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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.

1. 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 Fig. 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

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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

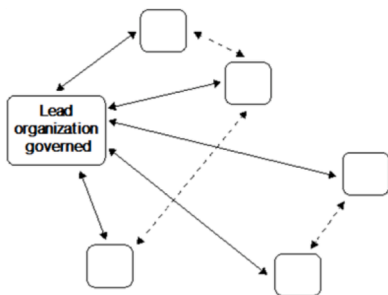
positively related [43,44]. Organizations that have more trust in the other organizations are more committed to the network [22,43,45,46], leading to a higher engagement with the network and making it more likely that actors in the network will accurately perceive the formally administered mode of governance. 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 [47] 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]. Since all major network-level activities and key decisions should be coordinated through and by the lead organization [25,38], a *strong relationship* with this organization probably contributes to a network member's understanding of the mode of governance.

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.

2. Methods

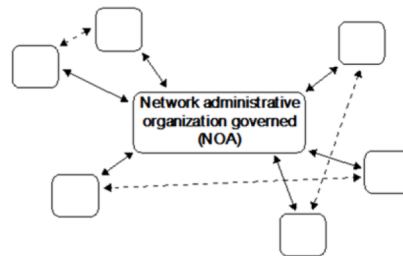
2.1. Research setting

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



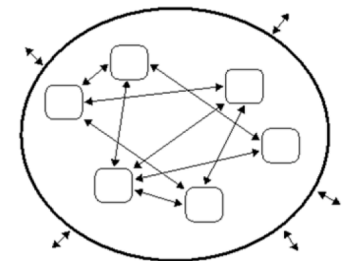
Lead organization governed

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 governed (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.

Fig. 1. Description of three modes of governance.

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).

2.2. 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.

2.3. 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,

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%)
<i>Sectors</i>	<i>Examples of organizations and professional groups</i>		
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%)
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%)

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.

2.4. Measurement

Mode of governance was measured with a description and graphic illustration of three modes of governance adapted from Provan & Kenis

(2008; 2009:447; see Fig. 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.

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.

2.5. 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.

3. 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 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.

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

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)	78	46%	79	49%
no contact	11	6%	9	6%
(almost) every day	12	7%	10	6%
several times a week	29	17%	34	21%
several times a month	40	24%	28	18%
several times a year				
	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 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	Reference	Reference
no contact	4.70** (1.68-13.18)	3.20* (1.17-8.76)
(almost) every day	0.92 (0.57-1.46)	0.67 (0.41-1.09)
several times a week	0.92 (0.43-1.97)	1.13 (0.43-2.99)
several times a month	1.31 (0.46-3.75)	
several times a year	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).

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.

4. 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.

5. 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.

Ethics approval and consent to participate

We confirm that all methods were carried out in accordance with relevant guidelines and regulations and that informed consent was obtained from all research participants. We confirm that all experimental protocols were approved by Ethical Review Board of Tilburg University. The code ethical research standard is EC-2016.30.

Consent for publication

Not applicable.

Availability of data and materials

The data underlying this article cannot be shared publicly to protect the privacy of the participants but are available from the corresponding author on reasonable request.

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CRedit authorship contribution statement

Mariëlle Blanken: Conceptualization, Methodology, Formal analysis, Investigation, Writing – review & editing. **Jolanda Mathijssen:** Conceptualization, Methodology, Formal analysis. **Chijs van Nieuwenhuizen:** Conceptualization. **Jörg Raab:** Conceptualization, Methodology. **Hans van Oers:** Conceptualization, Supervision.

Declarations of Competing Interest

The authors declare that they have no competing interests.

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