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LEADERSHIP AND ITS FUNCTIONALITY IN THE CROSS-SECTORAL COLLABORATION OF PSYCHOSOCIAL SERVICES FOR CHILDREN AND ADOLESCENTS – OULU COLLECTIVE IMPACT STUDY

ABSTRACT

Background: *The use of institutional social and healthcare services for children and adolescents has increased worldwide, partly due to a fragmented service system with separate practices and strategic goals, e.g. education and social and healthcare. Setting strategic goals to promote cross-sectoral collaboration (CSC) in services for children and families has been seen as a way to reduce institutional psychiatric and child welfare care.* ***Aims:*** *This study analyses leadership and its functionality in implementing Collective Impact (CI)-based CSC work to enhance psychosocial service integration for children and adolescents.* ***Methods:*** *An online survey was conducted among employees and leaders in social and healthcare, daycare, special education and youth work service sectors of the five regional Welfare Service Areas (WSAs) in the City of Oulu, Finland. The research instrument used was the Oulu cross-sectoral Collaboration and Leadership (OCL) scale, which has been validated as having good psychometric properties. The OCL scale is based on the CI approach but also includes leadership as an additional element.* ***Results:*** *Leaders in WSAs, where CI-based CSC work was ongoing, viewed strategic goals as more successful than in WSAs where the CI-based work had not yet started. Employees did not perceive strategic goals in psychosocial integration. Both leaders and employees identified various practical CI-based CSC activities such as a shared follow-up system and the backbone support organization coordinating consultation meetings. The CI-based domains, such as practices that support and follow up, and backbone support structure, were recognized by both employees and leaders. An example of this kind of practice is one-contact service, a common feedback system and consultation meetings coordinated by the backbone support organization. The response rate for the survey was 37.2%.* ***Conclusions:*** *The findings of this study highlight the role of leadership in internalizing the strategic goals of the CI-based CSC implementation process. However, these goals appeared not to be effectively transferred to employees. Therefore, leadership should focus on communication of the strategy and its internalization at all levels to enhance the integration of the psychosocial service system through CI-based CSC.*

KEYWORDS: COLLECTIVE IMPACT, CROSS-SECTORAL COLLABORATION, PSYCHOSOCIAL SERVICES, SERVICE INTEGRATION, LEADERSHIP, SURVEY

INTRODUCTION

During the last decades, the number of children and adolescents ending up in institutional social and healthcare services has increased rapidly [1,2,3]. As a result, the children placed in out of home care form a significant population, estimated at more than 2.7 million worldwide [4]. Concurrently, the rates of diagnosed mental illnesses and the use of psychiatric services among children have increased in Europe and the US [5,6,7,8,9,10]. There is, however, no comprehensive evidence of whether the morbidity rate for mental illnesses has actually increased [2,11,12]. Some explanations for increased rates in the prevalence of psychiatric disorders are associated with better recognition of psychiatric disorders, positive changes in public attitudes towards psychiatry and an increase in help-seeking behaviours [13]. On the other hand, behind the increased use of psychiatric services may also be weaknesses related to the overall functioning of the services targeted

at children and adolescents, particularly those with special needs. For example, services of the education and social and healthcare sectors are reported to be ineffective in supporting children due to fragmented methods of operation, which has for decades been proposed to be one substantial factor behind the increased level of utilization of institutionalized social and healthcare services [14,15,16].

With the aim of getting more efficient and integrated psychosocial support, promoting service collaboration over sectoral boundaries has been the goal of development projects in the social and healthcare and education services internationally [14,17]. The need for cross-sectoral collaboration has long been recognized, and its importance has also been emphasized both in National plan for mental health and substance abuse work 2009–2015 [18] and National mental health policy strategy 2020–2030 [19]. In Finland, collaboration over service sector boundaries is also stated in legislation of education, student welfare and social and healthcare in Finland [20-25]. Several national programmes have aimed to increase integration between services for children and adolescents with mental health and substance abuse problems [2,3]. Despite long-term endeavours, non-integrated psychosocial services are still prevalent, and the use of institutional social and healthcare services in Finland has remained at an internationally high level [2,3,15]. In the city of Oulu, Northern Finland, as reported previously [26], a high level of curative service use was elevated over a decade. When analysing the reasons for increased service use, fragmentation between the services was acknowledged as one of the causes. Similar to the national efforts, the adverse direction of increasing service use was attempted to be prevented in the city of Oulu. However, this was not sufficiently fulfilled, and thus, it was decided to utilize a research-based Collective Impact (CI) approach to integrate services since 2019.

CI is a specific structured approach to collaboration to solve complex social issues throughout the entire service system [25], aiming to reduce service fragmentation [26,28]. The basic idea of CI is that desired change with social and healthcare challenges is more likely attained via intentional mutual collaboration of all relevant stakeholders, instead of isolated actions of distinct organizations and service sectors. In this approach, engagement in a shared goal among all service providers is required. The structure of the CI approach includes the following conditions for its successful promotion between sectors: 1) a common agenda (i.e. a common understanding of the problem and joining forces to solve it through mutually agreed activities), 2) shared measurement system (i.e. having common indicators that monitor the progress and utilizing them to develop the working method in practice process), 3) reinforcing activities (i.e. coordinating separated activities to strengthen mutual cross-sectoral collaboration), 4) continuous communication (i.e. supporting shared understanding, motivation and trust among stakeholders), and 5) backbone support organization (i.e. support from an external collaborating organization formed jointly with service sectors for planning, managing and enhancing the entire process) [27]. These five CI conditions, when all fulfilled simultaneously, provide a route to achievable CSC [27]. The strength and uniqueness of CI-based CSC lie in its structure with clearly defined conditions, which also differentiate it from collaborative work in general [27,29,30,31].

Furthermore, joint leadership (i.e. sharing leadership responsibilities and decision making, and working together to achieve common strategic goals) has been seen as a crucial element for the successful implementation of CI-based CSC work, even though it is not defined as one of the original conditions of CI approach [32-38]. For example, leadership has been recognized as essential for keeping stakeholders aligned with the common agenda, coordinating shared activities and progressing towards achieving the desired outcomes [35,36]. Emphasizing the role of leadership in CI-based CSC aligns with earlier general leadership-related research enhancing integrated social and healthcare [39-45].

While the significance of the role of leadership in the CI-based cross-sectoral collaboration (CSC) work and its implementation has been recognized, there is a lack of research in this area. The current study analyses leadership in the implementation process of the CI-based CSC work which is aimed at enhancing integration of psychosocial services for children and adolescents. We gathered the data for analyses via an online survey utilizing the Oulu cross-sectoral Collaboration and Leadership (OCL) scale [46], which is constructed of the basic elements of the CI approach developed by Kania and Kramer [27], but which also includes leadership as an additional element. The target population of the survey comprised employees and leaders working in public social and healthcare, daycare, special education and youth work services sectors of the City of Oulu. Comparison of the survey results was conducted between Welfare Service Areas (WSAs) which were at three different phases of CI-based CSC implementation work in the year 2021.

MATERIAL AND METHODS

TARGET POPULATION

The target population for the survey consisted of professionals (n=683) who engaged in cross-sectoral collaboration (CSC) work in the service sectors where they were employed in the City of Oulu, Finland. These professionals formed two mutually exclusive occupational status groups: employees (n=590, 86.4%) and leaders with concrete psychosocial support responsibilities (n=93, 13.6%). Participating leaders were eligible for the study due to their position in their organizations, not their leadership training background. They were working in daycare (managers and special education teachers) (n=82, 12.0%), as principals and in the special education sector of basic education (n=293, 42.9%), youth work services (n=32, 4.7%), school student welfare services (n=46, 6.7%) or social and healthcare services for children, adults and families (n=230, 33.7%). According to Statistics Finland, the population of the City of Oulu in the year 2023 was 214,633 persons, 42,824 of whom (20.0%) were below 18 years of age. Furthermore, there were 22,052 families with underage children, representing 41.0% of all families.

The City of Oulu is organized into five regional Welfare Service Areas (WSAs), each including service sectors for social and healthcare, daycare, schools and youth work under the administration of Education and Culture Services. The target population originated from all five WSAs, all which were engaged in CSC work. We formed three different study groups based on the status of the CI implementation phase of each WSA at the time of the survey: 1) CI-ongoing (one WSA where CI-based CSC had been ongoing since 2019) [26], 2) CI-beginning (one WSA where CI-based implementation had been prepared with backbone support organization and by training professionals, but the CI-based CSC had not been initiated in practice), and 3) no-CI (three WSAs where CI-based CSC had not yet started).

RESEARCH MEASURE

We conducted the current study through an online survey utilizing the Oulu Cross-Sectoral Collaboration and Leadership (OCL) scale [46]. It comprises seven domains, six of which align directly with the five conditions of the CI approach [27], and one domain with leadership as an additional domain. We included the leadership domain in the scale because effective leadership is shown to be an essential element for the successful implementation of CI-related work [32,35,36].

The domains and number of items of the domains are as follows: I) Shared operating model (common agenda), 8 items; II) Action-level collaboration model (common agenda), 9 items; III) Follow-up (shared measurement system), 6 items; IV) Supportive practices (reinforcing activities), 6 items; V) Continuous communication (continuous communication), 5 items; VI) Backbone support organization (backbone support organization), 6 items; and VII) Leading (new condition), 7 items. The psychometric properties of the OCL scale showed it to be a promising new research instrument to measure CI-related CSC between social and healthcare, daycare and school services [46]. The Cronbach's alpha was demonstrated to be 0.968 in total scale and varied from 0.875 to 0.929 by domains, indicating good to excellent internal consistency [46].

We conducted the survey using the Webropol survey tool [47]. It was open for respondents during two time periods: April 7th, 2021–May 10th, 2021, and September 24th, 2021–November 17th, 2021. Of a total of 264 professionals who responded to the survey, ten were excluded because they no longer belonged to the target population at the time of survey completion.

The final study sample for analyses included 254 respondents, which covered 37.2% of the whole target population (n=683). The response rate % (in parentheses, the number of respondents out of eligible population) by service sector of study participants was as follows: daycare (40.2%, n=33 out of 82), special basic education (29.0%, n=85 out of 293), youth work services (25.0%, n=8 out of 32), and healthcare and social services including school student welfare services (46.4%, n=128 out of 276).

Of all 254 survey respondents, 82.3% (n=209) were employees and 17.7% (n=45) leaders with concrete psychosocial support responsibilities. A total of 35.4% of all employees (n=590) and 48.4% of leaders (n=93) responded to the survey. The employees were working in daycare (n=19, 9.1%), special and basic education (n=61, 29.2%), youth work services (n=8, 3.8%) and social and health care services (n=119, 57.9%). Correspondingly, the leaders (n=45) were working in daycare (n=14, 31.1%), special and basic education (n=24, 53.3) and healthcare and social services (n=7, 15.6%).

QUANTITATIVE ANALYSIS

The 47 items of the OCL scale evaluated the CI-based CSC work, and we measured its implementation process using a four-point Likert scale ranging from 1 (strongly disagree) to 4 (strongly agree). This forced-choice Likert scale with no option

for a neutral response was chosen because it was essential to get respondents to express a clear opinion on each item of the scale [48,49]. We calculated and compared the mean scores for the total OCL scale and its seven domains between study areas which were at different phases of CI-based CSC work.

QUALITATIVE ANALYSIS

The survey with the OCL scale also included one open-field question for comments: "*If you wish, you can comment on the operational models, practices, follow-up monitoring and leading of cross-sectoral collaboration*", offering respondents a possibility to express their perceptions about the CI-based CSC. We analysed these answers using content analysis, which is a systematic method for describing and quantifying research phenomena [50,51]. Content analysis includes both qualitative and quantitative approaches. It is a method for making valid conclusions from qualitative data with the purpose of providing knowledge, new insights, a representation of facts and a practical guide to action [50,52].

Two authors (TT, MN) independently read, analysed and checked a sample of scripts to ensure the consistency of the results of the content analysis. The unit of analysis consisted of perceptions from open responses [51], which were clustered into more abstract categories. A category consisted of content groups formed by perceptions that were united by a common feature [50]. We categorized the perceptions within these main categories and subcategories by grouping them according to their semantic units, which included single words, groups of words or sentences that expressed the same meaning or connotation [50,51]. See Supplementary materials 1 and 2.

STATISTICAL METHODS

The statistical significance of group differences in categorical variables was analysed with the chi-square or Fisher's exact test, and in continuous variables with Student's t-test or Mann-Whitney U-test or the analysis of variance (ANOVA) or Kruskall-Wallis test. In group comparisons, the limit for statistical significance was set at $p \leq 0.05$. The statistical software used in analyses was IBM SPSS Statistics, version 29.

RESULTS

CHARACTERISTICS OF SURVEY PARTICIPANTS

Table 1 shows the characteristics of the survey participants by the implementation phase of the CI-based CSC work in the study area where the respondent was working. The occupational status, length of employment and service sector of the respondents did not differ statistically significantly between three study areas with different phases of CI.

Table 1. Characteristics of the survey participants from study areas with different implementation phases of Collective Impact (CI)-based Cross-Sectoral Collaboration (CSC) work.

		Study areas with different phases of CI			
	Total number of survey participants (n=254)	**CI-ongoing (n=24)**	**CI-beginning (n=81)**	**no-CI (n=149)**	**Group difference p-value***
Occupational group (q11)					0.469
Employee	209 (82.3)	21 (87.5)	69 (85.2)	119 (79.9)	
Leader	45 (17.7)	3 (12.5)	12 (14.8)	30 (20.1)	
Length of employment in current work (q3)					0.508
Less than a year	24 (9.4)	2 (8.3)	6 (7.4)	16 (10.7)	
1-5 years	67 (26.4)	9 (37.5)	24 (29.6)	34 (22.8)	
Over 5 years	163 (64.2)	13 (54.2)	51 (63.0)	99 (66.4)	
Service sector					0.851
Social and Healthcare services **	128 (50.4)	13 (54.2)	42 (51.9)	73 (49.0)	
Daycare/School/Youth work services	126 (49.6)	11 (45.8)	39 (48.1)	76 (51.0)	

* Pearson's Chi-square test or Fisher's Exact test, two-tailed significance
** Social and Healthcare services included child and family welfare clinics and school student welfare services comprising school nurses, school social workers and school psychologists

QUANTITATIVE ANALYSIS

Table 2 shows the results of the comparison of mean (sd) scores of the domains of the OCL scale between the study areas at different phases of the CI-based CSC work, as evaluated by their employees and leaders, separately. Among the employees, a statistically significant difference between the study areas was found in the CI domains for Reinforcing Activities ($p<0.001$), Continuous Communication ($p<0.001$), Shared Measurement ($p=0.003$) and Backbone Support Organization ($p>0.001$). In all these domains, the mean scores were significantly higher in CI-ongoing and CI-beginning groups compared to no-CI group.

Based on the scores of the leaders, the three study areas differed statistically significantly regarding the CI domains for Common Agenda for Strategy Level ($p=0.019$), Reinforcing Activities ($p<0.001$), Shared Measurement ($p=0.018$) and Backbone Support Organization ($p=0.048$). In all these domains, the mean scores were notably higher in CI-ongoing group compared to CI-beginning and no-CI groups.

Table 2. The mean scores of the domains of the OCL scale evaluated by the employees and leaders of the three study areas at different phases of CI-based CSC work.

	Study areas with different phases of CI			
Domains of the OCL scale (CI conditions) *	**CI-ongoing (n=24)**	**CI-beginning (n=81)**	**no-CI (n=149)**	**Group difference p-value***
Employees	**(n=21)**	**(n=69)**	**(n=119)**	
Shared Operation Model (Common agenda)				
Strategy Level	2.8 (0.9)	2.8 (0.8)	2.7 (0.7)	0.965
Action Level	2.8 (0.7)	2.6 (0.7)	2.7 (0.6)	0.545
Practices that support (*Reinforcing Activities)*	2.3 (0.9)	2.4 (0.9)	1.8 (0.6)	<0.001
Shared Communication (*Continuous Communication*)	2.3 (1.0)	2.5 (0.9)	2.0 (0.8)	<0.001
Follow-up (*Shared Measurement*)	2.0 (0.9)	2.1 (0.9)	1.7 (0.6)	0.003
Backbone Support Structure (*Backbone Support Organization*)	2.4 (0.9)	2.6 (0.8)	2.0 (0.6)	<0.001
Leading	2.4 (1.1)	2.6 (0.9)	2.4 (0.7)	0.241
Leaders	**(n=3)**	**(n=12)**	**(n=30)**	
Shared Operation Model (*Common agenda*)				
Strategy Level	3.4 (0.5)	2.6 (0.5)	2.8 (0.4)	0.019
Action Level	2.9 (0.2)	2.4 (0.4)	2.7 (0.4)	0.146
Practices that support (*Reinforcing Activities*)	3.5 (0.4)	1.9 (0.8)	2.0 (0.4)	<0.001
Shared Communication (*Continuous Communication*)	2.9 (0.8)	2.4 (0.6)	2.3 (0.6)	0.196
Follow-up (*Shared Measurement*)	3.0 (0.7)	2.1 (0.6)	2.0 (0.6)	0.018
Backbone Support Structure (*Backbone Support Organization*)	3.1 (0.1)	2.5 (0.6)	2.3 (0.5)	0.048
Leading	3.0 (0.7)	2.8 (0.7)	2.7 (0.7)	0.691

* Measured with the Oulu Cross-Sectoral Collaboration and Leadership (OCL) scale [46]. Higher score indicates greater agreement that requirements for Collective Impact (CI)-based Cross-Sectoral Collaboration (CSC) work were fulfilled. The text in parentheses refers to the original CI conditions defined by Kania & Kramer [27]. Leading is a new condition included in the OCL scale, since it is acknowledged to be an essential element for the successful implementation of CI-related work [32,35,36]

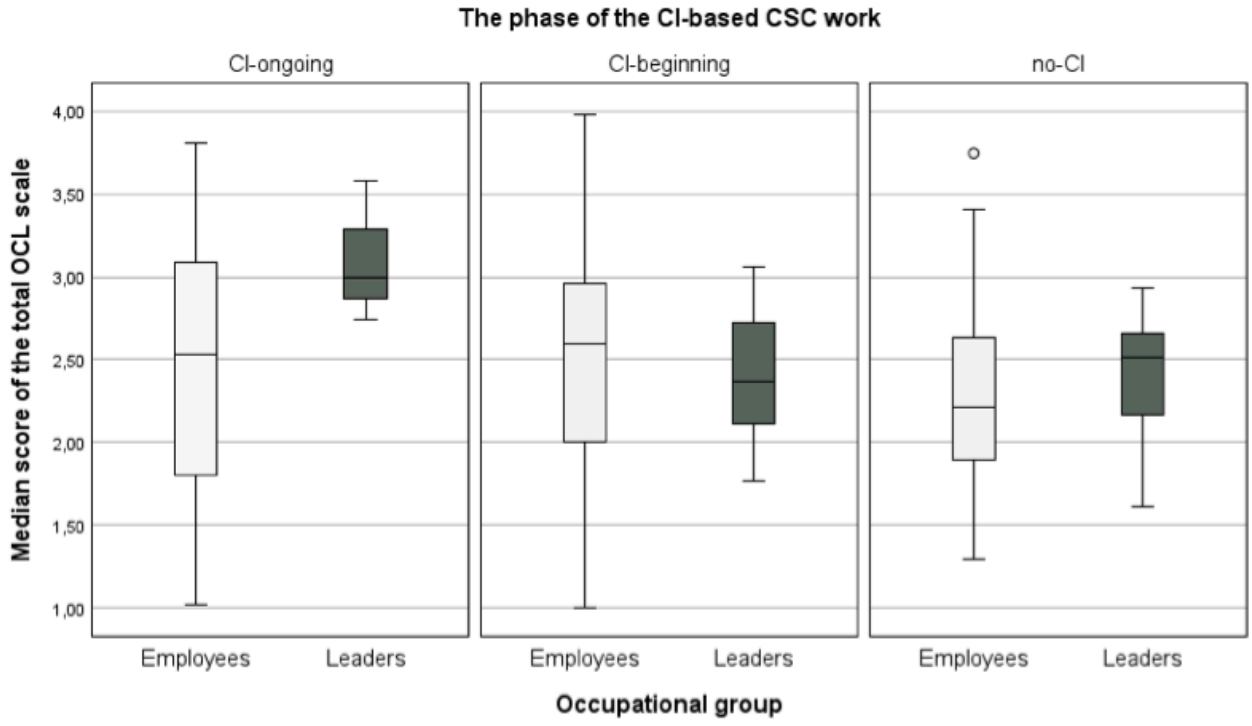
Figure 1 illustrates differences in the total mean score of the OCL scale between employees and leaders, separately for each study area at different phases of CI-based CSC work. The only statistically significant difference between leaders and employees was found in the study area with no-CI, in which median (25th percentile-75thpercentile) scores of the leaders (2.51, 2.17–2.66) were significantly higher compared to the employees (2.21, 1.89–2.63) (Mann-Whitney U-test, p=0.037). No statistically significant difference in total score between leaders and employees was found in study area with CI-ongoing (3.0, 2.87–3.29 vs. 2.53, 1.81–3.09, p=0.230) and with CI-beginning (2.37, 12–2.72 vs. 2.60, 2.00–2.96, p=0.500) groups of the respondents.

QUALITATIVE ANALYSIS

Written feedback on CI-based CSC work was given by 41.0% (n=103) of all survey respondents, the corresponding proportions being 8.7% (n=9) in CI-ongoing, 37.9% (n=39) in CI-beginning and 53.4% (n=55) in no-CI study areas. The content analysis (see Supplementary material 3) revealed 241 different perceptions, and six main categories were identified: 1. Collaboration (39%), 2. Common model (30.7%), 3. Practical activities (12.9%), 4. Leadership (7.1%), 5. Resources (7.1%) and 6. Feedback system (0.8%). These main categories included 2 to 6 subcategories. Of all 241 perceptions, 12.4% (n=30) were from CI-ongoing area, 34.9% (n=84) from CI-beginning area and 52.7% (n=127) from no-CI respondents.

As also seen in Supplementary material 3, the collaboration theme comprised the largest main category within all study areas. Respondents within the CI-ongoing study area reported commitment and responsibility related perceptions (37.5%), while the CI-beginning (22.6%) and no-CI (29.8%) study area reported the quality of collaboration related perceptions. The second largest main category consisted of perceptions concerning a common model (30.7%). In the CI-ongoing study area, perceptions were divided to define a common agenda of CI-based CSC (37.5%) and identify a common operational model (37.5%). In the CI-beginning study area, perceptions dealt with preparation for CI-based CSC (64.3%), and in the no-CI study area, perceptions were related to the lack of a common model of CSC (52.6%). Out of all responses, 7.1% (n=17) were perceptions concerning leadership. This category

Figure 1. The median score of the total Oulu cross-sectoral Collaboration and Leadership (OCL) scale [46] by occupational group and phase of Collective Impact (CI)-based Cross-Sectoral Collaboration (CSC) work of the service sector of the study participants. Higher score indicates greater agreement that the requirements for CI-based CSC work were achieved.



included perceptions on how leaders were perceived to be in contact with employees and maintain interactive relationships in CSC (52.9%, n=9) and how they were fulfilling the leadership role (47.1%, n=8) in the implementation process.

DISCUSSION

In the current study, the functionality of the leadership and work practices of leaders and employees in relation to CI-based cross-sectoral collaboration (CSC) work was evaluated using the Oulu Cross-sectoral Collaboration and Leadership (OCL) scale [46]. The evaluation was carried out in five large welfare service areas (WSAs) in the city of Oulu, which were at three different phases of CI-based CSC implementation (CI-ongoing, CI-beginning and CI not in use) in the year 2021.

As the main finding, the leaders of the WSAs where the CI-based work was ongoing scored higher on indicators for recognition of strategy-level goals set for CI-based CSC work than the leaders from WSAs where CI-based work was either in the beginning or not in use phases. Leaders' better awareness of strategy-level goals in the CI-ongoing phase was understandable because, during the implementation process, the basics and practices of CI-based CSC work were carefully trained and prepared [26]. Further, the local Multi-agent Management Group met on a monthly basis to address leadership-related questions and were provided with leadership-related seminars. Our study supports the notion that with thorough orientation to the shared goals of CI-based work it is possible to influence the understanding and internalizing of the strategy-level goals among the leaders. Our findings emphasize a common understanding of the strategy-level goals in CI-based work among leaders to integrate them as part of the CI implementation process. [27,34,37,53,54].

In our study, contrary to leaders' perceptions on the strategy-level goals of CI-based work, employees' perceptions did not differ between WSAs at different phases of CI implementation. This finding challenges the implementation process in the WSAs, as it may indicate that strategy-level goals did not transfer from the leaders to the employees. This is not a desirable outcome, as previous research highlights that strategic goals should also reach employees in order to achieve successful implementation of CSC work [29,33,44,45,53,57]. However, the lack of knowledge about the strategy cannot be due to it not being processed at all, because training in CI-based CSC work for the employees also includes issues related to strategy. Therefore, leaders should pay specific attention to strengthening their interaction and communication with employees concerning strategic matters and the importance of strategy in implementation work. Current CI literature highlights that implementation operations should be examined at all levels of professionals through the lens of strategy [38,54,55,56] to ensure that all leaders and employees have a shared understanding of the common agenda of the CI-based implementation. Our survey findings suggest that the implementation process should be re-evaluated, focusing specifically on how communication flows from leaders to employees, to ensure that strategic goals are effectively delivered and understood at all levels. Delivering strategic goals effectively from leaders to employees is important not only in CI work but also, for example, in delivering national strategies like National Mental Health Policy Strategy [19].

The leaders of WSAs in the CI-ongoing phase had recognized most comprehensively the basic elements of CI-based CSC work. This was seen as higher scores on all CI and on leadership-related domains compared to leaders from WSAs at the beginning or not yet in use phase. One explanation for this finding may be that the leaders of the CI-ongoing phase might find CI-based CSC work favourable, because during the implementation process special attention was paid to enhancing service delivery and integration of diverse service sectors provided by CI-based CSC. Another explanation might be that leaders commonly have access to and monitor key statistics of service use, and consequently they are likely to recognize, for example, changes in the numbers of institutionalized service use [e.g. 2,3,6,9]. In addition, it is reasonable to assume that the responsibilities of leaders include assessing and reviewing work. This is reflected, for example, in the higher response rate to our survey. However, it is likely that leaders in the CI-ongoing area had a better understanding of how key statistics relate to activities that can be improved through CI-based CSC. As a result, by identifying issues in services, the leaders in the CI-ongoing area may have been more persuaded to implement the CSC model to enhance preventive and integrative child and family services.

Perceptions of leadership in practice, e.g. delivering operating principles of CI-based CSC work to employees or having an active role in supporting employees, did not differ between WSAs at three different phases of CI work among leaders or employees. This is an unexpected finding because earlier CI research literature emphasizes that CI-based leadership is an active process including continuous learning, developing mutual trust, integrating stakeholders into the common process, managing the strategy and adapting into a changing context [37,38]. Thus, it should lead to changes in leadership practices when carrying out CI initiatives. The importance of leadership is highlighted in the CI research literature, as active leadership

has been identified as a key factor in achieving the desired change in CI initiatives [33,36,37,38]. Furthermore, in our study, leadership domain-related findings indicated that while leaders identified CI conditions differently across CI phases, strategy-level goals and practices that support their leadership were perceived similarly by both employees and the leaders themselves. This may suggest that leadership as an active process in implementing CI-based work in the City of Oulu has not yet been optimally realized or internalized. In addition, leaders may not yet have adopted an active and contextually adaptive role in leading the CI process, which has been seen as crucial for the long-term success of CI-based work [36,38]. This may be because the implementation process was deficient in terms of supporting leadership adequately. On the other hand, since the CI implementation in WSAs was still in its early stages at the time of the survey, leadership-related issues had not yet been the focus of collaborative development during the implementation process. However, it is obvious that while implementing CI-based CSC, it is crucial, at a very early phase of the process, to pay attention to the functioning of the joint leadership between employees and leaders. In this way, the cross-sectoral collaboration of psychosocial services for children and adolescents can be effective and reduce fragmentation in the service system.

Our findings showed that CI-based domains, such as practices that support and follow up, and backbone support structure, were appropriately recognized by both employees and leaders. An example of practices of this kind are one-contact service, a common feedback system and consultation meetings coordinated by the backbone support organization. These findings are in line with previous CI research literature showing that when stakeholders recognize concrete CI-based actions it indicates that the CI-based process is moving towards jointly set practical goals [29,33,35]. In our study, these observations related to everyday practices were supported by the responses to the open question addressing practical activities. As an example, in our study, employees from the WSAs in the CI-ongoing and CI-beginning phases had experience of having continuous communication-related actions between stakeholders more often than those from WSAs at CI not in use phase. According to previous literature, without shared communication, a common cross-sectoral process does not work. Communication is proposed to construct a dynamic relationship between different stakeholders and between employees and leaders [33,35,36,44,57].

Surprisingly, in the current study the leaders themselves did not report differences in the continuous communication domain in CI study areas. When interpreting these findings, it is, however, important to consider that the study areas comprising WSAs being at different implementation phases of CI-based work. In the WSA at CI-ongoing phase, the CI-based CSC work had been in practice for approximately nine months, while in the CI-beginning phase, the implementation of the model was just started at the time of the survey [46]. At the time of the survey, the CI model implementation was realized strongly by the backbone support organization in CI-ongoing and CI-beginning phases [26]. Consequently, it may be that the continuous communication process had not yet been actualized between leaders and employees, although it might have been sound between leaders and the backbone support organization. Some support for this interpretation can be seen in our findings that both employees and leaders reported that they had recognized well the concrete actions of the backbone support organization. Earlier research has highlighted the role of backbone support organizations coordinating and enhancing the implementation process [58,59,60]. However, it is evident that in CI-based CSC work leaders are in a crucial role to establish a shared understanding of the common agenda and purpose of the collaborative actions together with the employees. Therefore, it is important to ensure continuous communication between employees and leaders to achieve a common understanding of the purpose of the CI-based CSC implementation. On the other hand, handling this essential shared communication cannot be left solely to the external backbone organization; in order to be successful, it requires the mutual participation of all employees and leaders.

The previous CI literature reports that achieving the desired change concerning the whole service system requires that the following four stages must be accomplished: 1) five CI conditions must be fulfilled, 2) early changes in action level must be implemented, e.g. increasing partnership and collaboration or expanding awareness and coverage in different sectors, 3) system changes in the core organizations and institutions must be implemented, i.e. systematically carrying out the agreed practices in a new way, and 4) population-level changes in relation to the ultimate goal must be achieved [35,36]. When interpreting and mirroring our findings in relation to the abovementioned four stages, both leaders and employees of WSAs perceived that the implementation of the CI conditions in which they had been instructed and trained had been fulfilled. Furthermore, early changes can already be observed, especially on action level [36]. Instead, this study revealed that the evaluations of the leadership domain did not differ between the CI study areas. Regardless of why leadership did not change after the CI-based implementation, it is evident that successful CI initiative requires active, committed and place-based problem-solving leadership in

order to achieve a desired and long-lasting change in the whole psychosocial service system [37,38,55]. It is notable that this study, using the validated OCL scale [46], provided updated information on the current state of the CI implementation process related to joint leadership. In earlier literature, this has been emphasized by recognizing early signs when implementing CI-based CSC [36]. However, in the future, it will be important to evaluate the results of the current implementation process using other quantitative and qualitative measures as well. Leadership in CI-based CSC work is a special topic that warrants further studies with longitudinal research setups.

STRENGTHS AND LIMITATIONS

The strength of this study was that the research instrument used was developed for the purposes of the current study. The Oulu Cross-sectoral Collaboration and Leadership (OCL) scale was developed based on five conditions of the CI approach by Kania and Kramer [27][25], but it also includes leadership as an additional element. The OCL scale was developed because there was no structured research instrument to evaluate leadership as part of the CI-based implementation of cross-sectoral collaboration (CSC) among psychosocial services for children and adolescents. The OCL scale has shown to have high internal consistency and good psychometric properties, suggesting it to be a promising tool for CI research [46].

The strength of the study is that the survey respondents represented well all different professional groups working in public social and healthcare, daycare, special education and youth work service sectors. In addition, the response rate of 37% for the survey can be considered good for this kind of web-based survey for the targeted population. Another strength of this study is also that all respondents already had some experience of concrete CSC work, so they were able to evaluate their accumulated experiences of everyday work. The response rates of the leaders, however, were distributed unevenly between service sectors, with emphasis of responses from leaders in the special education service sector. Leaders from social and healthcare were excluded from the target group of the study, because our study was focused on leaders whose duties also included concrete psychosocial support responsibilities of child- and family-related work in their service sector.

In future research, it could also be worthwhile to include leaders from higher organizational levels, since they have overall responsibility for the work of the service sectors. This would make it possible to assess how the strategic goals of the CI-based implementation process permeate all levels of the organization, i.e. from highest management level to employee level. The CI-based CSC strategy should permeate all levels of the organization's administration [36].

Additionally, 40% of the respondents provided comments in the open question of the survey, which can be considered as a strength of the study. Qualitative data makes it possible to achieve a deeper perception of professionals' experiences [50, 52] than summary statistics based on quantitative data. These perceptions together with a good response rate also offered valuable information for the further development of the OCL research instrument [46].

CONCLUSIONS

Our study findings show that in the CI-based CSC implementation work, leaders in the CI-ongoing phase were more successful in achieving strategic goals of cross-sectoral collaboration compared to leaders in areas where CI-based CSC implementation had not yet started. The findings of our study highlight the critical role of leadership in enhancing a common agenda and collaboration in CI-based CSC work. The leaders must pay more attention to communication of strategy and its internalization at all levels. There is a need for further research of leadership role in CI-based cross-sectoral collaboration, with the goal of enhancing integrated psychosocial services for children and their families.

Ethics approval and consent to participate

The data collection method was an anonymous online survey, and participation in the survey was voluntary. The survey did not include any personal information that could identify respondents, and, thus, approval from an ethics committee was not required. The study has obtained research permits from the City of Oulu's Department of Education and Cultural Services (OUKA/6217/07.01.04.02/2020), Department of Health and Social Services (OUKA/6539/07.01.04.02/2020) and Northern Ostrobothnia Hospital District (PPSHP 247/2020).

Availability of data and material

Data available on request due to privacy and ethical restrictions.

Competing interests

The authors declare that they have no conflicts of interest.

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Authors' contributions

All authors planned and performed the conception and design of the study. TT and MN developed an initial survey, and TT performed the data collection with the OCL scale. HH was responsible for statistical analyses, including reporting the results based on these analyses. TT and MN were responsible for qualitative data analyses. All authors performed interpretation of the results based on the quantitative and qualitative data analyses. TT and MN wrote the first draft of the article. SR revised the manuscript and guided the process throughout the study. All authors participated in critical drafting of the article and approved the final version to be submitted.

Supplementary Material

Supplementary data are available at Psychiatria Fennica online.

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