An Exploration of Teachers' and Leaders' Perceptions of their Collaborative Working and Learning:
The case of three general upper secondary schools in Finland

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ABSTRACT

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Educational leadership is an abstract concept that is still often discussed from the perspective that it can be understood, as through roles, practices, or outcomes (Dinh et al., 2014). However, the present study and its results provide a better understanding of educational collaborative leadership as both a process and an outcome. Viewing this phenomenon as the synergy of collaborative working and learning where both individual and collective endeavors are essential, as well as leadership that is co-created through meaningful interactions between stakeholders, can provide opportunities for educational organizations to respond to increasing global complexity and solve wicked problems (Jäppinen & Ciussi, 2016; Uhl-Bien, 2006; Packer & Goicoechea, 2000).

This study was carried out as a part of a 2018-2021 project for the development of teacher education, led by the University of Jyväskylä and funded by the Ministry of Education and Culture, entitled KAJO. In conjunction with this project's aim of strengthening the leadership skills of educators and educators in training, the present study aims to gain insight into collaborative leadership competence by exploring the relationship between teachers' and leaders' perceptions of their own collaborative working and learning when solving a wicked problem. Quantitative survey data was gathered from Finnish teachers (N=54) and leaders (N=8) across three general upper secondary schools, under one education provider, in an urban area of Finland. Participants were asked to rate their level of agreement towards statements that described their perceptions of their collaborative working and learning processes and outcomes.

The findings of this study revealed that both teachers and leaders expressed agreement towards each statement, suggesting a collaborative leadership competence within the collective. More specifically, within the collaborative *working* dimension, it was found that leaders expressed more positive perceptions than teachers and no relationship between the demographic variables of age, gender, or work experience and the collaborative working dimension was found. Within the collaborative *learning* dimension, there was no significant difference between teachers' and leaders' perceptions, however, it was found that male leaders express more positive perceptions than female leaders. Additionally, the results showed that teachers and leaders both rated the same statement with the highest overall agreement and the same statement with the lowest overall agreement in both dimensions of collaborative *working* and *learning*.

Keywords: collaborative leadership, collaborative working, collaborative learning, collective modes of leadership, educational leadership.

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CONTENT

1   INTRODUCTION

As we enter the third decade of the 21st century, our world continues to rapidly shift economically, politically, socially, and culturally, making life radically more complex compared to the last decades of the 20th century. Continued globalization, the advancement of technology, and an increase in social diversity are some surges of change that present both opportunities and challenges for our society and environment (Miller, 2001). More specifically, the changing world has had a significant effect on educational organizations (Yukl, 2013). Within organizations, the changes have altered operational environments, demanding with it the need for organizational change, and ideally leading to an evolution in mindset, structure, and leadership (Beer et al., 2005). Simultaneously, the paradigms of education and learning are evolving, leading to a change in the mission and vision of education, as well as how the working and learning within an organization is led (Gronn, 2003).

For many decades, leadership centered around how leaders influenced followers (Kramer & Crespy, 2011) and research primarily focused on traits, behaviors, power and influence, or situational factors (Van Fleet & Yukl, 1992). However, the changing world has pushed organizations across all fields to evolve, including the field of education (Risku & Tian, 2017). Organizational leaders, such as principals, can no longer rely on traditional forms of leadership where a single leader is of central importance (Houghton et al., 2003). To respond to the educational and social demands of today's complex world, organizations require new models of leadership (Kezar & Holcombe, 2017) which recognize that "effectiveness in knowledge-based environments depends less on the heroic actions of a few individuals at the top and more on collaborative leadership practices distributed throughout an organization" (Fletcher, 2004, p. 648). Thus, in our modern society, educational leadership must be understood as a collaborative process (Jäppinen & Ciussi, 2016). Collaboration plays a critical role within school improvement (Fullan, 2016), and the ability to work and learn

collaboratively has the potential to transform individuals and schools (Slater, 2004).

The purpose of this study is to gain insight into collaborative working and learning as to educational leadership competence. This study explores the relationship between teachers' and leaders' perceptions of their collaborative working and learning when solving problems and the unprecedented challenges brought about by our constantly changing world.

2   COLLABORATION AND EDUCATIONAL LEADERSHIP

Successful educational leadership is no longer reduced to the attitudes and actions of one, instead, "educational leadership involves the practices of multiple individuals and occurs through the complex network of relationships and interactions among the entire staff of the school" (Scribner et al., 2007, p. 68). Popular collaborative modes of educational leadership exist such as collective, distributed, horizontal, relational, shared, team, transformational, or transformative leadership, among others, with the terms shared and distributed leadership being the most common and frequently used interchangeably (Avolio et al., 2009; Fitzsimons et al., 2011; Jäppinen & Ciussi, 2016; Kezar & Holcombe, 2017; Kocolowski, 2010).

These trends emphasize collaboration within educational leadership and provide alternatives to traditional hierarchical forms of leadership. However, while these alternate forms of leadership have the potential for success in today's dynamic and complex organizational environments, they still regard the abstract concept of educational leadership from the perspective that it can be understood, as through roles, practices, or outcomes (e.g., Dinh et al., 2014). Conversely, educational leadership, as a living entity, should be seen as a collaborative learning process (Jäppinen & Ciussi, 2016) that results in cognitive, social, and emotional synergy creation (Jäppinen, 2014). Jäppinen (2014) defines this understanding of educational leadership as collaborative educational leadership or simply collaborative leadership.

2.1   Collaborative Leadership

Firstly, within collaborative leadership, the term *collaborative* or collaboration moves beyond cooperation and the superficial interactions of help, support, or assistance (Louis et al., 1995). Rather, it refers to a shared and synergetic learning process among stakeholders of the educational organization such as teachers,

principals, administrators, assistants, field experts, partners, and parents (Jäppinen et al., 2016). Secondly, the term *leadership* is frequently defined as a social influence relationship and a formal role that drives an organization (e.g., Bolden, 2004; Northouse, 2010; Van Vugt et al., 2008; Yukl, 2010). However, for the context of this study, leadership is rather understood as an outcome that is generated in social dynamics or co-created through the meaningful interactions between stakeholders (Uhl-Bien, 2006).

Therefore, collaborative leadership can be defined as the synergy of collaborative working and collaborative learning, where both individual and collective endeavors are essential. This type of educational leadership provides opportunities for educational organizations to respond to increasing global complexity and solve wicked problems (Jäppinen & Ciussi, 2016). Wicked problems are complex problems that occur in a social context, usually arising when faced with constant change and challenges, and for which there is no clear definition or solution (Rittel & Webber, 1973).

2.1.1 Collaborative working

Collaborative working within educational organizations is more precisely the practice of co-performance (Jäppinen & Ciussi, 2016) or the collective activity of all members towards the organization's mission. Here, initiatives and efforts are shared by all stakeholders. However, collaborative working is more than the total of individual workings, it is the holistic action of the whole where the results of the collective are greater than the sum of each individual action (Gronn, 2002; Hiller et al., 2006; Surowiecki, 2004).

In practice, working together to solve a wicked problem relies on (1) the contribution of every stakeholder to be considered, (2) the stakeholders examining existing practices and activities in order to create new and more meaningful measures and practices, (3) the stakeholders' ability to change their individual opinions as new perspectives arise, and (4) resulting in new and alternative solutions (Jäppinen, 2020; Jäppinen et al., forthcoming). All these manifestations of collaborative working are empowered by and maintained

through the continuous interactions of authentic collaboration among stakeholders (Packer & Goicoechea, 2000).

2.1.2 Collaborative learning

Collaborative learning within educational organizations is more precisely the process of deep and mutual learning (Jäppinen, 2020) where the interactions between stakeholders are not only rich and extensive, but also collaborative and reciprocating. In this continuous social process that is shaped by interactions, stakeholders can co-construct understanding and knowledge, while allowing for leadership to be co-created and have the ability to evolve (Uhl-Bien, 2006).

In practice, learning together on how to solve a wicked problem relies on (1) a shared common vision and values, (2) trust and mutual respect among stakeholders, (3) a true dialogue between stakeholders, (4) a co-creation of new ideas despite a stakeholder's own opinions, (5) the movement beyond individuals' abilities and skills and also the utilization of the collectives' (Jäppinen, 2020; Jäppinen et al., forthcoming). In similarity to collaborative working, these manifestations of collaborative learning are empowered by and maintained through the continuous interactions of authentic collaboration among stakeholders (Packer & Goicoechea, 2000).

Educational organizations are complex systems that are operating simultaneously within other complex political, economic, and social systems (Jäppinen, 2014) and a leadership that is shared, and in practice centered around collaboration, emerges as a key factor for educational organizations to navigate, innovate, and respond to an increasingly complex environment (Kezar & Holcombe, 2017; Hempsall, 2014).

2.2 Outcomes of Collective Modes of Leadership

Researchers have examined collaboration within leadership in a variety of ways and across a variety of contexts, with studies finding positive outcomes across many types of organizations and benefits for the stakeholders within them (Kezar & Holcombe, 2017). However, collaborative leadership has only recently gained

attention in the academic literature, which has led to the conceptual incoherence of the complex phenomenon and term (Avolio et al., 2009; Jäppinen & Ciussi, 2016; Kramer & Crespy, 2011; Morrison & Arthur, 2013). Therefore, these studies contain various collective modes of leadership (e.g., Wang et al., 2013) such as shared, distributed, transformational, or collaborative. For the purpose of this review of the relevant studies of leadership focused on collaboration, they will be referred to as collective modes of leadership.

Across diverse contexts, collective modes of leadership most frequently have been positively related to team effectiveness and performance (Carson et al., 2007; Drescher et al., 2014; Hiller et al., 2006; Pearce & Sims, 2002; Wang et al., 2013). Within teams, there is evidence that collective modes of leadership promote team satisfaction which leads to improved team interactions (Roberts, 2013) and boosts team functioning through reduced conflict, greater consensus, and increased trust and cohesion (Bergman et al., 2012; Drescher et al., 2014). Additionally, collective modes of leadership have been found to enhance the conditions necessary for flow, which is crucial for the creative process and leads to team effectiveness (Hooker & Csikszentmihalyi, 2003). Finally, it is argued that collective modes of leadership support healthful regeneration, or one's physical, psychological, and social resiliency, and increases engagement, both of which are vital to one's ability to be active and manage stress at work (Lovelace et al., 2007).

Within the field of education, collective modes of leadership have been found to lead to better school performance in terms of student outcomes (e.g., Silins & Mulford, 2002). A longitudinal study conducted in elementary schools by Hallinger and Heck (2010), found that collective modes of leadership contribute to school improvement through changes in organizational processes and structures leading to improvements in student learning and achievement. In addition to improved student outcomes, collective modes of leadership have also been found to positively impact teachers and leaders. Louis et al., (2010), found collective modes of leadership fostered stronger working relations which then led to higher student achievement. While a study by Marks and Printy (2003) examining the influence of leadership in elementary, middle, and high schools, found that innovation and improvement occur in schools with collective modes

of leadership, with students performing at higher levels as well teachers providing a higher quality pedagogy. Furthermore, Pearce et al. (2004) examined social workers participating in an educational program and found that collective modes of leadership were positively related to a team's potency (members' belief in teams productivity or ability to solve problems), social interaction (positive and supportive relationships between members), problems solving qualities (team's problem-solving process is coordinated, fair, and efficient), and perceived effectiveness (commitment and confidence in the team's solutions to problems).

3   LEADERSHIP IN THE FINNISH SCHOOL SYSTEM

As demonstrated, the research from the field supports the claim that collaborative leadership is positively related to organizational change and development. However, it must be noted that taking a new collaborative perspective on leadership requires cultural conditions and structural opportunities to thrive, and this may present itself as a challenge to organizations, such as schools (Harris, 2008). Harris (2008) argues that collaborative leadership depends on the organization's growth rate, readiness to change, developmental needs, culture, relationships, and trust. As seen within the examined research, there is a significant focus on the outcomes of collaborative leadership, with little attention to the processes and interactions between members. Within the context of a general upper secondary school in Finland, this study examines teachers' and leaders' collaborative working and learning processes for gaining leadership competence.

Today, Finland is often considered a social, economic, and educational success (Hargreaves et al., 2007). The strong welfare state is recognized as the happiest country in the world (Helliwell et al., 2020), the most stable in the world (The Fund for Peace, 2020), and the country with one of the best education systems in the world (OECD, 2020) with Finland ranked as the country with the best future skills education and one of the top nations in the PISA Education Survey (OECD, 2019; The Economist Intelligence Unit, 2019).

However, the Finnish model "arises out of alignment between and integration of a deep set of cultural and social values, a particular kind of social and economic state, and a distinctive approach to educational reform" and it is "the intersection and integration of the moral, political, structural, cultural, leadership and learning-based aspects of Finland, within a unitary whole that defines and explains the nation's success" (Hargreaves et al., 2007, p. 11). Thus, given the complexity and holistic nature of this model, while tempting, countries cannot pick and choose successful Finnish practices or simply transplant this

model to their country without the careful adaptation to their own culture and context (Hargreaves et al., 2007).

Finland's most recent and globally recognized successes have been within the field of education, sparking attention as a top-ranking education system with the outstanding results of Finnish students in the OECD's Program for International Student Assessment (PISA) surveys since the year 2000. While Finland's position has slightly declined in the most recent PISAs, the Finnish school system remains as one of the highest performing education systems and remains of interest to studies analyzing well-performing school systems (Saarivirta & Kumpulainen, 2016).

Hargreaves et al. (2007) outline some key features of the Finnish model that make for these successful school outcomes. One is a clear and common purpose. Guided by clear objectives, Finns are driven by a common mission of a future that is competitive, creative, and socially just, with public education seen as vital to the country's success. Also, another key feature is the country's strong commitment to learning. Here, all attention and efforts are put towards genuine learning and not on testing or the measurement of performance. While this culture of learning begins in school it also extends into adulthood and society with the high value placed upon continuous lifelong learning.

This culture of learning is supported by the Finnish education systems' culture of responsibility, cooperation, and trust, another feature to the country's success. Teachers and leaders feel a strong sense of responsibility for their students not only learning but also their well-being. Given this sense of responsibility, teachers and leaders work cooperatively towards school improvement. Finnish teachers and leaders are regarded as highly qualified professionals whose expertise, commitment, and responsibility are trusted, leading to processes of self-reflection as opposed to formal inspections or test-based accountability (Hargreaves et al., 2007).

These excellent teachers and leaders are another key feature of the country's success. With a strong culture of trust and a decentralized environment, schools feel supported, trusted, heard, and empowered to do what is best for the community (Uljens et al., 2016). Additionally, teachers and leaders have the

opportunity to develop different approaches to school leadership. In a response to increasing pressures of the modern-day, which has also diversified and expanded the role of the principal, leadership is distributed and shared, as one leader is no longer enough (Alava et al., 2012; Hargreaves et al., 2007). Today's leadership in Finnish schools is often operationalized through management teams which consist of principals, deputy principals, and some teachers (Lahtero et al., 2017). In the Finnish system, teachers are required to have a master's degree and principals are required to have been teachers with sufficient teaching experience. Not only this, but many principals also continue teaching to some degree (Lahtero & Risku, 2012). These requirements of principals and this type of shared leadership structure are a shift from the traditional hierarchical model that fosters continuous interactions and shared learning (Hargreaves et al., 2007). However, most important leaders in Finnish schools are not after a quick fix to problems and development (Soini et al., 2016) and understand that leadership is not "concentrating or perseverating on performance outcomes, particularly measurable ones" but "paying attention to the conditions, processes, and goals that produce high performance" (Hargreaves et al., 2007, p. 26).

4   RESEARCH METHODS

4.1   Aim

Building upon previous research, the present study provides information that can continue to develop and strengthen leadership within general upper secondary education. Therefore, with the understanding of the phenomenon of collaborative leadership as an outcome that is co-created through meaningful interactions between stakeholders and the synergy of collaborative working and learning, the purpose of this study is to gain insight into collaborative working and learning as to collaborative leadership competence. Through the quantitative analysis of a questionnaire survey gathered from teachers and leaders of a general upper secondary school in Finland, this study aims to explore the relationship between teachers' and leaders' perceptions of their collaborative working and learning when solving wicked problems as to educational collaborative leadership.

4.2   Participants

This study was conducted within Finnish general upper secondary schools. Students in general upper secondary education are usually between 16 and 19 years old, complete the program in about three years, and conclude the program with a matriculation exam which may provide the eligibility to apply to higher education institutions. In recent years, the operating structures of general upper secondary education have undergone major changes in response to economic changes. Financial adjustments have led to the amalgamation of many general upper secondary schools, bringing about changes in leadership and management structures.

This study examined three general upper secondary schools, under the same education provider, in an urban area of Finland. Within the last five years, these schools underwent campus and leadership restructurings due to school

amalgamations. Following these restructurings, the three schools participated in a preliminary study by an external consulting company in an effort to provide stronger support for the administration in general upper secondary education. Shortly thereafter, the results of that study brought about the decision to rebuild the composition of leadership and management structures within both the academic association as well as each of the three individual schools.

The participants of this study were Finnish teachers and leaders of the general upper secondary school previously described. For the purpose of this study, the term *teacher* was applied to participants whose primary duties in the school include teaching, guiding, or assisting. The *teachers* group might include roles such as teachers, guidance counselors, or school assistants. The term *leader* was applied to participants whose primary duties in the school included leading or administering. The *leaders* group might include roles such as principals, deputy principals, or other administrators. A leader might also have teaching duties, however their primary role and responsibility within the school was as a leader. Similarly, a teacher might also have leadership roles such as a project manager or coordinator, however their primary role and responsibility lay within teaching.

The study sample included 63 participants (n = 42 female, n = 19 male, n = 2 that did not wish to say), consisting of 54 teachers, 8 leaders, and 1 participant that did not express a role within the school. The participants' ages ranged from 27-62 (M = 47.02) years old with 2-36 (M = 20.41) years of work experience in the field of education. The demographic breakdown between the teacher and leader groups, in terms of gender, age, and work experience is detailed in Table 1.

Table 1. Demographics of teachers and leaders

	Gender*		Age (in years)	Work Experience (in years)
	Female	**Male**		
Teachers (n = 54)	37	15	27 - 59 mean = 45.48	2 – 36 mean = 19.10
Leaders (n = 8)	4	4	44 – 61 mean = 55.50	20 – 35 mean = 29.25

*2 participants that identified as *Teachers* did not wish to disclose information on gender.

After identifying their main role within the school, participants were asked to express if they had any other leadership/management responsibilities or non-leadership/non-management responsibilities in addition to their main duties. If so, participants were given the opportunity to express more detailed information on these duties. Additional non-leadership/non-management roles were most commonly described as an employee position within project work, while additional leadership/management roles were most commonly described as a project manager or coordinator position. Role details of self-identified teachers are expressed in Table 2, while role details of self-identified leaders are expressed in Table 3.

Table 2. Role details of teachers

n	Role
29	Teaching with no additional leadership/management roles
14	Teaching with additional non-leadership/non-management roles
7	Teaching with additional leadership/management roles
2	Guidance with additional leadership/management role
1	Guidance with no additional leadership/management roles
1	Teaching and guidance with no additional leadership/management roles

Table 3. Role details of leaders

n	Role
3	Principal
2	Deputy Principal
2	Deputy Principal with role in guidance
1	Principal with role in teaching

4.3   Data collection and measures

This study was carried out as a part of a 2018-2021 project for the development of teacher education, led by the University of Jyväskylä and funded by the Ministry of Education and Culture, entitled KAJO. This project aims towards strengthening leadership skills of education and training teaching staff.

As previously mentioned, this study examined three general upper secondary schools which operate under one academic association or education provider. The main principal of this association appointed the curriculum coordinator in each of the three schools as the main contact persons for this study. A web-based questionnaire, written in Finnish, was administered to the curriculum coordinators in each of the three schools. The coordinators then electronically distributed the questionnaire to their staff and the questionnaire results were electronically collected upon completion. The portions of the questionnaire utilized in this study included ten background questions to build the profile of participants (i.e., gender, age, years of work experience, roles within the school) and nine questions that concentrated on collaborative working and learning processes when solving the determined wicked problem.

The wicked problem was determined by the main principal of the academic association in addition with the curriculum coordinators of each of the three schools and was defined as the process of the schools' curriculum implementation. Therefore, participants were asked to complete the questionnaire from the lens of solving the wicked problem of how to implement the curriculum at their school. More specifically, participants were asked to rate their level of agreement towards four statements that described their perceptions of their collaborative *working* processes and outcomes and five statements that described their perceptions of their collaborative *learning* processes and outcomes. Each statement was to be rated on a 10-point Likert scale ranging from 1 *(disagree)* to 10 *(agree)*. The nine statements are outlined in further detail in Table 4.

Table 4. Nine statements in the collaborative working and learning dimensions

Collaborative Working	*When working together to solve our wicked problem, I feel that…* 1. …everyone's contribution is considered. 2. …we create meaningful measures and practices. 3. …we are able to change our individual opinions as new perspectives arise. 4. …it results in new ideas and alternative solutions.
Collaborative Learning	*When learning together on how to solve our wicked problem, I feel that…* 5. …we share common vision and values. 6. …the trust and mutual respect among us increase. 7. …there is true dialogue between us. 8. …I am able to co-create new ideas despite my own opinions. 9. …we move beyond individuals' abilities and skills and also utilize the collective ones.

These nine statements are part of a piloted, tested, and experimented questionnaire that was co-created within an international research project (LED – Collaborative leading of the unexpected in the changing education, 2015-2016) which looked at community-led leadership and development process change (Jäppinen et al., forthcoming). The project where the questionnaire was launched included several organizations that situated in different cultural contexts from early childhood to primary and secondary education plus one adult education center.

These nine statements concentrate on collaborative working and learning processes when solving wicked problems. The perspectives of the general upper secondary education teachers and leaders in this study provide the opportunity to gain insight into educational leadership competence.

4.4   Data analysis

The data analysis was conducted through *IBM SPSS* software version 27. A *Shapiro-Wilk* test of normality was conducted to investigate the distributions of the collaborative working and learning variables and the results determined that the data was not normally distributed. Given the non-normal distribution of data, various nonparametric tests were conducted in order to examine the relationship

between teachers' and leaders' perceptions of their collaborative working and learning processes.

5   RESEARCH FINDINGS

5.1   Dimension of Collaborative Working

The mean values for the responses to the 4 statements within the dimension of collaborative working in the *teachers* and *leaders* groups were calculated. Using the two mean values, a *Mann-Whitney U test* was conducted to determine whether there was a difference in the perceptions of teachers and leaders within the collaborative working dimension. The results of that analysis indicated that there was a statistical difference, with leaders (Md = 7.56, n = 8) expressing a more positive perception of their collaborative working processes than teachers (Md = 6.38, n = 54), U = 94, Z = -2.56, p = .01, r = .33.

In order to investigate which statements teachers and leaders most strongly agreed or disagreed with, the statistical means of each statement were compared. Table 5 and Table 6 reveal the statistical means, standard deviation, and sample size of each statement within the collaborative working dimension. The statements in both tables are ranked from highest to lowest mean.

Table 5. Mean scores of teachers' perceptions in the collaborative working dimension

Statement	Mean	SD	n
…it results in new ideas and alternative solutions.	6.81	1.69	54
…we are able to change our individual opinions as new perspectives arise.	6.47	2.05	54
…we create meaningful measures and practices.	6.13	1.71	54
…everyone's contribution is considered.	5.97	2.15	54

Table 6. Mean scores of leaders' perceptions in the collaborative working dimension

Statement	Mean	SD	n
…it results in new ideas and alternative solutions.	8.00	1.22	8
…we create meaningful measures and practices.	7.88	.92	8
…we are able to change our individual opinions as new perspectives arise.	7.69	1.51	8
…everyone's contribution is considered.	7.50	1.22	8

In order to determine if there were any relationships between gender, age, or years of work experience and perceptions of collaborative working process in teachers and leaders, the data was analyzed using a series of *Spearman's rank-order correlations.* The results of this analysis indicate that there is no statistically significant relationship between teachers' perceptions of their own collaborative working processes and their gender (r_s = -.03, p = .85, N = 54), age (r_s = -.14, p = .33, N = 54), or years of work experience (r_s = -.11, p = .42, N = 54). Similarly, the results of this analysis indicate that there is no statistically significant relationship between leaders' perceptions of their own collaborative working processes and their gender (r_s = .33, p = .43, N = 8), age (r_s = .11, p = .80, N = 8), or years of work experience (r_s = .12, p = .77, N = 8).

5.2 Dimension of Collaborative Learning

The mean values for the responses to the 5 statements within the dimension of collaborative learning in the *teachers* and *leaders* groups were calculated. Using the two mean values, a *Mann-Whitney U test* was conducted to determine whether there was a difference in the perceptions of teachers and leaders within the collaborative learning dimension. The results of that analysis indicated that there was no statistical difference between leaders (Md = 7.65, n = 8) and teachers (Md = 6.70, n = 54) perceptions of their collaborative learning processes; U = 121, Z = -1.95, p = .052, r = 0.25.

In order to investigate which statements teachers and leaders most strongly agreed or disagreed with, the statistical means of each statement were compared. Table 7 and Table 8 reveal the statistical means, standard deviation, and sample size of each statement within the collaborative learning dimension.

Table 7. Mean scores of teachers' perceptions in the collaborative learning dimension

Statement	Mean	SD	*n*
…I am able to co-create new ideas despite my own opinions.	7.38	1.51	53
…we move beyond individuals' abilities and skills and also utilize the collective ones.	6.90	1.52	52
…there is true dialogue between us.	6.47	1.75	53
…the trust and mutual respect among us increase.	6.36	1.68	51
…we share common vision and values.	6.27	1.60	51

Table 8. Mean scores of leaders' perceptions in the collaborative learning dimension

Statement	Mean	SD	*n*
…I am able to co-create new ideas despite my own opinions.	8.25	1.16	8
…there is true dialogue between us.	7.69	.80	8
…we move beyond individuals' abilities and skills and also utilize the collective ones.	7.50	.80	8
…the trust and mutual respect among us increase.	7.38	.74	8
…we share common vision and values.	6.38	.79	8

In order to determine if there were any relationships between gender, age, or years of work experience and perceptions of collaborative learning process in teachers and leaders, the data was analyzed using a series of *Spearman's rank-order correlations.* The results of this analysis indicate that there is no statistically significant relationship between teachers' perceptions of their own collaborative

learning processes and their gender (r_s = -.03, p = .86, N = 53), age (r_s = -.20, p = .15, N = 53), or years of work experience (r_s = -.24, p = .08, N = 53). Similarly, the results of this analysis indicate that there is no statistically significant relationship between leaders' perceptions of their own collaborative learning processes and their age (r_s = -.68, p = .06, N = 8) or years of work experience (r_s = -.66, p = .073, N = 8). However, in this dimension, there was a statistically significant positive relationship found between leaders' perception of their collaborative learning processes and gender (r_s = .878, p = .004, N = 8) with male leaders (M = 7.90, n = 4) overall expressing a more positive perception than female leaders (M = 6.98, n = 4).

6   DISCUSSION

Modern forms of educational leadership today emphasize collaboration and provide alternatives to the ineffective traditional hierarchical forms of leadership. While these alternate forms of leadership have the potential for success in today's dynamic and complex organizational environments, they still regard the abstract concept of educational leadership from the perspective that it can be understood through roles, practices, or outcomes (e.g., Dinh et al., 2014). Collaborative educational leadership itself should rather be understood as an outcome, as well as a process, and viewed as leadership that is co-created through meaningful interactions between stakeholders and the synergy of collaborative working and learning (Jäppinen & Ciussi, 2016; Uhl-Bien, 2006; Packer & Goicoechea, 2000).

Collaborative leadership has only recently gained attention in academic literature, which has led to conceptual incoherence of the complex phenomenon and term (Avolio et al., 2009; Jäppinen & Ciussi, 2016; Kramer & Crespy, 2011; Morrison & Arthur, 2013). Thus, this study was conducted in order to gain more insight into collaborative leadership competence by exploring the relationship between teachers' and leaders' perceptions of their own collaborative working *and* learning when solving a wicked problem. Teachers and leaders completed a questionnaire from the lens of solving the wicked problem of how to implement the curriculum at their school and rated their level of agreement towards four statements that described their perceptions of their collaborative *working* processes and outcomes and five statements that described their perceptions of their collaborative *learning* processes and outcomes. Each statement was to be rated on a 10-point Likert scale ranging from 1 *(disagree)* to 10 *(agree)*.

6.1   The relationship between teachers' and leaders' perceptions of collaborative working and learning

When participants were asked to rate their level of agreement towards the nine statements that described their perceptions of their collaborative working *and*

learning processes and outcomes, the results of the study determined that both teachers and leaders expressed agreement towards each of the nine statements. This overall positive perception of the collaborative working and learning processes of both teachers and leaders found in this study suggests a collaborative leadership competence within the collective.

Comparing the highest and lowest rated statements of teachers and leaders within the collaborative working dimension

When examining exactly what level of agreement the teachers and leaders rated each of the four statements within the collaborative *working* dimension, it was found that both teachers and leaders had the highest level of agreement with the statement declaring that "when working together to solve our wicked problem I feel that it results in new ideas and alternate solutions" (teachers' mean = 6.81; leaders' mean = 8.00). These results reflect the literature on collaborative leadership as a shared endeavor where through meaningful interactions, members are able to create something novel (Jäppinen & Ciussi, 2016). Several studies have shown that collaborative leadership has been found to increase creativity as well as the innovative potential of the collective (Hoch, 2013; Mohammed & Thomas, 2014; Alanezi, 2016). However, working in tandem with leadership, the workplace environment plays a role in either promoting or hindering members' creativity and innovation in order to find new and better solutions to problems. Hooker & Csikszentmihalyi (2003) explain that an organization must put the following six conditions into practice in order to enhance creativity: an organization must (1) value excellence in performance regardless of results, (2) have clear goals, (3) give constant and timely feedback on performance, (4) evaluate the special strengths of members and provide opportunities in the workplace for members to express them, (5) decrease distractions, and (6) allow members the freedom to be the most creative. Applying these six conditions may not only enhance creativity but also strengthen collaborative leadership competence.

The statement however with the lowest level of agreement, in both teachers and leaders, was the statement declaring that "when working together to solve

our wicked problem I feel that everyone's contribution is considered" (teachers' mean = 5.97; leaders' mean = 7.50). Collective leadership allows for more members to participate in the decision-making process. In order to make decisions collaboratively, it is essential that all members not only voice their opinions but also that all contributions have been considered (Lummis, 2001), strengthening the collaborative culture and each individual's feeling of being part of a collective team. This notion is supported by a study conducted by Carr and Walton (2014) which examined how social cues that evoke a psychological state of working together affected participants that worked alone on an individual task. In an interview regarding the results of the study, Walton expressed that his research found that "simply feeling like you're part of a team of people working on a task makes people more motivated as they take on challenges" (Parker, 2014, p. 2). Walter went on to say that working together has the potential for negative effects if members felt that their contributions would go unnoticed, causing the level of productivity to decrease (Parker, 2014). In regard to the present study, it is important to point out that while the statement pertaining to every members' contribution being considered was reported with the lowest level of agreement in comparison to other statements, it still was reported overall with a positive perception. This may suggest that while this statement is not viewed negatively by teachers and leaders, it can be considered as an area of improvement in order to strengthen collaborative leadership competence.

Comparing the highest and lowest rated statements of teachers and leaders within the collaborative learning dimension

Within the collaborative *learning* dimension, teachers and leaders both reported the highest level of agreement on the statement declaring "when learning together how to solve our wicked problem I feel that I am able to co-create new ideas despite of my own opinions" (teachers' mean = 7.38; leaders' mean = 8.25). Collaborative leadership requires a community culture where each member is respected, valued for their differences, and able to keep an open mind to the ideas of others. The mindset of the collective is that the differences between members

play a vital role in the ability to grow and progress because "the many different voices, experiences, and styles of the school community add to its strength and vitality" (Lummins, 2001, p. 3). When this type of mindset and culture is established, members will be able to work together towards co-creating new ideas that propel the collective forward, despite their own opinions (Lee-Davies et al., 2007).

The statement with the lowest level of agreement by both teachers and leaders was the statement declaring that "when learning together how to solve our wicked problem we share a common vision and values" (teachers' mean = 6.27; leaders' mean = 6.38). Studies suggest that successful collaborative professional learning requires a mutual self-interest and common goals (Duncombe & Armor, 2004) and identify a shared vision and sense of purpose as central importance within professional learning communities (Stoll & Louis, 2007). Unfortunately, a misalignment of goals between the individual and the collective is a problem that many organizations are faced with, undermining the organizations' collective efforts and competence (Boreham, 2004).

Occupational competence is often represented as the outcome of individual performance at work, however Boreham (2004) proposes a theory of collective competence where competence is regarded as an attribute of the entire community. This is not to suggest that "there are no individual competencies; rather, that we should recognize both individualistic and collectivistic ways of constructing competence, and where appropriate, regard them as mutually constitutive" (p. 8). Boreham's theory of collective competence first focuses on making collective sense of events in the workplace. Narration, spontaneous discussion, and an exchange of feelings are all activities that aid in the collective re-interpretation of events leading to collective sense making of events in the workplace. Second, is the development and use of a collective knowledge base, which is established through meaningful interactions that help members reach an agreement on the interpretations of common experiences. And finally, is the development of a sense of interdependency, which requires all members to overcome the negative tendencies of deferring opinions. This reinforces the importance of creating an environment where everyone's contribution is

considered and where members are able to co-create new ideas that propel the team forward despite their own opinions. Therefore, it is essential that within collaborative leadership, teachers and leaders work together to clarify their vision and values (Leonard & Leonard, 2001).

In regard to the present study, again it is important to point out that while the statement pertaining to sharing a common vision and values was reported with the lowest level of agreement in comparison to other statements, it still was reported overall with a positive perception. This may suggest that while this statement is not viewed negatively by teachers and leaders, it can be considered as an area of improvement in order to strengthen collaborative leadership competence.

Comparing teachers' and leaders' overall perceptions of their collaborative working and learning processes and outcomes

While there was no significant difference found between teachers' and leaders' perceptions within the dimension collaborative *learning*, within the dimension of collaborative *working* there was a significant difference revealing that leaders expressed a more positive perception of their own collaborative working than teachers. These results echo the findings of previous studies where leaders expressed more positive perceptions compared to teachers towards various aspects of the educational organization such as management (Cheng & Yau, 2014), teacher empowerment (Keiser, 2000), and school culture (Firat, 2010).

It must be noted however, that in this study participants self-identified themselves as teachers or leaders. Participants were first asked to identify their main role within the school as a leader, teacher, guidance counselor, teacher assistant, and/or administrator. Participants were then asked to express if they had any other leadership/management roles in addition to their main duties. If so, participants were given the opportunity to express more detailed information on these duties. The *teachers* group included roles such as teachers, guidance counselors, or school assistants. While the term *leader* was applied to participants whose primary duties in the school included leading or administering. The *leaders* group included roles such as principals, deputy principals, or other

administrators. A leader may also have teaching duties, however their primary role and responsibility within the school is as a leader. Similarly, a teacher may also have leadership roles such as a project manager or coordinator, however their primary role and responsibility lies within teaching. It is important to note this aspect of self-identification in this study because it has been found that as a teacher's role expands beyond the classroom, some teachers are resistant to transform their identity and are reluctant to identify themselves as leaders (Carver, 2016). Carver (2016) explains that it is through meaningful dialogue within an authentic learning community that this professional identity transformation can occur.

The relationship between demographic variables (age, gender, and work experience) and perceptions of collaborative working and learning processes and outcomes
When examining age, gender, and work experience of both teachers and leaders, the study determined that there was no relationship between these demographic variables and the perception of collaborative *working* processes and outcomes of both teachers and leaders. However, within the dimension of collaborative *learning*, the results of this study, which contained an equal number of male and female leaders, determined a relationship between gender and the perception of collaborative *learning* in *leaders* where male leaders expressed a more positive perception of their collaborative learning than female leaders. However, these results contradict those of a 2018 study finding no statistically significant difference in male and female principals' perceptions of their professional learning community (Brown, 2018).

While this study indicates no other relationships found between other demographic variables and collaborative working and learning, the diversity of the members of the community has been found to play a beneficial role in the collaborative culture of the organization and must be utilized as a positive factor towards collective and individual development (Woods et al., 2006). Collaborative leadership must be understood as a shared endeavor as well as an outcome that is co-created through meaningful interactions between

stakeholders. The beauty of these interactions lies within each members' unique and diverse contributions.

6.2   Limitations

During the planning and implementation stages of this study, several limitations became evident.

First, this study's sample size (N=63) was small. It included three general upper secondary schools that are under the same academic association or education provider in one urban area of Finland. Given this specific and small sample population, the results of this study may not be generalizable to other populations.

Second, the response rate of this study was 28.6%. This low response rate could have been due to the timing of when the questionnaire was sent out. The questionnaire was sent out in two rounds. The first round was sent out during a time when the schools were administering senior matriculation exams. While the second round was sent out not long after COVID-19 was declared a pandemic by the World Health Organization.

Third, the questionnaire utilized in this study included background questions to help build the profile of participants. Participants were asked to self-identify and report their main role in the school and were then asked if they had any additional leadership or management duties with an opportunity to briefly explain what they were. As previously expanded upon, some teachers may be resistant to transform their identity and may be reluctant to identify themselves as leaders. Therefore, it is possible that there were participants who self-identified their main role as a teacher, that should have instead identified themselves as a leader.

Finally, this study was a self-administered questionnaire. Therefore, the researcher did not monitor the participants as it was completed and was unable to ensure that it was completed individually without responses being shared in the process.

6.3   Implications and recommendations for future research

The results of the study determined that both teachers and leaders expressed agreement towards each of the nine statements. This overall positive perception of the collaborative working and learning processes of both teachers and leaders found in this study suggests a collaborative leadership competence within the collective. More specifically, within the collaborative *working* dimension, *leaders* expressed more positive perceptions than teachers and within the collaborative *learning* dimension it was found that *male leaders* express a more positive perceptions than female leaders. Additionally, the results showed that teachers and leaders both rated the same statement with the highest overall agreement and the same statement with the lowest overall agreement in both dimensions of collaborative working and learning, providing the participants with information on their specific strengths as well as highlighting areas that require improvement within the dimensions of collaborative working and learning. With the highly favorable results obtained in this study, the participants can move forward with new key focus areas in order to strengthen and continue their collaborative leadership competence.

Building upon previous research, the present study provides more information that can continue to develop and strengthen leadership within general upper secondary education. However, given the small sample size of this study, it only provides a small glimpse into the relationship between teachers and leaders as to their collaborative leadership competence, therefore requiring more research in this field. In future research, it would be advantageous to conduct studies with significantly more sample populations across various geographical regions. However, it is the researcher's recommendation to continue studying specific sample populations that keep leaders together with their own teachers, as this study did. This could be done by keeping the sample population to the same school, the same education provider, or potentially same school district. Conducting this type of research across various contexts may allow researchers to not only find trends in specific populations, but also increase the validity of their research in order to generalize the findings for the broader population.

Finally, the present study provides a better understanding of collaborative leadership as both a process and an outcome. Understanding this phenomenon as the synergy of collaborative working *and* learning where both individual and collective endeavors are essential, and as leadership that is co-created through meaningful interactions between stakeholders, is the type of educational leadership that will provide opportunities for educational organizations to respond to increasing global complexity and solve wicked problems (Jäppinen & Ciussi, 2016; Uhl-Bien, 2006; Packer & Goicoechea, 2000). However, more research in this field is required in order to gain further insight into teachers' and leaders' collaborative working and learning as to collaborative leadership competence.

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