Provan, K.G. & Lemaire, R.H. (2012). Core concepts and key ideas for understanding public sector organizational networks: Using research to inform scholarship and practice. *Public Administration Review*, *72*(5), 638-648.
61. Valentijn, P.P., Ruwaard, D., Vrijhoef, H.J., De Bont, A., Arends, R.Y. & Bruijnzeels, M.A. (2015). Collaboration processes and perceived effectiveness of integrated care projects in primary care: a longitudinal mixed-methods study. *BMC health services research*, *15*(1), 1-12.

62. Blanken, M., Mathijssen, J., Van Nieuwenhuizen, Ch., Raab, J., & Van Oers, H. (2023). Actors' awareness of network governance in Child Welfare and Healthcare service networks. *Health Policy, 127*, 29-36.
63. Collins, K.M., Onwuegbuzie, A.J. & Jiao, Q.G. (2007). A mixed methods investigation of mixed methods sampling designs in social and health science research. *Journal of mixed methods research*, *1*(3), 267-294.
64. Swanborn, P. (2010). *Case study research: What, why and how?* Sage publications, Thousand Oaks, CA.
65. Laumann, E.O., Marsden, P.V. & Prensky, D. (1989). The boundary specification problem in network analysis. *Research methods in social network analysis, 61*, 87.
66. Wasserman, S. & Faust, K. (1994). *Social network analysis: Methods and applications*. Cambridge university press.
67. Kramer, A.E. (2014). *Resilient networks in healthcare: Effects of structural and cognitive embeddedness on network commitment.* Tilburg University, School of Economics and Management.
68. Williams, P. (2002). The competent boundary spanner. *Public administration*, *80*(1), 103-124.
69. Borgatti, S.P., Everett, M.G. & Freeman, L.C. (2002). *Ucinet for Windows: Software for social network analysis*. (Vol. 6), Analytic technologies, Harvard, MA.
70. Brandes, U.& Wagner, D. (2004). *Analysis and visualization of social networks. Graph drawing software*. Springer, Berlin, Heidelberg, 321-340.
71. Provan, K.G., Leischow, S.J., Keagy, J. & Nodora, J. (2010). Research collaboration in the discovery, development, and delivery networks of a statewide cancer coalition. *Evaluation and program planning*, *33*(4), 349-355.
72. Scott, J. & Carrington, P.J. (2011). *The SAGE handbook of social network analysis*. Sage publications, Thousand Oaks, CA.
73. Stork, D. & Richards, W.D. (1992). Nonrespondents in communication network studies: Problems and possibilities. *Group & Organization Management*, *17*(2), 193-209.
74. Raab, J., Mannak, R.S. & Cambré, B. (2015). Combining structure, governance, and context: A configurational approach to network effectiveness. *Journal of public administration research and theory, 25*(2), 479-511.
75. Provan, K.G. & Kenis, P. (2008). Modes of network governance: Structure, management, and effectiveness. *Journal of public administration research and theory*, *18*(2), 229-252.
76. Provan, K.G. & Milward, H.B. (1995). A Preliminary Theory of Interorganizational Network Effectiviness: A Comparative Study of Four Community Mental Health Systems. *Administrative Science Quarterly*, *40*(1), 1-33.
77. Smith, J.A., Moody, J. & Morgan, J.H. (2017). Network sampling coverage II: The effect of non-random missing data on network measurement. *Social networks*, *48*, 78-99.

Chapter 6

GENERAL DISCUSSION AND CONCLUSION

Introduction

The importance of building a more sustainable youth care system is widely recognized. To date, however, there is little insight into the construction and evolution of complex child service networks [1-9]. This thesis describes one of the few longitudinal comparative whole network studies in the field of child and youth services. The overall aim of the thesis is to explore the logic behind a cohesive youth care system by examining three inter-organizational networks in different-sized municipalities in the Netherlands. More specifically, the goal is to generate a deeper understanding of the design, integration and dynamics of complex child service networks.

A social network perspective guided the examination of and reflection on the child service networks [10, 11]. This perspective encompasses a relational approach and is based on the core idea of social capital theory, namely that relationships between organizations in networks are important, as social capital is embedded in those relations [12-14]. Social capital refers to resources such as knowledge, support and control that flow through networks, as well as the advantages created by organizations' network positions [15-17]. To successfully performing core functions such as early-warning signaling, interprofessional consultation, triage, client referral, service delivery, and sharing resources like information about clients' conditions and effective treatment, or sharing staff, the interplay of the multilateral relations between organizations is vital in complex child service networks [4-7, 18-22]. A better understanding of this logic (i.e. interplay between organizations) behind a cohesive youth care system might help improve interprofessional collaboration, cross-domain continuity of care and coordinated support, all of which are vital to adequately meeting the diverse needs of children and families with social and behavioral health problems.

In this chapter, first the main findings are described, followed by a discussion of the most important results regarding the design, integration and dynamics of child service networks. Next, methodological considerations

and an overall reflection on the Dutch youth care system are discussed, including recommendations for practice, policy and research. The thesis ends with a final conclusion.

Main findings

In *Chapter 2* the structure of the child service networks in terms of differentiation (composition) and integration (interconnectedness, pattern of relations and key positions) is explored and compared. In particular, the pattern of client referral relationships is investigated and the organizations that hold a core position in these client referrals are identified. The results demonstrate that the three studied child service networks, consisting of 65 to 135 organizations, are all differentiated into 11 sectors. The organizations perform different tasks, such as signaling, gatekeeping and providing services. Organizations that exchange (early warning) signals of support needs by children, youth and families with other organizations in the network have a signaling task. Gatekeepers are organizations that are legally authorized to refer clients to child and youth services covered by the Child and Youth Act. Organizations tasked with providing services deliver various child and youth support and care. On average, network members have contact with 20 to 26 organizations in the network. In terms of integration, results show a striking difference in the patterns of client referral relationships. In one of the three studied networks, client referral is more centrally integrated and primarily organized around the center for youth and family. In the other two networks, client referral is more diffusely organized among various organizations, whereby not all organizations with a gatekeeper task in client referral hold a core network position. With regard to one of the less centrally integrated networks, results show that the expected core organizations of the sector 'Health and Prevention' do not have many relationships or a strong connection with other sectors in the network.

Chapter 3 revolved around network governance. In the study the extent to which organizations have an accurate perception of the governance mode of their network and how discrepancies in perception could be explained was

examined. Results show that, according to the network managers, the three studied child service networks are governed by a lead organization, i.e., the municipality's department of child and youth support. Remarkably, results also demonstrate that the generally held assumption that network members know which governance mode is formally administered does not hold, as only one third of the network members has an accurate perception of the governance mode. This awareness improves slightly over time.

To better understand the discrepancies in perception of the governance mode, the influence of trust, level of interaction and relationship strength (frequency of contact) with the lead organization on network members' perception of the governance mode is examined. Results show that the level of interaction and relationship strength with the lead organization are independently associated with an accurate perception of the governance mode. This means that- of all network members - organizations with a core position in the network (high level of interaction) and a strong relationship with the lead organization (high frequency of contact) more often have an accurate perception of the governance mode. Since the variables are independently associated with an accurate perception, organizations at the periphery of the network (low level of interaction) also more often have an accurate perception when they have a strong relationship with the lead organization. Organizations that do not have a strong relation with the lead organization are still likely to have an accurate perception when they have a central position in the network. By contrast, a network member's level of trust in the network is not associated with an accurate perception of the governance mode.

In *Chapter 4* empirical evidence for the existence of and the differences between structures of both knowledge-based and material information exchange relationships is gathered. Knowledge-based information refers to more tacit information such as verbal case reports, and to interprofessional consultations regarding clients' conditions and effective treatments. Material information concerns practical information such as official directives, contracts, commissions, annual accounts and invoices. Results show that the knowledge-based and material information exchange structures are

clearly distinguishable within the networks. The same pattern is found within all three child service networks, namely that the knowledge-based information exchange structure has more than twice as many relations between organizations. It also has a larger overall connectedness and is less centrally integrated compared to the material information structure. In the exchange of knowledge-based information, five to six central organizations with various tasks (gatekeeper, signaling and providing services) are closely involved, while in the exchange of material information just one organization plays a central role, i.e., the center for youth and family or the municipal government's procurement and contracting department.

Comparing the networks over time, results demonstrate a stable overall connectedness of the information exchange structures, i.e. the cohesion of the structures - the total number of relations in the structures divided by the maximum number of relations that are possible - remains the same over time [23]. However, the internal dynamics reveal a major change in relationships between organizations in the networks. Only around a third of the material information exchange relationships are the same as those in the year before, which is the case for less than half of the knowledge-based information exchange relationships within the networks. Also, results show that the pattern of the relationships based on knowledge-based information exchange changes over time; in one network it becomes more diffused, while in the other networks these relations become far more centrally distributed. The pattern of the material information exchange relationships remains similar over time.

The focus of *Chapter 5* was on the presence and stability of strong relationships in the networks and on the extent to which gatekeepers hold a key network position. In this study, strong relationships between organizations are defined as relations in which organizations interact more frequently with each other, where the contact requires reciprocity in the exchange of resources, and where organizations are connected in more than one way due to multiple resources exchange relationships with each other. Results show that more than 80% of the organizations in the studied networks have strong relations, including the gatekeepers.

A striking finding is the unequal distribution of strong relations across the organizations within the networks. This means that a small number of organizations is responsible for the majority of the strong relations in the networks, while most of the organizations have just a couple of strong relations. In fact, some gatekeepers need to maintain an extremely high number of strong relationships. Results demonstrate that the centers for youth and family have strong relations with 15 to 61 other organizations, which is an impressive amount compared to the average number of strong relations per organization (five to nine per organization). Moreover, the centers for youth and family were found to be the only gatekeepers to hold a critical relation within the network. Critical relations are those relations in the network that form a bridge between (groups of) organizations within the network that otherwise would not be connected. In other words, any disruption to this bridge would result in a grave disruption to the flow of most resources exchanged in the network [24, 25].

The development over time shows that child service networks are highly dynamic systems. Despite more than half of the organizations having stable strong relations, the individual strong relationships within the whole network appear to be fairly unstable. Results show that 60 to 70% of all strong relations within the child service networks are lost in one year of observation. However, the relatively high stability of the strong relations of some of the gatekeepers is a notable finding. Compared to all the strong relationships in the networks (30-40%), the strong relations of the centers for youth and family and the child health care organizations in two of the three networks are relatively stable over time (47-67%).

Reflections on the main findings

To gain a deeper understanding of the logic behind a cohesive youth care system, in the following section the most striking main findings with regard to the design, integration and dynamics of networks are discussed.

Serious design cracks

The studied child service networks are relatively comparable in terms of composition. Each displays the desired range of organizations with diverse expertise and resources, including organizations with a gatekeeper function. Also, important key processes such as client referral and fine-grained information exchange can be observed in all networks. When looking at the number of relations in a network, the highest number of relations tends to involve the referral of clients, closely followed by sharing knowledge-based information, and with the smallest number of relations involving material information exchange. The ratio between the number of relationships of different nature is also comparable between the networks. Since the networks are embedded in the same institutional framework of the Child and Youth Act, it is not surprising that their composition and types of relations are comparable, even though the networks and the municipalities where they are located are different-sized [26]. The composition and nature of relationships within the networks do meet the required network diversity, which is a critical precondition for organizing integrated care [6].

At the same time, the multitude and heterogeneity of sectors, organizations and relationships illustrate the complexity of such networks [1, 3]. Most of the organizations in the studied networks are connected through a high number of relations, especially the gatekeepers appear to maintain an extremely high number of strong relationships. Strong relationships are vital for key processes in the network [6, 27-29]. In the studied child service networks, more than one third of all the relations are strong. Organizations in the networks need to maintain strong relations with an average of five to nine other organizations, but important gatekeepers need to maintain strong relations with more than 50 organizations. This is striking, for if organizations need to be connected through many strong relationships while having a limited amount of resources, energy and time to maintain these relations, key processes are under threat [24]. This tension between required strong relations for integrated youth care and the limited resources to maintain those relations, can be seen as the first serious crack in the design of child service networks.

The importance of network governance in dealing with such network-level tensions is widely acknowledged [19, 30-41]. Network governance refers to how networks are organized and decisions are made to guide the key processes and goal achievement, and is crucial for a successful service delivery [26, 34, 35, 37, 38]. The child service networks in this thesis are officially governed by the municipality's department of child and youth support as a lead organization [34]. Since only a minority of the network members in all three networks have an accurate perception of the governance mode, this can be seen as a second crack in the design of child service networks. After all, network information inaccuracy can raise legitimacy questions and lead to conflicts that ultimately affect the network effectiveness [34, 35]. Also, insufficient actors' awareness of the governance mode hampers the extent to which the lead organization can play an effective and strategically important role in the network [42, 43].

However, since the child service networks consist of a small number of core organizations and a large periphery, it is questionable whether each network member needs to be aware of the formally administered mode of governance to be an effective network. In a lead organization-governed network, the management of the network is highly centralized and brokered, which implies that it is sufficient for the lead organization to be connected to just a smaller group of core actors who have an accurate perception of the governance mode and function as brokers to the peripheral actors of the network [34]. This view is reinforced by the finding that the more central the position of an organization in the network is, the more accurate its perception of the network governance. In child service networks, this could mean that the central organizations should be assigned a more important role in distributing accurate information about the network governance to peripheral organizations.

Insufficient integration

Results show that the child service networks in this study are connected as a whole. Connected as a whole means that there are no isolates in the networks, i.e. every organization has at least one relationship with another organization in the network. This connectedness can be seen as a solid basis

for a cohesive youth care system [6, 40, 44]. Moreover, as much as four out of five of the organizations are connected through strong relationships. However, to benefit from a high connectedness, the pattern of relations between the different organizations in the networks need to be appropriate and targeted, so only the organizations that need to work closely together do so [35]. Furthermore, relationships in larger child service networks should be organized around one particular or a small group of organizations to become more effective [3, 36, 37]. Taking these points into account, the way in which various types of relations are structured appears to be strikingly diverse between the networks studied in this thesis.

Relationships based on client referral are structured differently in the three child service networks. In one of the studied networks, these relations are centrally integrated and therefore the referral of clients is primarily organized around the important gatekeeper 'center for youth and family'. These centers, i.e. local multidisciplinary teams, tend to be crucial gatekeepers in child service networks, because their primary task is to form a linking pin in the referral of clients with secondary child and youth services [45]. To properly refer clients between organizations in the network, these gatekeepers need to be at the core of the network [19]. However, in the other two networks, client referral is less centrally organized. Moreover, the centers for youth and family in these networks do not even hold a central position. These positions are taken instead by organizations tasked with signaling and providing services like social work or school care coordinators. The pattern of relations indicates an insufficient integration of client referral in the latter two networks. As a result, the process of client referral in the whole network will be less effective since the organizations tasked with gatekeeping do not have the needed linking pin position in the network to fulfill their main coordinating role.

Regarding information exchange, results demonstrate a salient difference in the targeting of relationships between the networks as well as within the networks. Sharing information in an accessible and comprehensible way is an important facilitator to provide integrated care, as it is vital for a shared understanding of families' needs, a timely response and inter-professional

collaboration [6, 27, 28]. Indeed, sufficient information exchange is recognized as a crucial means to overcome service fragmentation and service duplication in the networks, which are persistent problems in youth care systems [1, 46-49]. However, in line with research on resource tangibility, results in this thesis show the presence of two very different information exchange structures within the child service networks [50, 51]. In all three networks, the exchange of knowledge-based information clearly takes place through a more connected and less centralized structure than the exchange of material information. Also, five to six central organizations with various tasks are closely involved in the exchange of knowledge-based information, while only the center for youth and family or the municipal government's procurement and contracting department is centrally positioned in the exchange of material information.

The presence of these different patterns of relationships can be explained by the resource dependency theory and social exchange theory [52]. According to these theories, organizations in a network will interact with other network members that have access to the resources they need [53]. As a result, there are various patterns of relationships in a network that influence the power and control structure of a network [23, 36, 52, 54, 55]. That is because an actor's power over another is rooted in the other's dependence on the resources controlled by the former [52, 54]. In the child service networks, the two different pattern of information exchange relationships can be seen as a segmentation of professional and administrative control, which indicates a hybrid power structure. Indeed, the diffuse control over the exchange of knowledge-based information and the referral of clients indicates high levels of professional autonomy (i.e. power) among network members. In contrast, the highly centralized flow of material information suggests a high level of administrative control by the center for youth and family and the municipal government's procurement and contracting department [50].

The found segmentation of professional and administrative control can potentially have consequences for the governance of the network. This applies especially when the lead organization does not have a key position

regarding the flow of resources in a network, which is the case in two of the three networks. The power of the centers for youth and family is notable in that regard. Except for client referral, the centers for youth and family consistently hold key positions in the networks. Moreover, they hold a critical relation within the overall structure of strong relations. As nearly all resources that flow in the networks ran through this critical relation, the centers for youth and family hold one of the most important strong positions within the networks [24, 25]. Consequently, the centers for youth and family are more likely to control other organizations in the networks, than other organizations in the network, including the lead organization [54]. The management of child service networks should be aware of the hybrid power structure, as an insufficient integration of the different information flows can lead to an ineffective matching of supply and demand for youth care.

The hazard of major dynamics

Networks are dynamic systems and for that reason they are regularly confronted with the contradictory logic of desired flexibility and stability [33, 56, 57]. On the one hand, relationship flexibility on account of new task demands gives networks their advantage over vertically integrated organizations, which can be rigid and bureaucratic [34, 35]. On the other hand, networks strive for relationship stability, as this is critical to maintaining legitimacy inside and outside the network. Moreover, the stability of relationships of core organizations appears to be a major factor in explaining network effectiveness regarding client services, especially in case of vulnerable client populations [36]. In the child service networks, the presence of this flexibility-stability tension is evident.

At the whole network level, the child service networks appear to be relatively stable. The degree of interconnectedness within both knowledge-based and material information exchange structures remains quite similar over time. Also, with more than half of the organizations having stable relationships, the composition of the network based on strong relations turns out to be fairly stable. However, the child service networks are also rather unstable, as they need to deal with major internal dynamics. The findings of this thesis show a considerable measure of instability in both relationships between

organizations and the way in which these relationships are distributed. With the loss of more than half of the information exchange relationships and around two-thirds of strong relationships in one year of observation, the individual relationships in the child service networks - except the strong relationships of some gatekeepers – are very unstable, which can become a problem.

The hazard of such major dynamics is that it can lead to a loss of social capital and a greater fragmentation in care, ultimately affecting service sustainability [58]. Especially changes in both strong relations and knowledge-based information exchange relations can undermine interprofessional collaboration [6]. In stable networks, organizations can develop long-term relationships with at least some other organizations in the network, so that each organization understands the other's strengths and weaknesses and can respond accordingly to maximize network outcomes [34, 54]. Unstable relationships, conversely, jeopardize the exchange of more fine-grained and tacit information regarding clients' conditions and effective treatment [54, 59, 60]. If there are too few stable (strong) relationships in child service networks, integrated care cannot be guaranteed [28, 51, 61].

However, the found combination of considerable instability in strong relationships at the whole network level and the fairly high stability among strong relationships of (part of) the gatekeepers at the organization level, can also be seen as advantageous. Indeed, the instability of strong relations at the whole network level could also mean a flexible operation of the strong relation pattern. As noted before, this flexibility is essential for the delivery of comprehensive, tailor-made services, because it is important to ensuring rapid network responses in ways that meet changing families' needs [35].

Methodological considerations

The strength of this thesis lies in the combination of comparable whole network research and social network analyses of a longitudinal nature, which is often called for in the field of child and youth services [1, 3, 4, 10,

62-64]. The whole network approach is widely acknowledged as highly valuable, since by examining the whole network, rather than just focusing on individual organizations and their direct relations, it becomes clear how networks are connected, structured and evolve [3, 4, 65]. Furthermore, the method of social network analysis allowed us to examine the dynamic interactions between actors, the evolving nature of social processes, and the complexity of social structures in various networks [11, 66]. Especially the used network analysis models - Compare Density Procedure and Quadratic Assignment Procedure - are valuable. Such advanced statistical analysis techniques remain underutilized in the study of collaborative networks but are necessary to develop stronger theoretical frameworks and to bring conceptual clarity to the study of networks [10]. A further strength is the use of a multiple case design and a mixed-method data collection that include semi-structured interviews with the network managers and an online questionnaire fielded among the representatives of the network members [67, 68]. Since the different service networks are located in different-sized municipalities belonging to different youth care regions of the Child and Youth Act, the multiple case and mixed-method design offers robust conclusions drawn from more than one context.

However, also methodological limits need to be considered. First, the generalizability of the findings should be considered in more detail. Due to the specific Dutch institutional context whereby gatekeepers are authorized to commission child and youth services covered by the Child and Youth Act, the setup of the networks can hardly differ between the municipalities. The studied broad contexts of the cases in this thesis are therefore sufficiently representative for the different child service networks that come across in The Netherlands. However, the focus on the Dutch youth care system may limit the generalizability of the findings in this thesis to other contexts or countries. Nevertheless, as many other countries have also implemented governance reforms including a decentralization of health systems, our results can probably be extrapolated to other contexts and countries [69-72].

Second, the network boundaries were determined by the respective network managers of the municipalities. All organizations partnered by a local

government to achieve the main network goal of the Child and Youth Act were included. However, since 'it takes a village to raise a child', it could be that other social actors like community organizations contribute to the network goal that do not directly collaborate with the local government but only with other members of the network. Nevertheless, a strict determination of the network boundaries was chosen since the application of this clear criterion makes it easier to reproduce the results [4].

Third, the whole network approach is used to obtain the maximum amount of information. After all, whole network data allows for very powerful descriptions and analyses of social structures [24]. In order to reflect the relationships reported by each organizational dyad and to identify any link, the networks were symmetrized [73]. However, this means that unconfirmed ties are examined, which may have led to an overestimation of some network relations. Specifically, the relations of the non-response organizations need to be interpreted with caution. Fortunately, the responders included all the expected core network members, with the exception of the general practitioners. That is positive, as the greatest bias in most network measures occurs when central organizations are missing, and the least bias when peripheral organizations are missing [74]. Most of the non-responders were network members at the periphery of the network, such as the municipality's department of safety, organizations for childcare and nursery or organizations for youth protection and social rehabilitation.

Finally, there are other centrality measures such as betweenness centrality and closeness centrality, which could have been used to identify the organizations that are most prominent within the different structures of the networks. The used degree centrality in this thesis is chosen for several reasons. First, the data are undirected as the networks were symmetrized, and therefore actors differ from one another only in how many connections they have [24]. Second, degree centrality is chosen because of the relatively high amount of missing data with response rates between 52% and 68%. Degree centrality is a local centrality measure and therefore less sensitive to missing data, compared to global centrality measures. Third, closeness centrality scores lack relevance for disconnected networks (with at least one

network isolate) such as ours, as the paths from all the other nodes to the isolates are infinitely long [75].

Towards a more sustainable youth care system

Learning from the findings in this thesis is valuable when working towards a more sustainable youth care system. To that end, in the following section an overall reflection on the Dutch youth care system, which indicates five serious system flaws, is discussed. Next, the idea of selective integration will be introduced as a possible direction for the solution of these flaws, whereby municipal governments are encouraged to manage relationships within the youth care system. Finally, recommendations are addressed to practice and policy, and further research.

Serious flaws in the Dutch youth care system

The 2015 reform of the Dutch youth care system was meant to overcome persistent problems, such as an inadequate coordination and collaboration between child service organizations [76]. Unifying the legal and administrative systems at the local level, the renewed Child and Youth Act offered municipal governments a major opportunity to transform policies and services towards a more integrated approach [77, 78]. The findings of this thesis offer a promising basis for creating a cohesive delivery system. The child service networks consist of the desired range of organizations with diverse expertise and resources and are connected as a whole; their relationships are often strong and based on the required key processes; and at least some of the expected core organizations have a key network position. However, this thesis also offers empirical indications for at least five serious flaws in the Dutch youth care system, namely:

1. The required strong relationships for integrated youth care conflict with the limited resources to maintain those relationships.

2. Lead organizations are hampered in playing an effective and strategically important role in the networks due to insufficient actors' awareness of the governance mode.
3. The presence of a hybrid power structure can lead to an ineffective matching of supply and demand for youth care.
4. Crucial gatekeepers lack a linking-pin position in the referral of clients.
5. Major internal dynamics jeopardize a seamless service delivery.

These system flaws should be taken into account when working towards a more sustainable youth care system. A possible direction for a solution is the idea of selective integration through the governance of relations.

The idea of selective integration through the governance of relations

To build on the promising basis for a cohesive youth care system and to simultaneously remedy the found flaws in the system, the focus should be on the idea of selective integration through the governance of relations. Selective integration means that the patterns of relationships between different organizations in the child service networks are appropriate and targeted, so only the organizations that need to work closely together do so [35-37]. Although strong and stable relations are crucial preconditions for integrated care, it is questionable whether it is necessary to have strong relations between all the different organizations in the network. It might instead be sufficient for the gatekeeper organizations and some of the organizations per sector to have strong relations. In terms of selective integration, the latter would imply a hub and spoke structure, whereby one particular or a small group of organizations is connected to a core group of organizations that function as brokers to the peripheral organizations in the network [34].

The idea of selective integration through the governance of relations pertains to both the structural and behavioral dimensions of network governance, which both are important determinants for a successful service delivery [34, 35, 38, 39]. First of all, the structural dimension requires municipal

governments to rethink the structures and key roles within the child service networks, including their dynamic nature. Then, to empower the mechanism of selective integration, the behavioral dimension requires municipal governments to actively manage the relationships within the youth care system. After all, the governance of networks is mainly about the governance of relationships, i.e. the strategic activity focused on the understanding and influencing of interactions between organizations within networks [79].

This approach of selective integration through the governance of relations can help reduce the five flaws in the youth care system. By rethinking and managing the structure and key roles within the child service networks - including tensions that are inherent to network governance like the flexibility-stability paradox - the lead organizations can actively fulfill their strategically important role in the networks. Due to the accumulation of experiences of organizations with the operational management of the network, network-level knowledge on the governance mode and the required structures and key roles for a successful child service delivery will spread and reputations will become more established [54].

Recommendations for practice and policy

To achieve a well-considered selective integration, it is recommended that municipal governments (i.e. the network managers, public policy officials and responsible aldermen) give more thought to the logic behind a cohesive youth care system by considering at least the following discussion points. The described hub and spoke structure, whereby one particular or a small group of organizations is connected to a core group of organizations that function as brokers to the peripheral organizations in the network, could especially apply to the centers for youth and family. These centers are namely specifically formed – following the 2015 youth care reform – to become the hub between preventive support (e.g. basic social organizations, education, health and prevention, childcare and nursery, volunteer organizations), primary care (e.g. child healthcare, general practitioners, social work, youth and family support) and specialized care (e.g. specialized youth care, protection and social rehabilitation, safety organizations) [6, 80].

However, this setup would still mean that the centers for youth and family need to maintain a fairly large number of strong relationships with a core group of broker organizations that at least represent the ten other sectors in the youth care system. Otherwise, core functions such as early-warning signaling, triage, service delivery, client referral, and interprofessional consultation at the whole network level cannot be performed adequately [4, 18-22, 36]. Therefore, network managers should realize that even a more centrally organized child service network demands extra attention, time and resources to achieve the integration necessary to successfully build a cohesive youth care system that facilitates integrated care in families' own environment [81].

Further, the found occurrence of two different structures of information exchange relationships and especially the lacking linking-pin position of the lead organization within these structures need to be considered. This applies even more so since most of the actors in the networks have an inaccurate perception of the network governance mode. When the actual lead organization is not identified as such by the network members, it cannot play an effective and strategically important role in the network [82, 83]. In the present form, it is questionable whether the lead organizations are properly able to manage the network. After all, to ground the youth care policy cycle on the varied needs of families with social and behavioral health problems, the lead organization is entirely dependent on the diffuse flow of knowledge-based information exchange within the network. Although policy and administration must always depend on the knowledge and experiences of so-called street-level bureaucrats - professionals working with the families in need of help, the lead organization should have more direct access through a more central position in the exchange of such important knowledge [84].

The same issue applies to the control of the material information. Although the flow of material information is centrally structured, the lead organization also lacks a central position in this flow. It is conceivable that the lead organization (among others) should have a key position in both information structures, i.e. knowledge and material information, to ensure that the

contracting of youth care service delivery organizations is responsive to the demands of the families in need. Alternatively, the lead organization should at least be aware of these different structures and create a strong connection with the center for youth and family, because in the present setup the center is more likely to control other organizations due to its consistent key network position [54].

Therefore, the lead organizations need to develop network-level coordination skills and task-specific competencies, such as quality monitoring, conflict resolution, legitimacy and goal commitment building, the ability to adjust to changing circumstances, and fostering innovation and organizational learning [39]. This behavioral dimension of network governance regarding the youth care system needs to be further developed [38].

Recommendations for research

The focus of this thesis was to determine and compare the design, integration and dynamics of the child service networks, as they are important determinants for network effectiveness [33, 36, 39, 40]. However, to what extent these relational and structural aspects have an actual influence on network behavior, outputs or outcomes is not examined. Further research should assess the achievement of network goals such as: well-coordinated child and youth services geared to local and individual situations and needs; an overall cost reduction for the municipalities; a work method based on integrated policies; and enhancing the well-being of children, young adults and their families [34, 35, 39].

Another recommendation for further research regarding network governance is to examine whether the differences in perception of the governance mode have an actual impact on the strategic network behavior of social actors within the child service networks [82, 83, 85]. Also, research should investigate to what extent all network members need to have an accurate perception of its governance mode for the network to be effective. For example, would it be sufficient for the lead organization to be connected to just a smaller core group of actors who function as brokers to the peripheral actors of the network, whereby these broker organizations are

assigned a more important role in distributing accurate information about the network governance to peripheral organizations? The respondents, in the current study were asked to identify the governance mode, but not to identify the specific lead organization as such. Further research should assess whether the found influence of interaction and position on the accurate perception of the governance mode also hold for the accurate perception of the lead organization in the network. In that context, it would also be relevant to examine whether the theoretical role of the network lead organization corresponds with its empirical role as revealed by the actual patterns of interaction within the network, referred to as 'social roles' based on equivalence in social network analysis [24].

Final recommendation for further research is to explore the found network-level tension between required strong relations for integrated youth care and the limited resources to maintain those relations. Research should examine what the maximum number of strong relationships is that an organization and a network as a whole can build and maintain efficiently and effectively. Also, it should assess whether major internal dynamics of child service networks can lead to a loss of social capital and a greater fragmentation in the youth care system [58]. Specifically, future research should address what additional effort – attention, time and resources – is required to build and maintain a successfully functioning strong stable relations network. In that regard, it would also be relevant to examine whether there is a maximum to the degree of differentiation and the efforts to achieve integration for the child service network to function effectively; also known as the unity-diversity tension described by Saz-Carranza and Ospina (2011). As known from the organization design theory perspective, both differentiation and integration are fundamental and interlinked issues relevant for the functioning of an interorganizational network [81]. The varied needs of children and families with social and behavioral health problems requires a diverse network composition of organizations that are sufficiently integrated to facilitate integrated care [6, 28]. Further research should examine the optimal balance in these tensions that are inherent in child service networks.

Final conclusion

A cohesive youth care system that organizes integrated care for children and families in need of help depends largely on the effective collaboration between a wide range of organizations with diverse expertise and resources within child service networks. This thesis has yielded a range of insights into the design, integration and dynamics of complex child service networks, and has identified five serious flaws in the Dutch youth care system that need to be managed. Besides the network-level tension between the required strong relationships for integrated care and the limited resources to maintain those relations, the child service networks have to deal with actors' inaccurate perceptions of network governance, segmented information exchange structures, the lack of linking-pin positions for gatekeepers, and major internal dynamics that jeopardize a successful delivery of youth care.

To work towards a more sustainable youth care system that ensures a comprehensive, tailor-made and seamless service delivery to children and families in need, municipal governments should invest extra attention, time and resources to achieve the desired selective integration, and should actively manage the interplay of interorganizational relationships within child service networks. In particular, the present hybrid power structure needs to be managed at least by creating strong connections between lead organizations and centers for youth and family, given their consistent key network position. In order to satisfy these network-level demands, municipal governments should develop network-level coordination skills and task-specific competencies. A learning system as promised in the renewed Child and Youth Act should be facilitated as well, which requires a continuous evaluation of and reflection on the logic behind a cohesive youth care system and the permanent monitoring of network-level outcomes.

References

1. Bustos, T.E. (2020). A Scoping Review of Social Network Analyses in Interorganizational Collaboration Studies for Child Mental Health. *Children and Youth Services Review, 119*, 105569.
2. Carroll, A. (2021). Integrated Care Through the Lens of a Complex Adaptive System. In: *Handbook Integrated Care*. Springer, 595-609.
3. Colvin, M.L. & Miller, S.E. (2020). The role of complexity theory and network analysis for examining child welfare service delivery systems. *Child & Youth Services, 41* (2), 160-83.
4. Provan, K.G., Fish, A. & Sydow, J. (2007). Interorganizational networks at the network level: A review of the empirical literature on whole networks. *Journal of management*, *33*(3), 479-516.
5. Brooks, F., Bloomfield, L., Offredy, M. & Shaughnessy, P. (2013). Evaluation of services for children with complex needs: mapping service provision in one NHS Trust. *Primary Health Care Research & Development*, *14*(1),52-62.
6. Nooteboom, L., Mulder, E.A., Kuiper, C.H.Z., Colins, O.F. & Vermeiren, R.R.J.M. (2021). Towards Integrated Youth Care: A Systematic Review of Facilitators and Barriers for Professionals. *Administration and Policy in Mental Health and Mental Health Services Research, 48*(1), 88-105.
7. Tausendfreund, T., Knot-Dickscheit, J., Schulze, G.C., Knorth, E.J. & Grietens, H. (2016). Families in multi-problem situations: backgrounds, characteristics, and care services. *Child & Youth Services*, *37*(1), 4-22.
8. Amelung, V., Stein, V., Goodwin, N., Balicer, R., Nolte, E., & Suter, E. (2017). *Handbook integrated care*. Springer International Publishing.
9. Berwick, D.M., Nolan, T.W. & Whittington, J. (2008). The triple aim: care, health, and cost. *Health affairs, 27*(3), 759-769.
10. Kapucu, N., Hu, Q. & Khosa, S. (2017). The state of network research in public administration. *Administration & Society*, *49*(8), 1087-1120.
11. Scott, J. (2012). *What is social network analysis?* Bloomsbury Academic.
12. Burt, R.S. (1995). *Structural Holes: The Social Structure of Competition*. Harvard University Press.
13. Coleman, J.S. (1988). Social capital in the creation of human capital. *American journal of sociology*, *94*, S95-S120.
14. Granovetter, M.S. (1973). The strength of weak ties. *American journal of sociology*, *78*(6), 1360-1380.
15. Burt, R.S. (2007). *Brokerage and closure: An introduction to social capital*. Oxford University Press
16. Scott, C. & Hofmeyer, A. (2007). Networks and social capital: a relational approach to primary healthcare reform. *Health Research Policy and Systems, 5*, 1-8.

17. Szreter, S. & Woolcock, M. (2004). Health by association? Social capital, social theory, and the political economy of public health. *International journal of epidemiology, 33*(4), 650-667.
18. Brown, S.M., Klein, S. & McCrae, J.S. (2014). Collaborative relationships and improved service coordination among child welfare and early childhood systems. *Child Welfare, 93*(2), 91-116.
19. Provan, K.G. & Milward, H.B. (2001). Do networks really work? A framework for evaluating public-sector organizational networks. *Public administration review*, *61*(4), 414-423.
20. Stoop, A., Lette, M., Ambugo, E.A., Gadsby, E.W., Goodwin, N., Maclnns, J. et al. (2020). Improving person-centredness in integrated care for older people: experiences from thirteen integrated care sites in Europe. *International journal of integrated care*, *20*(2).
21. Van der Ham, A., Van Merode, F., Ruwaard, D. & Van Raak, A. (2020). Identifying integration and differentiation in a Hospital's logistical system: a social network analysis of a case study. *BMC Health Services Research*, *20*(1), 857.
22. Stein, K.V. & Amelung, V. (2021). *Refocussing Care - What Does People-Centredness Mean?* Handbook Integrated Care. Springer, 27-38.
23. Kilduff, M. & Brass, D.J. (2010). Organizational social network research: Core ideas and key debates. *The academy of management annals*, *4*(1), 317-357.
24. Hanneman, R.A. & Riddle, M. (2005). *Introduction to social network methods*. University of California, Riverside, CA.
25. Cropper, S. (Ed.) (2008). *The Oxford handbook of inter-organizational relations*. Oxford Handbooks Online.
26. Carboni, J.L., Saz-Carranza, A., Raab, J. & Isett, K. R. (2019). Taking Dimensions of Purpose-Oriented Networks Seriously. P*erspectives on Public Management and Governance, 2*(3), 187-201.
27. Allen, A.D., Hyde, J. & Leslie, L.K. (2012). "I Don't Know What They Know": Knowledge transfer in mandated referral from child welfare to early intervention. *Children and Youth Services Review*, *34*(5), 1050-1059.
28. Cooper, M., Evans, Y. & Pybis, J. (2016). Interagency collaboration in children and young people's mental health: a systematic review of outcomes, facilitating factors and inhibiting factors. *Child: Care, Health and Development, 42*(3), 325-342.
29. Gulati, R., Dialdin, D.A. & Wang, L. (2002). *Organizational networks*. The Blackwell companion to organizations, 281-303.
30. Isett, K.R., Mergel, I.A., LeRoux, K., Mischen, P.A. & Rethemeyer, R.K (2011). Networks in public administration scholarship: Understanding where we are and where we need to go. *Journal of public administration research and theory, 21*(suppl_1), i157-i173.
31. Kramer, A.E. (2014). *Resilient networks in healthcare: Effects of structural and cognitive embeddedness on network commitment*. Tilburg University, School of Economics and Management.

32. McGuire, M. (2006). Collaborative public management: Assessing what we know and how we know it. *Public administration review, 66*, 33-43.
33. Popp, J., Milward, H.B., MacKean, G., Casebeer, A. & Lindstrom, R. (2014). *Inter-organizational networks: a review of the literature to inform practice*. IBM Center for the Business of Government.
34. Provan, K.G. & Kenis, P. (2008). Modes of network governance: Structure, management, and effectiveness. *Journal of public administration research and theory*, *18*(2), 229-252.
35. Provan, K.G. & Lemaire, R.H. (2012). Core concepts and key ideas for understanding public sector organizational networks: Using research to inform scholarship and practice. *Public Administration Review*, *72*(5), 638-648.
36. Provan, K.G. & Milward, H.B. (1995). A Preliminary Theory of Interorganizational Network Effectiviness: A Comparative Study of Four Community Mental Health Systems. *Administrative Science Quarterly*, *40*(1), 1-33.
37. Raab, J., Mannak, R.S. & Cambré, B. (2015). Combining structure, governance, and context: A configurational approach to network effectiveness. *Journal of public administration research and theory*, *25*(2), 479-511.
38. Saz-Carranza, A. & Ospina, S.M. (2011). The behavioral dimension of governing interorganizational goal-directed networks—Managing the unity-diversity tension. *Journal of Public Administration Research and Theory*, *21*(2), 327-365.
39. Smith, J.G. (2020). Theoretical Advances in Our Understanding of Network Effectiveness. *Perspectives on Public Management and Governance*, *3*(2), 1-16.
40. Turrini, A., Cristofoli, D., Frosini, F. & Nasi, G. (2010). Networking literature about determinants of network effectiveness. *Public Administration*, *88*(2), 528-550.
41. Milward, H.B., Provan, K.G. (2006). *A manager's guide to choosing and using collaborative networks*. IBM Center for the Business of Government, Washington, DC.
42. Hahl, O., Kacperczyk, A.O. & Davis, J.P. (2016), Knowledge asymmetry and brokerage: Linking network perception to position in structural holes. *Strategic Organization*, *14*(2), 118-43.
43. Knoben, J., Gilsing, V.A. & Krijkamp, A.R. (2019). From homophily through embeddedness to strategy: The role of network accuracy in partner selection choices. *Long Range Planning, 52*(1), 86-102.
44. Provan, K.G. & Sebastian, J.G. (1998). Networks within networks: Service link overlap, organizational cliques, and network effectiveness. *Academy of Management journal, 41*(4), 453-463.
45. Hilverdink, P., Daamen, W. & Vink, C. (2015). *Children and youth support and care in the Netherlands*. Netherlands Youth Institute/NJi.
46. Baxter, S., Johnson, M., Chambers, D., Sutton, A., Goyder, E. & Booth, A. (2018). The effects of integrated care: a systematic review of UK and international evidence. *BMC health services research, 18*(1), 1-13.

47. Bolland, J.M. & Wilson, J.V. (1994). Three faces of integrative coordination: a model of interorganizational relations in community-based health and human services. *Health services research*, *29*(3), 341.
48. Hwang, S.H.J., Mollen, C.J., Kellom, K.S., Dougherty, S.L. & Noonan, K.G. (2017). Information sharing between the child welfare and behavioral health systems: Perspectives from four stakeholder groups. *Social Work in Mental Health*, *15*(5), 500-523.
49. Pettitt, B. (2003). *Effective joint working between child and adolescent mental health services (CAMHS) and schools*. Citeseer.
50. Huang, K. & Provan, K.G. (2006). Resource Tangibility and Patterns of Interaction in a Publicly Funded Health and Human Services Network. *Journal of Public Administration Research and Theory*, *17*(3), 435-54.
51. Provan, K.G. & Huang, K. (2012). Resource tangibility and the evolution of a publicly funded health and human services network. *Public Administration Review*, *72*(3), 366-375.
52. Emerson, R.M. (1962). Power-dependence relations. *American sociological review*, 31-41.
53. Pfeffer, J. & Salancik, G.R. (2003). *The external control of organizations: A resource dependence perspective*. Stanford University Press.
54. Provan, K.G., Huang, K. & Milward, H.B. (2009). The evolution of structural embeddedness and organizational social outcomes in a centrally governed health and human services network. *Journal of Public Administration Research and Theory*, *19*(4), 873-893.
55. Scott, J. & Carrington, P.J. (2011). *The SAGE handbook of social network analysis*. Sage publications, Thousand Oaks, CA.
56. Lemaire, R.H., Mannak, R.S., Ospina, S.M. & Groenleer, M. (2019). Striving for State of the Art with Paradigm Interplay and Meta-Synthesis: Purpose-oriented Network Research Challenges and Good Research Practices as a Way Forward. *Perspectives on Public Management and Governance*, *2*(3), 175-186.
57. Human, S.E. & Provan, K.G. (2000). Legitimacy building in the evolution of small-firm multilateral networks: A comparative study of success and demise. *Administrative science quarterly*, *45*(2), 327-365.
58. Karnstedt, M., Hennessy, T., Chan, J., Basuchowdhuri, P., Hayes, C. & Strufe, T. (2010). Churn in social networks. In: *Handbook of social network technologies and applications*. Springer, 185-220.
59. Ahuja, G., Soda, G. & Zaheer, A. (2012). The genesis and dynamics of organizational networks. *Organization science*, *23*(2), 434-448.
60. Uzzi, B. (1996). The Sources and Consequences of Embeddedness for the Economic Performance of Organizations: The Network Effect. *American Sociological Review*, *61*(4), 674-698.

61. Nicaise, P., Tulloch, S., Dubois, V., Matanov, A., Priebe, S. & Lorant, V. (2013). Using social network analysis for assessing mental health and social services inter-organisational collaboration: findings in deprived areas in Brussels and London. *Administration and Policy in Mental Health and Mental Health Services Research*, *40*(4), 331-339.
62. Benham-Hutchins, M. & Clancy, T.R. (2010). Social networks as embedded complex adaptive systems. *JONA: The Journal of Nursing Administration*, *40*(9), 352-356.
63. Robinson, S.E. (2006). A decade of treating networks seriously. *Policy Studies Journal*, *34*(4), 589-598.
64. Kitson, A., Brook, A., Harvey, G., Jordan, Z., Marshall, R., O'Shea, R. & Wilson, D. (2018). Using complexity and network concepts to inform healthcare knowledge translation. *International Journal of Health Policy and Management*, *7*(3), 231.
65. Berthod, O., Grothe-Hammer, M. & Sydow, J. (2017). Network ethnography: A mixed-method approach for the study of practices in interorganizational settings. *Organizational Research Methods*, *20*(2), 299-323.
66. Kapucu, N. & Demiroz, F. (2011). Measuring performance for collaborative public management using network analysis methods and tools. *Public Performance & Management Review*, *34*(4), 549-579.
67. Collins, K.M., Onwuegbuzie, A.J. & Jiao, Q.G. (2007). A mixed methods investigation of mixed methods sampling designs in social and health science research. *Journal of mixed methods research*, *1*(3), 267-294.
68. Swanborn, P. (2010). *Case study research: What, why and how?* Sage publications, Thousand Oaks, CA.
69. Jiménez-Rubio, D. & García-Gómez, P. (2017). Decentralization of health care systems and health outcomes: Evidence from a natural experiment. *Social Science & Medicine*, *188*, 69-81.
70. Abimbola, S., Baatiema, L. & Bigdeli, M. (2019). The impacts of decentralization on health system equity, efficiency and resilience: a realist synthesis of the evidence. *Health policy and planning*, *34*(8), 605-617.
71. Muñoz, D.C., Amador, P.M., Llamas, L.M., Hernandez, D.M. & Sancho, J.M.S. (2017). Decentralization of health systems in low and middle income countries: a systematic review. *International journal of public health*, *62*(2), 219-229.
72. Senkubuge, F., Modisenyane, M. & Bishaw, T. (2014). Strengthening health systems by health sector reforms. *Global health action*, *7*(1), 23568.
73. Provan, K.G., Leischow, S.J., Keagy, J. & Nodora, J. (2010). Research collaboration in the discovery, development, and delivery networks of a statewide cancer coalition. *Evaluation and program planning*, *33*(4), 349-355.
74. Smith, J.A., Moody, J. & Morgan, J.H. (2017). Network sampling coverage II: The effect of non-random missing data on network measurement. *Social networks*, *48*, 78-99.
75. Wasserman, S. & Faust, K. (1994). *Social network analysis: Methods and applications*. Cambridge university press.

76. Werkgroep Toekomstverkenning Jeugdzorg (2010). *Jeugdzorg dichterbij*. Tweede Kamer der Staten-Generaal, Den Haag.
77. *Child and Youth Act*. (2014). https://wetten.overheid.nl/BWBR0034925/2019-04-02
78. Boogers, M. & Reussing, R. (2019). Decentralisatie, schaalvergroting en lokale democratie. *Bestuurswetenschappen*, *2*, 22-46.
79. Minkman, M., Zonneveld, N. & Shaw, J. (2021) Positioning Integrated Care Governance: Key Issues and Core Components. In: *Handbook Integrated Care*. Springer, 149-64.
80. Bosscher, N. (2012*). The decentralisation and transformation of the Dutch youth care system.* (Accessed 30 September 2013) https://www.nji.nl.
81. Kenis, P. & Raab, J. (2020). Back to the future: Using organization design theory for effective organizational networks. *Perspectives on Public Management and Governance, 3*(2), 109-123.
82. Balkundi, P. & Kilduff, M. (2006). The ties that lead: A social network approach to leadership. *The leadership quarterly, 17*(4), 419-39.
83. Kilduff, M. & Krackhardt, D. (2008). *Interpersonal networks in organizations: Cognition, personality, dynamics, and culture*. Cambridge University Press.
84. Lipsky, M. (2010). *Street-level bureaucracy: Dilemmas of the individual in public service*. Russell Sage Foundation.
85. Knoben, J., Oerlemans, L.A., Krijkamp, A.R. & Provan, K.G. (2018). What do they know? The antecedents of information accuracy differentials in interorganizational networks. *Organization Science*, *29*(3), 471-88.

SUMMARY

Introduction

The importance of building a more sustainable youth care system is widely recognized. To this end, many countries have implemented health system reforms to promote the 'Triple Aim' goals: higher cost efficiency, improved quality of care, and improved health outcomes. In line with this global trend, the Netherlands implemented a major reform of their youth care system by introducing a renewed Child and Youth Act in 2015. Since then, municipal governments have been fully responsible for the child welfare and healthcare services delivery system. By unifying the legal and administrative systems at the local level, the reform was meant to overcome persistent problems in the service system, such as fragmentation and duplication of services. To work towards a comprehensive, tailored and seamless service delivery, municipal governments collaborate with organizations having diverse expertise and resources in child service networks. Organizations in these networks operate across several sectors, such as mental healthcare, education, childcare and nursery, specialized youth care and community services. An effective functioning of these networks is crucial to adequately meet the diverse needs of children and families with social and behavioral health problems. To date, however, there is little insight into the construction and evolution of these complex child service networks.

This thesis describes one of the few longitudinal comparative whole network studies in the field of child and youth services. The overall aim of the thesis is to explore the logic behind a cohesive youth care system by examining three inter-organizational networks in different-sized municipalities in the Netherlands. More specifically, the goal is to generate a deeper understanding of the design, integration and dynamics of complex child service networks to contribute to a more sustainable youth care system. Accordingly, the thesis explores and compares the structure of the networks in terms of differentiation (composition) and integration (interconnectedness, pattern of relations and key positions). In particular, the pattern of client referral relationships is investigated and the organizations that hold a core position in these client referrals are identified (*Chapter 2*). Next, the extent to which organizations have

an accurate perception of the governance mode of their network and how discrepancies in perception might be explained is examined (*Chapter 3*). This is followed by an examination of the differences in structures and dynamics of and between both material and knowledge-based information exchange relationships (*Chapter 4*). Knowledge-based information refers to more tacit information such as verbal case reports, and to interprofessional consultations regarding clients' conditions and effective treatments. Material information concerns practical information such as official directives, contracts, commissions, annual accounts and invoices. Finally, the thesis examines the presence and stability of strong relationships in the networks and on the extent to which gatekeepers hold a key network position (*Chapter 5*). In this study, strong relationships between organizations are defined as relations in which organizations interact more frequently with each other, where the contact requires reciprocity in the exchange of resources, and where organizations are connected in more than one way due to multiple resources exchange relationships with each other.

Methods

A comparative case study approach and social network analysis were used to examine three interorganizational networks located in different-sized municipalities. These networks consist of 65 to 135 organizations from various sectors in the Dutch youth care system. Network I was located in a midsize municipality (population of around 180,000), Network II in a small municipality (population of around 66,000), and Network III covered four very small municipalities that collaborate in providing child services (with 13,000-20,000 inhabitants per municipality, i.e., a total population of about 60,000).

The data were collected through a mixed-method approach using semi-structured interviews with the network managers and an online questionnaire fielded among the representatives of the network members, at two points in time. The first data collection took place in the period of November 2017 to September 2018, the second in the period of April to

September 2019. The study combined a nominalist and realist approach to network boundary specification. A criterion to include organizations was defined first (nominal approach), after which the judgment of participating individuals in the network was used to determine the boundaries (realist approach). The following definition of a network was used: *the network of child services consists of organizations that, according to the network manager, work with the local government to achieve the main network goal of the Child and Youth Act*.

To describe and compare the design of the networks, the characteristics of size, tasks, sectors, nature of relations and (perception of the) governance mode were studied. To explain the found differences in network members' perception of the governance mode, the concepts of level of trust, interaction, and strength of relationship with the lead organization in the network were used. To examine the integration (interconnectedness, patterns of relations, key network positions) and dynamics of the networks, multiple network measures were used, namely density, degree centralization, degree centrality, average degree centrality, Lambda sets and the number of active organizations, isolates and relations. The data were analyzed in Excel, Ucinet and SPSS, applying the following statistical tests: Compare Density Procedure, Quadratic Assignment Procedure and multiple generalized linear mixed model analysis. The graphs of the networks were visualized in Visone.

Results

The results in *Chapter 2* demonstrate that the three studied child service networks, consisting of 65 to 135 organizations, are all differentiated into 11 sectors. The organizations perform different tasks, such as signaling, gatekeeping and providing services. Organizations that exchange (early warning) signals of support needs by children, youth and families with other organizations in the network have a signaling task. Gatekeepers are organizations that are legally authorized to refer clients to child and youth services covered by the Child and Youth Act. Organizations tasked with providing services deliver various child and youth support and care. On

average, network members have contact with 20 to 26 organizations in the network. In terms of integration, results show a striking difference in the patterns of client referral relationships. In one of the three studied networks, client referral is more centrally integrated and primarily organized around the center for youth and family. In the other two networks, client referral is more diffusely organized among various organizations, whereby not all organizations with a gatekeeper task in client referral hold a core network position. With regard to one of the less centrally integrated networks, results show that the expected core organizations of the sector 'Health and Prevention' do not have many relationships or a strong connection with other sectors in the network.

Results in *Chapter 3* show that, according to the network managers, the three studied child service networks are governed by a lead organization, i.e., the municipality's department of child and youth support. Remarkably, results also demonstrate that the generally held assumption that network members know which governance mode is formally administered does not hold, as only one third of the network members has an accurate perception of the governance mode. This awareness improves slightly over time. Results also show that the level of interaction and relationship strength with the lead organization are independently associated with an accurate perception of the governance mode. This means that - of all network members - organizations with a core position in the network (high level of interaction) and a strong relationship with the lead organization (high frequency of contact) more often have an accurate perception of the governance mode. Since the variables are independently associated with an accurate perception, organizations at the periphery of the network (low level of interaction) also more often have an accurate perception when they have a strong relationship with the lead organization. Organizations that do not have a strong relation with the lead organization are still likely to have an accurate perception when they have a central position in the network. By contrast, a network member's level of trust in the network is not associated with an accurate perception of the governance mode.

Results in *Chapter 4* demonstrate that the knowledge-based and material

information exchange structures are clearly distinguishable within the networks. The same pattern is found within all three child service networks, namely that the knowledge-based information exchange structure has more than twice as many relations between organizations. It also has a larger overall connectedness and is less centrally integrated compared to the material information structure. In the exchange of knowledge-based information, five to six central organizations with various tasks (gatekeeper, signaling and providing services) are closely involved, while in the exchange of material information just one organization plays a central role, i.e., the center for youth and family or the municipal government's procurement and contracting department. Comparing the networks over time, results demonstrate a stable overall connectedness of the information exchange structures. However, the internal dynamics reveal a major change in relationships between organizations in the networks. Only around a third of the material information exchange relationships are the same as those in the year before, which is the case for less than half of the knowledge-based information exchange relationships within the networks. Also, results show that the pattern of the relationships based on knowledge-based information exchange changes over time; in one network it becomes more diffused, while in the other networks these relations become far more centrally distributed. The pattern of the material information exchange relationships remains similar over time.

Results in *Chapter 5* show that more than 80% of the organizations in the studied networks have strong relations, including the gatekeepers. A striking finding is the unequal distribution of strong relations across the organizations within the networks. This means that a small number of organizations is responsible for the majority of the strong relations in the networks, while most of the organizations have just a couple of strong relations. In fact, some gatekeepers need to maintain an extremely high number of strong relationships. Results demonstrate that the centers for youth and family have strong relations with 15 to 61 other organizations, which is an impressive amount compared to the average number of strong relations per organization (five to nine per organization). Moreover, the centers for youth and family were found to be the only gatekeepers to hold a

critical relation within the network. The development over time shows that child service networks are highly dynamic systems. Despite more than half of the organizations having stable strong relations, the individual strong relationships within the whole network appear to be fairly unstable. Results show that 60 to 70% of all strong relations within the child service networks are lost in one year of observation. However, the relatively high stability of the strong relations of some of the gatekeepers is a notable finding. Compared to all the strong relationships in the networks (30-40%), the strong relations of the centers for youth and family and the child health care organizations in two of the three networks are relatively stable over time (47-67%).

Discussion

The findings of this thesis offer a promising basis for creating a cohesive delivery system. The child service networks consist of the desired range of organizations with diverse expertise and resources and are connected as a whole; their relationships are often strong and based on the required key processes; and at least some of the expected core organizations have a key network position. However, this thesis also offers empirical indications for at least five serious flaws in the Dutch youth care system.

Serious flaws in the Dutch youth care system

1. *The required strong relationships for integrated youth care conflict with the limited resources to maintain those relationships.*

The composition and nature of relationships within the networks do meet the required network diversity, which is a critical precondition for organizing integrated care. At the same time, the multitude and heterogeneity of sectors, organizations and relationships illustrate the complexity of such networks. Most of the organizations in the studied networks are connected through a high number of relations, especially the gatekeepers appear to

maintain an extremely high number of strong relationships. This is striking, for if organizations need to be connected through many strong relationships while having a limited amount of resources, energy and time to maintain these relations, key processes are under threat.

2. *Lead organizations are hampered in playing an effective and strategically important role in the networks due to insufficient actors' awareness of the governance mode.*

The child service networks in this thesis are officially governed by the municipality's department of child and youth support as a lead organization. Since only a minority of the network members in all three networks have an accurate perception of the governance mode, this can be seen as a serious flaw in the design of child service networks. After all, network information inaccuracy can raise legitimacy questions and lead to conflicts that ultimately affect the network effectiveness. Also, insufficient actors' awareness of the governance mode hampers the extent to which the lead organization can play an effective and strategically important role in the network.

3. *The presence of a hybrid power structure can lead to an ineffective matching of supply and demand for youth care.*

In the child service networks, the two different pattern of information exchange relationships can be seen as a segmentation of professional and administrative control, which indicates a hybrid power structure. Indeed, the diffuse control over the exchange of knowledge-based information and the referral of clients indicates high levels of professional autonomy (i.e. power) among network members. In contrast, the highly centralized flow of material information suggests a high level of administrative control by the center for youth and family and the municipal government's procurement and contracting department. The management of child service networks should be aware of the hybrid power structure, as an insufficient integration of the different information flows can lead to an ineffective matching of supply and demand for youth care.

4. Crucial gatekeepers lack a linking-pin position in the referral of clients.

Relationships based on client referral are structured differently in the three child service networks. In two of the three networks, the important gatekeeper 'center for youth and family' does not hold a central position. These centers, i.e. local multidisciplinary teams, tend to be crucial gatekeepers in child service networks, because their primary task is to form a linking pin in the referral of clients with secondary child and youth services. The pattern of relations indicates an insufficient integration of client referral in two networks. As a result, the process of client referral in the whole network will be less effective since the organizations tasked with gatekeeping do not have the needed linking pin position in the network to fulfill their main coordinating role.

5. Major internal dynamics jeopardize a seamless service delivery.

The findings of this thesis show a considerable measure of instability in both relationships between organizations and the way in which these relationships are distributed. With the loss of more than half of the information exchange relationships and around two-thirds of strong relationships in one year of observation, the individual relationships in the child service networks - except the strong relationships of some gatekeepers – are very unstable, which can become a problem. The hazard of such major dynamics is that it can lead to a loss of social capital and a greater fragmentation in care, ultimately affecting service sustainability. Especially changes in both strong relations and knowledge-based information exchange relations can undermine interprofessional collaboration. Unstable relationships jeopardize the exchange of more fine-grained and tacit information regarding clients' conditions and effective treatment. If there are too few stable (strong) relationships in child service networks, integrated care cannot be guaranteed.

Towards a more sustainable youth care system

To build on the promising basis for a cohesive youth care system and to simultaneously remedy the found flaws in the system, the focus should be

on the idea of selective integration through the governance of relations. Selective integration means that the patterns of relationships between different organizations in the child service networks are appropriate and targeted, so only the organizations that need to work closely together do so. The idea of selective integration through the governance of relations pertains to both the structural and behavioral dimensions of network governance. First of all, the structural dimension requires municipal governments to rethink the structures and key roles within the child service networks, including their dynamic nature. Then, to empower the mechanism of selective integration, the behavioral dimension requires municipal governments to actively manage the relationships within the youth care system.

By rethinking and managing the structure and key roles within the child service networks - including tensions that are inherent to network governance like the flexibility-stability paradox - the lead organizations can actively fulfill their strategically important role in the networks. Due to the accumulation of experiences of organizations with the operational management of the network, network-level knowledge on the governance mode and the required structures and key roles for a successful child service delivery will spread and reputations will become more established.

Recommendations for practice and policy

To achieve a well-considered selective integration, it is recommended that municipal governments give more thought to the logic behind a cohesive youth care system by considering at least the following discussion points.

- The described hub and spoke structure, whereby one particular or a small group of organizations is connected to a core group of organizations that function as brokers to the peripheral organizations in the network, could especially apply to the centers for youth and family. However, network managers should realize that even a more centrally organized child service network demands extra attention, time and resources to achieve the integration necessary to successfully build a cohesive youth care system that facilitates integrated care in families'

own environment.

- The found occurrence of two different structures of information exchange relationships and especially the lacking linking-pin position of the lead organization within these structures need to be considered. This applies even more so since most of the actors in the networks have an inaccurate perception of the network governance mode. To ensure that the contracting of youth care service delivery organizations is responsive to the demands of the families in need, the lead organization (among others) should have a key position in both knowledge and material information structures. Therefore, the lead organizations need to develop the behavioral dimension of network governance, i.e. network-level coordination skills and task-specific competencies, such as quality monitoring, conflict resolution, legitimacy and goal commitment building, the ability to adjust to changing circumstances, and fostering innovation and organizational learning.

Recommendations for research

The following research questions are recommended for further research:

- To what extent do relational and structural network aspects have an actual influence on network behavior, outputs or outcomes, such as: well-coordinated child and youth services geared to local and individual situations and needs; an overall cost reduction for the municipalities; a work method based on integrated policies; and enhancing the well-being of children, young adults and their families?

- Do the differences in perception of the governance mode have an actual impact on the strategic network behavior of social actors within the child service networks?

- Do all network members need to have an accurate perception of its governance mode for the network to be effective?

- Does the influence of interaction and position on the accurate perception of the governance mode also hold for the accurate perception of the lead organization in the network?

- Does the theoretical role of the network lead organization correspond with its empirical role as revealed by the actual patterns of interaction within the network, referred to as 'social roles' based on equivalence in social network analysis?

- What is the maximum number of strong relationships that an organization and a network as a whole can build and maintain efficiently and effectively?

- To what extent do major internal dynamics of child service networks lead to a loss of social capital and a greater fragmentation in the youth care system?

- What additional effort – attention, time and resources – is required to build and maintain a successfully functioning strong stable relations network?

- Is there a maximum to the degree of differentiation and the efforts to achieve integration for the child service network to function effectively?

Final conclusion

A cohesive youth care system that organizes integrated care for children and families in need of help depends largely on the effective collaboration between a wide range of organizations with diverse expertise and resources within child service networks. This thesis has yielded a range of insights into the design, integration and dynamics of complex child service networks, and has identified five serious flaws in the Dutch youth care system that need to be managed. Besides the network-level tension between the required strong relationships for integrated care and the limited resources to maintain those relations, the child service networks have to deal with actors' inaccurate perceptions of network governance, segmented information exchange structures, the lack of linking-pin positions for gatekeepers, and major internal dynamics that jeopardize a successful delivery of youth care.

To work towards a more sustainable youth care system that ensures a comprehensive, tailor-made and seamless service delivery to children and families in need, municipal governments should invest extra attention, time and resources to achieve the desired selective integration, and should actively manage the interplay of interorganizational relationships within child service networks. In particular, the present hybrid power structure needs to be managed at least by creating strong connections between lead organizations and centers for youth and family, given their consistent key network position. In order to satisfy these network-level demands, municipal governments should develop network-level coordination skills and task-specific competencies. A learning system as promised in the renewed Child and Youth Act should be facilitated as well, which requires a continuous evaluation of and reflection on the logic behind a cohesive youth care system and the permanent monitoring of network-level outcomes.

SAMENVATTING

Inleiding

In het algemeen wordt erkend dat het verkrijgen van een meer toekomstbestendig jeugdzorgsysteem van groot belang is. Om dat te bereiken hebben veel landen stelselhervormingen doorgevoerd, waarbij drie doelen centraal staan: hogere kostenefficiëntie, verbeterde kwaliteit van zorg en verbeterde resultaten van de zorg. In lijn met deze wereldwijde trend heeft Nederland met de implementatie van de vernieuwde Jeugdwet in 2015 een grote hervorming van het jeugdzorgsysteem doorgevoerd. Sinds die tijd zijn gemeenten verantwoordelijk voor het gehele jeugddomein. De decentralisatie van de wettelijke jeugdzorgtaken van het Rijk en provincies naar gemeenten was bedoeld om hardnekkige problemen in het jeugdzorgsysteem te kunnen aanpakken, zoals fragmentatie in het zorgaanbod en overlap in de dienstverlening. Om te komen tot een uitgebreid, passend en samenhangend aanbod van jeugdhulp en ondersteuning, werken gemeenten in jeugdhulpnetwerken samen met organisaties, die beschikken over verschillende expertises en middelen. Deze organisaties werken binnen diverse sectoren, zoals geestelijke gezondheidszorg, onderwijs, kinderopvang, specialistische jeugdzorg en welzijnswerk. Om adequaat in te kunnen inspelen op de uiteenlopende behoeften aan hulp en ondersteuning van kinderen en gezinnen is het cruciaal dat deze organisatienetwerken effectief functioneren. Echter, tot op heden is er weinig bekend over de opbouw en ontwikkeling van deze complexe jeugdhulpnetwerken.

Dit proefschrift beschrijft één van de weinige longitudinale vergelijkende netwerkstudies op het gebied van jeugdzorg. Het doel van dit proefschrift is om de logica van een samenhangend jeugdzorgsysteem te verkennen door drie jeugdhulpnetwerken binnen gemeenten van verschillende grootte in Nederland te onderzoeken. Meer specifiek is het doel om een dieper inzicht te verkrijgen in het ontwerp, samenhang en dynamiek van complexe jeugdhulpnetwerken en daarmee te mogen bijdragen aan een meer toekomstbestendig jeugdzorgsysteem. Daartoe wordt in dit proefschrift de structuur van de netwerken in termen van differentiatie (samenstelling) en integratie (onderlinge samenhang, relatiepatronen en sleutelposities)

geëxploreerd en vergeleken. In het bijzonder worden de patronen van clientverwijzingen tussen organisaties in het netwerk onderzocht en worden de organisaties geïdentificeerd die daarbij een sleutelpositie vervullen (*Hoofdstuk 2*). Daarna wordt onderzocht in hoeverre organisaties een accurate perceptie hebben van de sturingsvorm van hun netwerk en hoe afwijkende percepties mogelijk verklaard kunnen worden (*Hoofdstuk 3*). Daarna volgt een onderzoek naar de verschillen in de structuren en dynamiek van relaties die gebaseerd zijn op zowel inhoudelijke als materiële informatie-uitwisseling (*Hoofdstuk 4*). Inhoudelijke informatie refereert naar informatie zoals casuïstiekbespreking en consultatie tussen professionals over hulpvragen en effectieve behandelingen. Materiële informatie betreft praktische informatie zoals indicatiebesluiten, contracten, jaarrekeningen en facturen. Tot slot onderzoekt dit proefschrift de aanwezigheid en dynamiek van sterke relaties in de netwerken en de mate waarin organisaties met een toegangsfunctie daarbij een sleutelpositie hebben (*Hoofdstuk 5*). Sterke relaties tussen organisaties worden in deze studie gedefinieerd als relaties waarin organisaties vaker contact hebben met elkaar, waarbij het contact wederkerigheid vraagt in het uitwisselen van hulpbronnen en waarbij organisaties op meer dan één manier verbonden zijn met elkaar doordat ze verschillende hulpbronnen met elkaar uitwisselen. Denk daarbij aan inhoudelijke consultatie, het uitwisselen van materiële informatie en het overdragen van cliënten.

Methode

Om drie organisatienetwerken in gemeenten van verschillende grootte te onderzoeken is gebruikgemaakt van een vergelijkende casestudie benadering en sociale netwerkanalyse. De netwerken bestaan uit 65 tot 135 organisaties uit verschillende sectoren binnen het jeugdzorgstelsel in Nederland. Netwerk I bevond zich in een grote gemeente (populatie van ongeveer 180.000), Netwerk II in een middelgrote gemeente (populatie van ongeveer 66.000) en Netwerk III betrof vier kleine gemeenten die samenwerken op het gebied van jeugdhulp en ondersteuning (13.000-20.000 inwoners per gemeente,

d.w.z. een totale populatie van ongeveer 60.000).

De data zijn op twee momenten verzameld via een mixed-methode benadering bestaande uit semigestructureerde interviews met de netwerkmanagers en een online vragenlijst, die uitgestuurd werd naar de vertegenwoordigers van de organisaties in het netwerk. De eerste dataverzameling vond plaats in de periode van november 2017 tot september 2018 en de tweede in de periode van april tot september 2019. Het onderzoek combineert een minimalistische en realistische benadering voor netwerkafbakening. Allereerst werd een criterium voor het includeren van organisaties gedefinieerd (minimalistische benadering), waarna het oordeel van de respondenten werd gebruikt om de grenzen te bepalen (realistische benadering). De volgende definitie van een netwerk werd gebruikt: *het jeugdhulpnetwerk bestaat uit organisaties waarmee de gemeente volgens de netwerkmanager samenwerkt om het doel van de jeugdwet te bereiken.*

Om het ontwerp van de netwerken te beschrijven en te vergelijken, zijn de kenmerken grootte, taken, sectoren, aard van de relaties en (de perceptie van de) sturingsvorm onderzocht. Om de gevonden verschillen in de gepercipieerde sturingsvorm te verklaren zijn de concepten mate van vertrouwen, contact en sterkte van de relatie met de leidende netwerkorganisatie gebruikt. Om de integratie (onderlinge samenhang, relatiepatronen en sleutelposities) en de dynamiek van de netwerken te onderzoeken zijn verschillende netwerkmaten gebruikt, zoals centraliteit, dichtheid, het aantal actieve organisaties en onderlinge relaties. De data zijn geanalyseerd in Excel, Ucinet en SPSS, waarbij de volgende statistische toetsen zijn toegepast: Compare Density Procedure, Quadratic Assignment Procedure en multiple generalized linear mixed model analyse. De netwerkdiagrammen zijn vormgegeven in Visone.

Resultaten

De resultaten in *Hoofdstuk 2* laten zien dat de drie onderzochte netwerken bestaan uit 65 tot 135 organisaties die onderverdeeld zijn in 11 sectoren. De organisaties hebben verschillende taken: signalering, toegang en dienstverlening. De taak signaleren betreft organisaties die hulpvragen van kinderen, jongeren en gezinnen (vroeg)signaleren. Organisaties met de taak toegang zijn wettelijk gelegitimeerd om cliënten te verwijzen naar geïndiceerde jeugdzorg. De taak dienstverlening gaat over organisaties die diverse vormen van jeugdhulp en ondersteuning bieden. Gemiddeld hebben organisaties in het netwerk contact met 20 tot 26 andere organisaties in het netwerk. In termen van integratie laten de resultaten een opvallend verschil zien in de patronen van clientverwijzingen in de netwerken. In één van de drie onderzochte netwerken zijn clientverwijzingen meer centraal geïntegreerd en primair georganiseerd rondom het Centrum voor Jeugd en Gezin. In de andere twee netwerken zijn de clientverwijzingen meer verspreid georganiseerd rondom verschillende organisaties, waarbij niet alle organisaties met een toegangstaak een centrale netwerkpositie hebben. Tevens blijken de verwachte kernorganisaties van de sector 'Gezondheid en Preventie' in één van die netwerken niet veel relaties of een sterke verbinding te hebben met andere sectoren in het netwerk.

Resultaten in *Hoofdstuk 3* laten zien dat de drie onderzochte jeugdhulpnetwerken volgens de netwerkmanagers gestuurd worden door een leidende netwerkorganisatie, namelijk door de afdeling Jeugd van de gemeente. Opvallend is dat slechts een derde van de organisaties in de netwerken een accurate perceptie hebben van deze sturingsvorm, waarmee de in het algemeen gehanteerde veronderstelling dat leden van een netwerk weten wat de formeel geldende sturingsvorm is niet houdbaar blijkt. Over de tijd wordt het besef van de netwerkleden iets beter. Resultaten laten ook zien dat de mate van interactie en de sterkte van de relatie met de leidende netwerkorganisatie onafhankelijk van elkaar geassocieerd zijn met een accurate perceptie van de sturingsvorm. Dit betekent dat – van alle organisaties in het netwerk – organisaties met een kern positie in het netwerk (hoge mate van interactie) en een sterke

relatie met de leidende netwerkorganisatie (hoge frequentie van contact) vaker een accurate perceptie hebben van de sturingsvorm. Aangezien de variabelen onafhankelijk van elkaar geassocieerd zijn met een accurate perceptie, hebben organisaties in de periferie van het netwerk (lage mate van interactie) ook vaker een accurate perceptie wanneer ze een sterke relatie hebben met de leidende netwerkorganisatie. Organisaties die geen sterke relatie hebben met de leidende netwerkorganisatie hebben nog steeds vaker een accurate perceptie wanneer ze een centrale positie in het netwerk hebben. De mate van vertrouwen in het netwerk door netwerkleden wordt daarentegen niet geassocieerd met een accurate perceptie van de sturingsvorm.

Resultaten in *Hoofdstuk 4* laten zien dat er binnen de netwerken duidelijk structuren te onderscheiden zijn op basis van inhoudelijke en materiële informatie-uitwisseling. In alle drie de onderzochte netwerken is eenzelfde patroon gevonden, namelijk dat er tussen organisaties binnen de structuur van inhoudelijke informatie-uitwisseling twee keer zoveel relaties bestaan. Ook heeft die structuur een grotere algehele verbondenheid en is het minder centraal geïntegreerd in vergelijking met de materiële informatiestructuur. Bij de uitwisseling van inhoudelijke informatie zijn vijf tot zes centrale organisaties met verschillende taken (toegang, signalering en dienstverlening) nauw betrokken, terwijl bij de uitwisseling van materiële informatie slechts één organisatie een centrale rol speelt, namelijk het Centrum voor Jeugd en Gezin of de afdeling inkoop en contractmanagement van de gemeente. De resultaten van de vergelijking van de netwerken over tijd laten op netwerkniveau een stabiele algehele verbondenheid van de informatie-uitwisseling structuren zien. Binnen de netwerken blijken de onderlinge relaties tussen de organisaties daarentegen erg dynamisch. Slechts ongeveer een derde van de relaties, die zijn gebaseerd op materiële informatie-uitwisseling, zijn hetzelfde als het jaar ervoor. Dat geldt ook voor minder dan de helft van de relaties gebaseerd op inhoudelijke informatie-uitwisseling in de netwerken. Ook laten de resultaten veranderingen in het patroon van de relaties gebaseerd op inhoudelijke informatie-uitwisseling over de tijd zien; in één netwerk raken de relaties meer verspreid over het netwerk, terwijl in de andere netwerken deze relaties juist veel meer centraal

verdeeld worden. Het patroon van de materiële informatie-uitwisselingen blijft gelijk over de tijd.

Resultaten in *Hoofdstuk 5* laten zien dat meer dan 80% van de organisaties in de onderzochte netwerken, inclusief de toegangsorganisaties, sterke relaties heeft. Een opvallende bevinding is de scheve verdeling van de sterke relaties over de organisaties in de netwerken. Dit betekent dat een klein aantal organisaties verantwoordelijk is voor de meerderheid van de sterke relaties in de netwerken, terwijl de meeste organisaties slechts een paar sterke relaties hebben. Sommige toegangsorganisaties moeten een extreem hoog aantal sterke relaties onderhouden. Resultaten laten zien dat de Centra voor Jeugd en Gezin sterke relaties hebben met 15 tot 61 andere organisaties, wat een indrukwekkende hoeveelheid is in vergelijking met het gemiddeld aantal sterke relaties per organisatie (vijf tot negen per organisatie). Daarnaast blijken de Centra voor Jeugd en Gezin de enige toegangsorganisaties die een kritische relatie in het netwerk hebben. Via een kritische relatie worden de meeste hulpbronnen uitgewisseld, ook vormt deze relatie een brug tussen (groepen) organisaties in het netwerk die anders niet verbonden zouden zijn. De ontwikkeling over de tijd laat zien dat jeugdhulpnetwerken sterke dynamische systemen zijn. Ondanks dat meer dan de helft van de organisaties stabiele sterke relaties heeft, blijken de individuele sterke relaties binnen het gehele netwerk behoorlijk onstabiel. Resultaten laten zien dat 60 tot 70% van alle sterke relaties binnen de jeugdhulpnetwerken verloren gaat in één jaar van observatie. Daarentegen is de relatieve hoge stabiliteit van de sterke relaties van sommige toegangsorganisaties noemenswaardig. In vergelijking met alle sterke relaties in de netwerken (30-40%), blijken de sterke relaties van de Centra voor Jeugd en Gezin en de jeugdgezondheidzorg in twee van de drie netwerken relatief stabiel over tijd (47%-67%).

Discussie

De bevindingen in dit proefschrift bieden een veelbelovende basis voor het creëren van een samenhangend jeugdzorgsysteem. De jeugdhulpnetwerken bestaan uit de gewenste verscheidenheid aan organisaties met diverse expertise en middelen en zijn verbonden als een geheel; hun relaties zijn veelal sterk en gebaseerd op de benodigde kernprocessen; en tenminste een aantal van de verwachte kernorganisaties hebben een sleutelpositie in het netwerk. Echter biedt dit proefschrift ook empirische aanwijzingen voor tenminste vijf ernstige tekortkomingen in het Nederlandse jeugdzorgsysteem.

Ernstige tekortkomingen in Nederlandse jeugdzorg-systeem

1. *De sterke relaties die nodig zijn voor integrale jeugdzorg zijn strijdig met de beperkte middelen om deze relaties te onderhouden.*

De samenstelling en aard van de relaties binnen de netwerken voldoen aan de benodigde diversiteit in een netwerk, wat een kritische randvoorwaarde is om integrale zorg te organiseren. Tegelijkertijd duidt de veelheid en verscheidenheid aan sectoren, organisaties en relaties de complexiteit van dergelijke netwerken. De meeste organisaties in de onderzochte netwerken zijn verbonden via een groot aantal relaties, met name de toegangsorganisaties blijken een extreem groot aantal relaties te onderhouden. Dit is opvallend omdat kernprocessen onder druk komen staan als organisaties verbonden moeten zijn via vele sterke relaties, terwijl ze een beperkte hoeveelheid middelen, energie en tijd hebben om deze relaties te onderhouden.

2. *Doordat actoren in het netwerk onvoldoende bewust zijn van de sturingsvorm worden leidende netwerkorganisaties belemmerd bij het vervullen van een effectieve en strategisch belangrijke rol in het netwerk.*

De jeugdhulpnetwerken in dit proefschrift worden officieel aangestuurd door de afdeling jeugd van de gemeente als een leidende netwerkorganisatie. Slechts een minderheid van de organisaties in de netwerken heeft een accurate perceptie van de sturingsvorm, wat gezien kan worden als een ernstige tekortkoming in het ontwerp van de jeugdhulpnetwerken. Per slot van rekening kan inaccurate informatie over het netwerk leiden tot legitimiteitsvraagstukken en conflicten die uiteindelijk van invloed zijn op de effectiviteit van het netwerk. Ook belemmert onvoldoende kennis over de sturingsvorm bij de netwerkactoren de mate waarin de leidende netwerkorganisatie een effectieve en strategisch belangrijke rol in het netwerk kan vervullen.

3. *De aanwezigheid van een hybride machtsstructuur kan leiden tot een ineffectieve aansluiting van vraag naar en aanbod van jeugdhulp en ondersteuning.*

De twee verschillende patronen van informatie-uitwisseling relaties in de jeugdhulpnetwerken kunnen gezien worden als een segmentatie van professionele en bestuurlijke controle, wat duidt op een hybride machtsstructuur. De verdeelde controle over de uitwisseling van inhoudelijke informatie en de verwijzingen van cliënten wijst namelijk op een hoge mate van professionele autonomie (oftewel macht). De sterk gecentraliseerde stroom van materiële informatie wijst daarentegen op een hoge mate van bestuurlijke controle door de Centra voor Jeugd en Gezin en de afdeling inkoop en contractmanagement van de gemeente. Het management van de jeugdhulpnetwerken zal zich bewust moeten zijn van deze hybride machtsstructuur, aangezien een onvoldoende integratie van de verschillende informatiestromen kan leiden tot een ineffectieve aansluiting van de vraag naar en aanbod van jeugdhulp en ondersteuning.

4. *Cruciale toegangsorganisaties missen een sleutelpositie in het netwerk bij het verwijzen van cliënten.*

Relaties die gebaseerd zijn op clientverwijzingen zijn verschillend gestructureerd in de drie jeugdhulpnetwerken. In twee van de drie

netwerken heeft de belangrijke toegangsorganisatie Centrum voor Jeugd en Gezin geen sleutelpositie in het netwerk. Deze centra - lokale multidisciplinaire teams – zijn belangrijke toegangsorganisaties omdat ze een schakelpunt zijn in de verwijzing van cliënten naar geïndiceerde jeugdzorg en ondersteuning. Het patroon van relaties wijst daarmee in twee netwerken op een onvoldoende samenhangende clientverwijzing. Met als gevolg dat het proces van cliëntverwijzing in het gehele netwerk minder effectief zal zijn, aangezien de organisaties met een toegangstaak niet de sleutelpositie in het netwerk hebben die zij nodig hebben om hun algemeen coördinerende taak uit te voeren.

5. *Grote interne dynamiek brengt een naadloos aansluitende dienstverlening in gevaar.*

De resultaten in dit proefschrift laten een grote mate van onstabiliteit zien van zowel de relaties tussen de organisaties als de wijze waarop de relaties verdeeld zijn in het netwerk. Met een verlies van meer dan de helft van de relaties gebaseerd op informatie-uitwisseling en van ongeveer tweederde van de sterke relaties in één jaar van observatie blijken de individuele relaties in de jeugdhulpnetwerken erg onstabiel te zijn, met uitzondering van een aantal toegangsorganisaties. Dit kan een probleem worden. Het gevaar van dergelijk onstabiliteit is namelijk dat het kan leiden tot een verlies van sociaal kapitaal en een toename van de fragmentatie in zorgaanbod, wat uiteindelijk de toekomstbestendigheid van het systeem aantast. Met name veranderingen in sterke relaties en in relaties gebaseerd op inhoudelijke informatie-uitwisseling kunnen interprofessionele samenwerking ondermijnen. Instabiele relaties belemmeren professionals in de uitwisseling van gedetailleerde en impliciete informatie over hulpvragen en effectieve behandelingen. Indien er te weinig stabiele (sterke) relaties aanwezig zijn in de jeugdhulpnetwerken dan kan integrale zorg van jeugd en gezin niet gegarandeerd worden.

Op weg naar een beter toekomstbestendig jeugdzorg-systeem

Om verder te kunnen bouwen op de veelbelovende basis voor een samenhangend jeugdzorgsysteem en tegelijkertijd de gevonden tekortkomingen in het systeem aan te pakken, zou de focus moeten liggen op selectieve integratie. Selectieve integratie betekent dat het patroon van relaties tussen verschillende organisaties in de jeugdhulpnetwerken passend en gericht is, zodat alleen de organisaties die nauw samen moeten werken dat ook doen. Inzetten op selectieve integratie betreft zowel de structurele als de gedragsdimensie van netwerksturing. Op de eerste plaats vraagt de structurele dimensie aan gemeenten om goed na te denken over de structuren en sleutelposities in de jeugdhulpnetwerken inclusief hun dynamische aard. Om vervolgens het mechanisme van selectieve integratie te versterken, vraagt de gedragsdimensie van gemeenten om actief de relaties binnen het jeugdzorgsysteem te managen.

Door het zorgvuldig overwegen en managen van de structuur en sleutelposities in de jeugdhulpnetwerken kunnen de leidende netwerkorganisaties actief hun strategisch belangrijke rol in de netwerken vervullen. Door ervaringen van organisaties met het operationeel management van het netwerk zal hun kennis over het netwerk ten aanzien van de sturingsvorm en de gewenste structuren en sleutelposities voor een succesvol jeugdzorgsysteem toenemen.

Aanbevelingen voor praktijk en beleid

Om een goed doordachte selectieve integratie te bereiken is het aan te bevelen dat gemeenten meer stilstaan bij de logica van een samenhangend jeugdzorgsysteem door op zijn minst rekening te houden met de volgende punten.

- De beschreven structuur, waarbij één of een kleine groep van organisaties verbonden is met een kerngroep van organisaties die als makelaars functioneren naar de organisaties in de periferie van het netwerk, kan met name passend zijn voor de Centra voor Jeugd en Gezin. De netwerkmanager moet zich dan nog steeds realiseren dat ook

een meer centraal georganiseerd jeugdhulpnetwerk extra aandacht, tijd en middelen vraagt om de gewenst integratie te bereiken die nodig is om een succesvol samenhangend jeugdzorgsysteem te bouwen dat integrale zorg voor kinderen en gezinnen in hun eigen omgeving faciliteert.

- De gevonden aanwezigheid van twee verschillende informatie-uitwisselingsstructuren en met name de afwezige sleutelpositie voor de leidende netwerkorganisatie daarin verdienen een zorgvuldige overweging. Zeker omdat de meerderheid van de organisaties een inaccurate perceptie hebben van de sturingsvorm van het netwerk. Om er zeker van te kunnen zijn dat de contracten met organisaties voor de levering van jeugdhulp en ondersteuning passend zijn bij de hulpbehoeften vanuit gezinnen, zou de leidende netwerkorganisatie een sleutelpositie in zowel de inhoudelijke als bestuurlijke informatie-uitwisselingsstructuur moeten hebben. De leidende netwerkorganisatie dient daarvoor de gedragsdimensie van netwerksturing verder door te ontwikkelen. Denk aan netwerkcoördinatievaardigheden en taak specifieke competenties zoals kwaliteitsmonitoring, conflicthantering, versterken van legitimiteit en doelbetrokkenheid, het vermogen om zich aan veranderingen aan te passen en het stimuleren van innovatie en organisatieleren.

Aanbevelingen voor onderzoek

De volgende onderzoeksvragen zijn aan te bevelen voor verder onderzoek:

- In hoeverre hebben relationele en structurele netwerkaspecten invloed op netwerkgedrag, -producten en -uitkomsten? Denk daarbij aan: goed-gecoördineerde dienstverlening afgestemd op de lokale en individuele situaties en behoeften; een algemene kostenreductie voor gemeenten; een werkmethode die gebaseerd is op integraal beleid; of een verbeterd welbevinden voor kinderen, jongeren en gezinnen.

- Hebben verschillen in de gepercipieerde sturingsvorm invloed op hoe sociale actoren zich gedragen in de jeugdhulpnetwerken?

- Moeten alle netwerkactoren een accurate perceptie hebben van de sturingsvorm om het netwerk effectief te laten functioneren?

- Geldt de invloed van interactie en netwerkpositie op de accurate perceptie van de sturingsvorm ook voor een accurate perceptie van de leidende netwerkorganisatie?

- Komt de theoretische rol van de leidende netwerkorganisatie overeen met zijn empirische rol binnen de daadwerkelijke interactiepatronen in het netwerk?

- Wat is het maximale aantal sterke relaties dat een organisatie en een netwerk als geheel efficiënt en effectief kan bouwen en onderhouden?

- In hoeverre leidt grote interne dynamiek in jeugdhulpnetwerken tot een verlies aan sociaal kapitaal en tot een toename van fragmentatie in het jeugdzorgsysteem?

- Wat vraagt het aan extra investering qua aandacht, tijd en middelen om een succesvol functionerend netwerk van stabiele en sterke relaties te bouwen en onderhouden?

- Zit er een maximum aan de mate van differentiatie en de investering die het kost om de integratie in het netwerk te bereiken die nodig is voor het effectief functioneren van het jeugdhulpnetwerk?

Eindconclusie

Een samenhangend jeugdzorgsysteem, dat integrale jeugdhulp en ondersteuning organiseert voor kinderen en families die dat nodig hebben, is sterk afhankelijk van de effectieve samenwerking tussen een breed palet aan organisaties met diverse expertises en middelen binnen jeugdhulpnetwerken. Dit proefschrift heeft geresulteerd in een reeks van inzichten ten aanzien van het ontwerp, samenhang en dynamiek van complexe jeugdhulpnetwerken en heeft vijf ernstige tekortkomingen in het Nederlandse jeugdzorgsysteem geïdentificeerd die aangepakt moeten worden. Naast de spanning tussen de benodigde sterke relaties voor integrale jeugdzorg en de beperkte hoeveelheid middelen om deze relaties te onderhouden moeten jeugdhulpnetwerken omgaan met een inadequate perceptie van de sturingsvorm, segmentatie in informatie-uitwisselingsstructuren, gebrek aan sleutelposities voor toegangsorganisaties en een enorme interne dynamiek, die een succesvolle zorg voor jeugd in gevaar brengen.

Om te komen tot een meer toekomstbestendig jeugdzorgsysteem dat een uitgebreid, passend en samenhangend aanbod van jeugdhulp en ondersteuning garandeert, zouden gemeenten extra tijd en middelen moeten investeren om de gewenste selectieve integratie te bereiken en zouden zij actief het samenspel van interorganisationele relaties in de jeugdhulpnetwerken moeten managen. Met name de aanwezige hybride machtsstructuur moet gemanaged worden door tenminste sterke verbindingen te leggen tussen de leidende netwerkorganisatie en de Centra voor Jeugd en gezin, vanwege hun sterke sleutelposities in het netwerk. Om gehoor te kunnen geven aan deze netwerkvereisten zouden gemeenten hun netwerkcoördinatievaardigheden en taak-specifieke competenties moeten door ontwikkelen. Ook zal een lerend systeem zoals beloofd in de vernieuwde jeugdwet gefaciliteerd moeten worden, dat vraagt een continue evaluatie en reflectie op de logica van een samenhangend jeugdzorgsysteem en een permanente monitoring van de opbrengsten van het netwerk.

DANKWOORD

Mijn liefde voor complexiteit en chaos is gelegen in de mogelijkheid om orde te scheppen, ook al is die orde maar van tijdelijke aard. Chaos is nodig om de vanzelfsprekendheid ter discussie te stellen en daarmee de oneindigheid der dingen verder te onderzoeken en beter te leren begrijpen. De kunstenaar Maurits Cornelis Escher wist mij door zijn werk - waarin die oneindigheid wordt aangeraakt - op jonge leeftijd al te inspireren. Urenlang verwonderde ik me in het wiskundelokaal over zijn tekeningen. De uitdaging van Escher om altijd meervoudig en kritisch te kijken resoneert sterk bij mij.

Het doen van wetenschappelijk onderzoek en het schrijven van dit proefschrift heb ik dan ook ervaren als een enorm groot cadeau. Deze proeve van bekwaamheid bekrachtigt het plezier dat ik beleef aan het pad dat ik bewandel. Alweer ruim 25 jaar mag ik me bezighouden met de complexiteit van samenlevingsopbouw en het scheppen van tijdelijke orde door het vinden van mechanismen, verbanden, patronen, dynamiek en structuren. Eerst als jongerenopbouwwerker op de straten en achter de voordeuren van Tilburg, later als onderzoeker-adviseur in de bestuurlijke en beleidspraktijk van het publieke domein en nu ook als wetenschapper: het genot van meervoudig en kritisch kijken is er altijd.

Bevoorrecht voel ik mij, dat ik mag werken bij zowel het oudste opbouworgaan van Nederland (Het PON & Telos) als het wetenschappelijk centrum voor zorg en welzijn (Tranzo, Tilburg University).
Vanuit de missie om actief bij te dragen aan een sociaal duurzame samenleving zijn beide organisaties voortdurend op zoek naar zinvolle verbindingen tussen praktijk, beleid en wetenschap. Voorliggend proefschrift is daar een resultante van. Dit markeert wat mij betreft geen eindpunt, het is wel één van de mooie momenten op mijn pad. In de tweede helft van mijn leven hoop ik nog veel relevante studies te mogen doen en bij te kunnen dragen aan een fijn samenleven.

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Joss Boukens, opa van mijn meiden en herdacht als bijzondere en zeer

betrokken bestuurder in de jeugdzorg. Hij heeft mij gestimuleerd om sociologie te studeren zodat ik mijn onvrede met het functioneren van het jeugdzorgsysteem beter kon duiden.
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ABOUT THE AUTHOR

Mariëlle Blanken studied Social Work at Avans University of Applied Sciences in Breda, where she graduated in 2002 after writing a bachelor's thesis on policy-driven contract management in the field of social work. Soon afterwards, Mariëlle started working as a youth and community worker, later also as a youth policy officer. In the same period, she pursued her master Policy Analysis and Organizations at the Department Sociology of Utrecht University. Mariëlle graduated in 2006, her master's thesis explored the impact of new public management on the functioning of social service organizations. Since then, she works as a researcher and consultant in the public domain at Het PON & Telos in Tilburg, and since 2016 also as a science practitioner at Tranzo, Scientific Center for Care and Wellbeing at Tilburg University. Her PhD research focused on the functioning of large cross-sectoral organizational networks for child welfare and healthcare service delivery. Mariëlle has published various articles, book chapters and reports, mostly on her key topics: resilient society, wellbeing economy, social policy, civic policy participation, local and regional government, interorganizational collaboration and network governance.