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ACHIEVING HIGH QUALITY THROUGH LEADERSHIP: A QUALITATIVE MULTILEVEL ANALYSIS OF TRANSFORMATIONAL LEADERSHIP AND PERCEIVED PROFESSIONAL QUALITY

Introduction

High performance in public organizations requires that the employees know the direction in which the organizations are supposed to develop, and leadership can clarify the goals and enhance employees' affective orientations toward the relevant understandings of performance (Wright, Moynihan, & Pandey 2012). Different stakeholders have different understandings of what performance should be (Andersen, Boesen, & Pedersen, 2016), and if the employees are professionals (belonging to an occupation with specialized theoretical knowledge and intra-occupational norms), professional quality will typically be an important performance criterion. We conceptualize *understandings of professional quality* as constructions of what individual professionals perceive that their profession sees as desirable for the organization, while the *level of professional quality* is the degree to which the individual professionals perceive that this desirable condition is reached by their organization.

Quality is a relevant performance criterion in many public organizations (Walker, Jung, & Boyne, 2013; Boyne, 2003), and professional quality is especially relevant in organizations where many employees belong to an occupation with specialized, theoretical knowledge and strong intra-occupational norms. Professional quality can concern processes as well as products and (if it concerns the products) input, output and outcome (Andersen et al., 2016). The defining characteristic of professional quality is the identity of the stakeholder: The relevant professionals. Especially in public organizations, there are many competing understandings of

organizational performance, and different professionals can have different understandings of what professional quality is. In this article, we systematize their understandings and analyze whether a *shared understanding* of what professional quality is between leader and employees leads to higher *levels* of professional quality. We link this to transformational leadership. It is “behaviors that seek to develop, share, and sustain a vision” (Jensen et al., 2016, p. 8), and this leadership behavior is expected to reach agreement on what professional quality is and thus achieve a high level of professional quality. Our research question is if and how transformational leadership is associated with a shared understanding and a high level of professional quality.

Despite the increasing number of studies on transformational leadership and performance (Vogel & Masal, 2015, p. 1175; Barling, Weber, & Kelloway, 1996; Bass & Riggio, 2006; Bellé, 2014), we know little about whether and how transformational leadership is associated with professional quality. This article adds to the literature by analyzing how transformational leadership can promote shared *understandings* of professional quality and by highlighting how this relates to the perceived level of professional quality. Moreover, the article contributes with a specific investigation of professional quality as a central performance criterion in the public sector. The existing (typically quantitative) research tends to assess quality as a predefined, one-dimensional concept (e.g., Andrews, Boyne, & Walker, 2006; Boyne, Brewer, & Walker, 2010; Walker et al., 2013). Our qualitative research design provides information on the various understandings of professional quality and allows for an increased knowledge of the diversity of understandings within the same overall performance criterion. Moreover, in-depth analysis can complement the existing quantitative studies of transformational leadership and performance in public organizations (e.g., Jacobsen & Andersen, 2015; Bellé, 2014) by giving insight into the

processes linking leadership and performance and the conditions under which leadership is perceived to work best.

Empirically, we study 16 Danish public childcare centers with systematic variation in span of control. We combine observations of leadership behavior with 48 semi-structured qualitative interviews, including 32 interviews with employees and 16 interviews with their direct leaders. The study thus provides important empirical knowledge about a sector where it makes a difference for children to receive high quality childcare (Campbell, Ramey, Pungello, Sparling, & Miller-Johnson, 2002; McLaughlin, Campbell, Pungello, & Skinner, 2007; Reynolds et al., 2007), but where the understandings and level of professional quality vary between childcare centers (Diderichsen, 1997; Gilliam & Zigler, 2000; Kragh-Müller, 2015).

Finding ways to improve professional quality of this type of welfare service is of special importance, since professional quality is often the only way to assess performance in these organizations. Many public organizations are staffed with public professionals who may have different perspectives on what constitutes appropriate organizational performance. For leaders to foster shared understandings among public professions therefore seems particularly vital (Walker et al., 2013). Finally, shared understandings among professionals and leaders are of special importance in public organizations where professionals are motivated by their understandings of appropriate professional quality rather than by monetary incentives (Rainey, 2003; Caillier, 2014).

The article is structured in four sections: First, we develop a theoretical framework concerning the relationship between transformational leadership, shared understandings of professional quality and perceived levels of professional quality. Second, we discuss the research design, methods, and data. Third, we report the empirical findings. Finally, we discuss the results and their implications.

Theory and expectations

This section first discusses understandings of professional quality followed by an analysis of the relationship between transformational leadership and professional quality.

Professional quality as relevant performance criteria

Public organizations often have several different performance criteria, and it is important to specify which types of performance that are included in a given performance analysis and which are not (Boyne, Meier, O'Toole, & Walker, 2005; Andrews et al., 2006; Walker & Andrews, 2015; Andersen et al., 2016). By definition, professional quality has the individual professionals as stakeholders, and we see this as a very important research agenda in the aftermath of New Public Management. This paradigm saw performance as defined only by politicians (who should steer, not row), while recent contributions have a more nuanced understanding of the relevant stakeholders in public organizations (Andersen et al., 2016). Investigating professional quality is especially interesting because professionals have diverse understandings of professional quality and thereby different perspectives on what constitutes appropriate organizational objectives (Walker et al., 2013). One distinction in professionals' understanding of professional quality is to what phase of the service production process professional quality relates (Andersen et al., 2016). That is, whether professionals' understandings of professional quality refer to either input, process, output, or outcome (Boyne, 2002; Van Dooren, Bouckaert, & Halligan, 2010; Pollitt & Bouckaert, 2011). Professional quality is understood as input when the professionals perceive the availability of certain production factors (e.g., enough skilled workers) as desirable in itself for the organization (Brown, 1996). When they characterize planning and preparation conditions for

service delivery as desirable in themselves, the understanding of professional quality has a process focus. An output-oriented understanding of professional quality is seen when certain activities and services are perceived as desirable. Finally, understandings of professional quality concern outcome when they refer to the organization's end results (Brown, 1996). Professional quality may include both input, process, output and outcome (De Bruijn, 2010), making it even more relevant to analyze the degree of *shared understanding* of professional quality.

In order to improve performance, a shared understanding of professional quality among professionals and leaders is important, since professions tend to follow professional norms and definitions (Scott, van Kleef, & Steen, 2016; Burau et al., 2014). Thus, if professionals are to contribute to attain organizational objectives, they need to agree with their leader on the main objectives of their organization (Walker, Jung, & Boyne, 2013; Noordegraaf, 2011a; Thomas & Hewitt, 2011). If professionals and leaders share a common understanding of the main objectives of an organization, professionals will try harder to achieve them (Caillier, 2014) and it may prevent that employees and leaders work against each other to realize different values (Paarlberg & Lavigna, 2010). Accordingly, we expect that a shared understanding of professional quality is positively associated with the level of professional quality in public organizations.

Association between transformational leadership and professional quality

Although professionals' understandings of professional quality draw upon core values, norms, and beliefs in the relevant profession, these individual understandings are dynamic and may be influenced by leadership and organizational structures (de Bruijn, 2010; Noordegraaf, 2007; 2011b). A well-known distinction is between transformational leadership and transactional leadership (Bass 1985; Van Knippenberg and Sitkin 2013). While transactional leadership is

based on pecuniary and non-pecuniary transactions between the leader and the employees (Antonakis, Avolio, & Sivasubramaniam 2003; Bass 1985), transformational leadership is based on the inspiration and direction of individual effort (Bass, 2008). Defined as “behaviors to develop, share and sustain a vision [...] with the intention [...] to encourage employees to transcend their own self-interest and achieve organizational goals” (Jensen et al 2016 p. 8)”, transformational leaders aim to raise employees’ awareness of the importance of organizational outcomes (Bass 1985; Antonakis et al. 2003; Podsakoff et al. 2006). In comparison, transactional leaders use contingent rewards and sanctions to make individual employees pursue their own self-interest while contributing to organizational goal attainment (Jensen et al 2016, p. 10). Although transactional leadership can also increase performance, organizations with many professional employees do not always use it much, maybe because the quid pro quo logic is seen as contrasting with professionalism (Freidson 2001). In contrast, transformational leaders strive to make the organizational vision clear for the employees, and professional norms may be more compatible with such a focus on how the organization contributes to society (Wright et al. 2012; Krogsgaard, Thomsen & Andersen, 2014). In this process, it is plausible that the employees develop the same understanding of professional quality as the leader, and that they increase their efforts to achieve this professional quality. Combined with the above-mentioned discussion, this implies that we expect transformational leadership to be positively related to the level of professional quality.

The specific association between transformational leadership and professional quality may not be exactly similar in all organizations. While the first step is to establish and understand the association in one type of organization (here childcare centers), it is still very relevant to start discussing whether the association is robust. Are the mechanisms for example the

same in organizations with different spans of control (Doran et al., 2004)? Below, we discuss the specific methodological choices made in our investigation of transformational leadership and professional quality.

Design and Methods

The empirical analysis is based on a multilevel, most similar systems design, testing the theoretical expectations in 16 Danish childcare centers. We include two levels of analysis: the individual employee and the organization. Childcare centers provide integrated care for children between zero and six years, and a qualitative investigation of this type of organizations allows us to analyze both understandings and levels of professional quality. Moreover, it gives us in-depth insight in the mechanisms associating transformational leadership and professional quality because variation in both aspects is expected (Diderichsen, 1997). Although our focus is not on transactional leadership, we also categorized the levels of this type of leadership in each childcare center. This is done to help us distinguish between transformational leadership and leadership in general (e.g. whether leaders/employees would always rate the leader low/high on any type of leadership or only specifically on transformational leadership). Below, we discuss the most important methodological procedures, and the online appendix supplements this with interview guides, condensed coding, and other details.

We selected 16 childcare centers with systematic variations in the span of control. These childcare centers are similar in tasks and direct leadership structure given that they integrate services for the entire 0–6 years age span and are supervised by a pedagogically trained (in our case all female) front-line leader who has her office in the childcare center. Furthermore, the childcare centers are as similar as possible in other regards (e.g., socio-economic conditions of the

children and funding). The selection was based on information from the municipalities and websites (on number of employees), existing reports concerning funding (Dalsgaard, Nøhr, & Jordan, 2014), and municipal key figures (Kommunale Nøgletal, 2014).

We combine interviews and direct observations in order to limit the risk of common source bias (Meier & O'Toole, 2013) by using different data sources to measure the dependent and independent variables. While observations identify informal processes, actions—including interactions—and the sometimes unconscious behavior in the childcare centers, the interviews provided a more formal frame for reflection on a set of similar questions.

We conducted interviews with 32 employees and their 16 direct leaders. Having interviewed leaders and their employees (and being able to link their statements), our empirical data is uniquely suited to answer the research question. In order to secure comparability and similarity in the background of the interviewed employees, all interviewed employees are female and have at least one year of experience as pedagogues and at least six months organizational tenure. Thus, the background of the interviewees is as similar as possible. The theoretical framework guided the semi-structured interviews, but the flexibility of the interviews allowed the interviewees to unfold subjective interpretations and accounts as well (Yin, 2013). The interviews were transcribed and analyzed in NVivo based on the theoretical operationalization. All of the interviews were coded in full, and the statements were systematically condensed and compared in matrix displays.

Four researchers validated the condensations. Two researchers each condensed and classified the statements made by the leaders and employees about the leadership styles applied in the childcare centers, and subsequently they discussed the classifications. In the few cases with different results, observation data was consulted. Then, two additional researchers each condensed

and classified statements about the understanding and level of professional quality, and subsequently they discussed the classifications. First after having classified the childcare centers in terms of leadership, individuals' understandings, and perceived level of professional quality, we examined the association between leadership and professional quality. Having four separate researchers to condense and classify the variables of interest (two for leadership, two for professional quality) increases the reliability of the classifications and strengthens our confidence in the results.

In order to explore the daily institutional lives of the participating leaders, the content of their days, and their interactions with employees, observation of participation (Tedlock, 2000) was carried out in their "natural environment" (Holstein & Gubrium, 2000, p. 33). In total, 16 days of observations were undertaken, shadowing eight of the participating leaders (two whole days each). With one exception, observations were carried out prior to the interviews, so insights from the observations could be used in the interviews. These insights included observation of actions and on-the-spot (De Vault & McCoy, 2002) informal conversations whenever the shadowed leaders were asked to share their reflections about their leadership and the consequences of their span of control. Observation notes about what was said and done, with whom, and where were taken in real time. The computerized and elaborated notes were later coded and collected in five theme tables. The observation data was generally full of examples of leadership in action and professional discussions during meetings. The observations thus provide strong validation of the interview findings.

Leaders and employees were asked about leadership styles in two different ways: We requested that they categorized their leadership style/their leaders' leadership style relative to three graphic illustrations (of transformational, transactional, and non-active leadership), and they

were asked to describe how they/their leader actually acted. Focus for the coding of transformational is how the leader act and communicate to the employees what the childcare center should work towards and how they try to create acceptance and enthusiasm for goals and vision. The coding of transactional leadership is based on how the leader sets goals including rewards and sanctions based on employee performance. More details about the coding can be found in the online appendix. We triangulated interview statements from employees and leaders with each other and with observation data. In the analysis, we further specify the combination of the different data sources and different ways to ask questions about leadership.

Span of control was measured as a headcount. Leaders in the childcare centers generally have very similar tasks, and the main difference is that leaders in small centers to some extent partake in direct childcare activities. We counted the number of employees supervised by each leader (including all employees reporting directly to the leader). Information from the leader and from organizational websites were generally quite similar, and we used information from the leaders if they differed.

In order to capture different understandings of professional quality, we asked the professionals about their perception of what constitutes professional quality. The specific question was: “How do you understand professional quality”. Subsequently, these understandings were classified as either input-, process-, output-, or outcome-related and were compared in order to identify whether leaders and employees applied the same expressions and perspectives. This approach captures (and allows us to compare) different understandings of professional quality and enables us to assess whether professionals and leaders of the same organization share understandings of professional quality. Further, professionals were asked how they assessed the level of professional quality in their childcare center. The classification of professional quality at the organizational level was carried out while drawing comparisons to the insights from both

observation data and the entire interviews with employees and leaders. Table 1 provides an overview over the concepts, and the next section elaborates further on the operationalizations when it tests the theoretical expectations. In sum, we expect that:

- Shared understandings of professional quality among leaders and employees are positively associated to the level of professional quality
- Transformational leadership is positively associated to both the degree of shared understanding and the level of professional quality.

[Insert table 1 about here]

Analysis

Below, we first describe and classify the understanding and level of perceived professional quality and the association between the two. We then classify transformational leadership levels in the childcare centers and analyze the associations between transformational leadership and professional quality. Finally, we discuss the role of span of control in order to explore the robustness of the findings.

Understanding and level of professional quality

When analyzing whether the leader and employees in the childcare centers share the understanding of professional quality, we identified all the individual understandings of professional quality. Thus, the analysis is based on the professionals' responses to the question of how they understand professional quality. Six main understandings of professional quality were identified from the interviews. "Keeping updated" and "resources" concerns input, "reflected practice" and

“professional discussion” concerns process, “child focus” concerns output, and “child learning” is an outcome-related understanding of professional quality.

The process-related understanding of professional quality is most pronounced, and the most frequently mentioned understanding is *reflected practice*. This understanding concerns professionals’ reflections on why they do as they do and working with systematic professional tools (e.g., learning plans or learning models); evaluating the work and being able to explain a given practice or action. As one of the leaders explains: *“If you’re able to explain the pedagogy that you have in a reflected way...then it becomes good professional quality...We don’t all have to do the same...but that you have explained your pedagogy, the choices that you made, and show that you also act accordingly”* (leader 14.1). Thus, reflected practice refers to the pedagogues’ consciousness of their own practice including awareness of methods and approaches. The process-related understanding of professional quality also includes *professional discussions*, which refers to professionals being able to discuss their work and the children with colleagues. It refers to planning and preparation of service delivery, and at least one professional in all centers mentions it.

The second main understanding of professional quality is having a *child focus*, and this relates to output, i.e., the service delivered to the children. It concerns the welfare, intimacy and care for the children and *“making sure that the children have fun”* (leader 03.1). While caring for the children might seem a vital part of the job in a childcare center, it is not considered as professional quality by all of the professionals. One of the leaders explicitly states that *“to me, professional quality is not – don’t misunderstand me – caring, comfort, and trust; that fundamentally has to be there, and then there are other things that need to be present for it to become high professional quality”* (leader 11.1).

The third most frequently mentioned understanding of professional quality is *achieving child learning*. This understanding concerns the development of the child, and the desirable aspect is that the children learn. Thus, the focus is outcome and the results of childcare including what the professionals wish to achieve for the children.

A few professionals perceive professional quality as questions of *keeping updated* and *resources*. According to the professionals, keeping updated means the continuing education of pedagogues, reading, and keeping up on the latest knowledge or research in the field. The understanding of professional quality as resources concerns whether there are enough (educated) employees in the childcare center and sufficient time to do the job. Both keeping updated and resources concern production factors and are thus input-related understandings of professional quality.

To determine the degree of shared understanding between the employees and the leader, we compared the themes mentioned by employees and leader in the same childcare center. In addition to the simple overlap between understandings, we also took note of their main understandings, whether they used the same examples, and how clearly they described their understandings. The classifications of all the childcare centers can be seen in table 2.

[Insert table 2 about here]

It varies how much leader and employees share the same understanding of professional quality. In childcare center 6, for example, the leader and employees share the understanding of professional quality as reflected practice (process), but they disagree on learning (outcome), which is only emphasized by the leader. However, leader and employees all have a main focus on reflected practice, and they are all very clear in their descriptions and use some of the same examples. The understanding of professional quality is thus shared to a relatively high degree in this childcare center. In contrast, the leader and employees in childcare center 13 talk about very different aspects

when asked about their understandings of professional quality. While the leader understands professional quality as staying up to date (input) and having a reflected practice (process), none of the employees share these understandings of professional quality. Instead, they mention learning (outcome), and one of them mentions child focus (output) (seeing the children as they are). While it is important for the leader that all employees are able to continually learn and contemplate whether there is something that should be done differently, the understandings of professional quality among the employees relate more to the children. Some of the childcare centers are in-between these extremes. Employees and leaders in childcare center 3, for example, share the focus on the child (output), while they differ in terms of including learning in their understanding of professional quality. However, the importance of the understandings varies between the leader and one of the employees. Moreover in the institution and the descriptions of both the interviewed employees' are vague.

The *level of professional quality* is measured by the professionals' own assessments of the level of quality in their childcare center. The perceived level of professional quality is generally much more aligned within the organizations than the understanding of quality. Childcare center 9 exemplifies a center with relatively high perceived professional quality. The leader herself describes the quality as “high”, and one of the employees says that they develop professionally and have high professionalism. Another employee describes the professional quality as “insanely high”. In contrast, leader and employees in childcare center 13 see their quality as low. One employee in this center characterizes quality as “lacking”. Again, some centers have a level of perceived quality between these extremes, as exemplified by childcare center 11. Here, one of the employees says that professional quality “is a little bit individual—there are some who provide it

really well, and others provide it less”. Another employee also finds it difficult to classify the quality level but thinks that they are moving in the right direction.

As mentioned, shared understandings of professional quality are expected to be positively associated with higher levels of professional quality, and the statements generally support this expectation. Centers with a low or medium degree of shared understandings thus tend to have low or medium levels of perceived quality, while centers with a high degree of shared understandings tend to have high or very high levels of perceived quality. In childcare center 9, the leader and employees, for example, state that keeping up to date is important because they think that this creates the best basis for reflected practice and learning. They are also very specific in how they describe their work to develop the center, thus keeping the level of professional quality “insanely high” (employee 09.3). Correspondingly, childcare centers that do not have a shared understanding of professional quality also tend to have a low level of professional quality. Continuing the above-mentioned example with childcare center 13, the leader feels as though she is “hitting her head against the wall”, not making any progress, and one of the employees explains how professional quality initiatives are started but not seen through to the end.

In all of the centers with “very high” levels of quality as well as in three out of the four centers with “high” levels of quality, all of the professionals share an understanding of quality as process. In only three of these centers is this supplemented by agreement between the leader and at least one of the employees on any other understanding (outcome in childcare center 8 and 9; input in childcare center 16). Thus, the analysis not only supports the expected relation between the degree of shared understanding of professional quality and the perceived levels of professional quality; it also illustrates that a shared understanding does not necessarily have to be in terms of specific output or outcome measures in order for the level of quality to be perceived as high. In

fact, in one of the two centers that deviate most from the general pattern (by having low degrees of shared understanding but high levels of professional quality (childcare center 1 and 10)), the leader states that professional quality varies in terms of what is “currently best for the child, keeping in mind that other initiatives may be better in the long run” (leader 01.1). The statement indicates that what is “best” may be dynamic and that understandings of professional quality vary.

The level of quality is very high in two of the childcare centers where agreement of process is supplemented by agreement on outcome. As exemplified by one of the employees, the understandings of professional quality as process and outcome are linked: *“What kind of learning space should I create for those kids so that they develop and so that all children in this group are seen? [...] Yes, we do some things that are right, but that knowledge you get by reading theory sometimes, that it’s kind of like, this is why we do it”* (employee 09.3) . This implies that a combined focus on process and either output or outcome can lead to higher levels of quality.

In sum, the analysis indicates that sharing the understanding of professional quality is an important step in increasing the level of professional quality. It is difficult to raise quality levels in childcare centers without a shared understanding of professional quality, and there tends to be frustration in these centers regarding initiatives that are not seen through to the end. Below, we analyze whether the leader can create a shared understanding by using transformational leadership.

Leadership and professional quality

The first step in analyzing leadership and professional quality was to condense all statements about transformational and transactional leadership to a classification of the leadership style at the organizational level. The condensation process had three steps. First, we asked the professionals

to select the graphic illustration that best represented their own/their leader's leadership style. Second, we categorized the statements about the degree of the strategies. A statement from employee 6.2 exemplifies a very high level of transformational leadership: *"What she says is very exciting, and that's what we should work towards. She has an amazing enthusiasm when she talks about it"*. Correspondingly, a statement from employee 2.3 exemplifies a low level of transformational leadership. She says that the leader is passive and that *"you lack a firm core, and it makes it more difficult to utilize each other's resources"*. Third, we triangulated the findings from these two types of interview statements with observation data (if available), also including insights from our overall reading of the entire interviews. Leaders and employees tended to agree about the leadership styles applied by leaders. This implies robustness and validity of the leadership style classifications. As can be seen in table 4 in the online appendix, transactional leadership is used considerably less than transformational leadership. In fact, when we performed the same categorization for transactional leadership as for transformational leadership, no leader was categorized as having a high or a very high degree of transactional leadership (results not shown). This increases our confidence that the respondents were in fact able to distinguish between transformational leadership and other types of leadership. After the qualitative discussion, table 3 below gives an overview of professional quality and transformational leadership in the 16 centers.

As expected, there seems to be a positive association between transformational leadership and the degree of shared understanding of professional quality, albeit the association is not as evident as the relationship between shared understanding and levels of professional quality. Organizations with low or medium levels of transformational leadership for most parts have low or medium degrees of shared understandings, and organizations with high or very high levels of transformational leadership for most parts have high degrees of shared understandings. However,

there are not that many organizations with high or very high levels of transformational leadership. In one of these organizations, the degree of shared understanding is low, and there are some organizations with medium and low levels of transformational leadership, who have high degrees of shared understandings of professional quality.

First, we look at interview statements from childcare centers with high degrees of transformational leadership and high degrees of shared understanding. One of the employees from childcare center 9 describes how the concepts are connected: “*[the leader] knows what’s going on and what actually contributes to making our institution interesting and cutting-edge, professionally*” (employee: 09.3). When we asked about what creates professional quality, the other employee in childcare center 9 answers “*feed-back from our leader*” (employee, 09.2).

This situation is in contrast to childcare center 5 where we see a low degree of transformational leadership and a medium degree of shared understanding. The professionals give very vague descriptions of how they understand professional quality, as would be expected given the lack of transformational leadership. One of the employees links all three concepts by stating that “*it [professional quality] could be better, I would say. But believe me, we’ve been far, far out because there was ‘no common thread’...and it’s extremely important that there’s a common thread in the pedagogy*” (employee 05.3). Likewise, the second pedagogue in this childcare center asserted that “*we need a clear and visible leader...she does a lot of good things, but right there we need a leader who gives clear directions*” (employee 05.2). Two centers deviate especially from the pattern. Again, childcare center 1 deviates by having high levels of transformational leadership and low levels of shared degree of professional quality, while childcare center 2 deviates by having low levels of transformational leadership and high levels of professional quality.

The general pattern with a positive association between leadership and professional quality may be qualified if we look more specifically at the mechanisms and organizational contexts. Here, employees and leaders talk about differences in number of employees overseen by one leader (span of control). For example, this can determine the amount of disposable time for each individual employee, and when span of control grows larger, it can become harder for the leader to effectively communicate the vision to individual employees and connect it to their work activities. The investigated professionals typically classify childcare centers with 10 employees or less as having a narrow span of control. Similarly, the professionals themselves talk about centers with more than 10 and less than 20 employees as medium-sized (in our study, this is childcare centers 5–9). Finally, centers with more than 20 employees are seen as having a wide span of control (childcare centers 10–16). The question is whether the pattern and mechanisms are different in the three types of childcare centers. If we take a brief look at existing studies, span of control is an important theme. Existing empirical research has thus found that the impact of leadership generally depends on the span of control (e.g., Doran et al., 2004; Lucas, Laschinger, & Wong, 2008; Avolio, Zhu, Koh, & Bhatia, 2004). The literature is, however, ambiguous. On one hand, a narrow span of control might generate a very close employee–leader relationship and reduce the potency of the leader’s visionary message (Antonakis & Atwater, 2002). Consistent with this logic, Shamir (1995) found that leaders can be better at generating confidence if they are seen as more socially distant from their employees. This mechanism implies that the importance of transformational leadership increases with an increasing span of control. On the other hand, a wide span of control can mean that leader and employees have less direct social interaction, reducing the leader’s opportunity to build relationships with each individual employee (Antonakis & Atwater, 2002; Schyns, Paul, Mohr, & Blank, 2005; Schyns, Maslyn, & Weibler, 2010). This

may reduce the quality of the communication between leader and employees (Shamir, 1995; Berson, Shamir, Avolio, & Popper, 2001; Gittell, 2001) and render it more difficult to provide an appealing vision (Wright & Pandey, 2010; Howell & Hall-Meranda, 1999). Therefore, a wide span of control might hamper the effect of transformational leadership on professional quality.

When we look at childcare centers with different spans of control, we first note that all of the three centers with very high levels of quality have medium spans of control. However, there are also two childcare centers with low levels of professional quality in this “span of control category”. Thus, it is the category with the largest variation. Moving to the levels of transformational leadership, no center with a wide span of control has a transformational leadership level above medium. Only one of the centers with narrow span of control has a transformational leadership level above medium. Zooming in on the centers with medium-sized spans of control, we find large differences in the application of transformational leadership.. Thus, it is in the medium-sized span of control category that two out of the three centers with high or very high levels of transformational leadership are to be found. This seem to create subsequent high degrees of shared understanding and very high levels of professional quality. As mentioned, table 3 gives an overview of the 16 centers’ transformational leadership and level of professional quality (for different spans of control).

[Insert Table 3 about here]

Of the three childcare centers, which particularly deviated from the general patterns, two are found in the narrow-sized span of control group (childcare center 1 and 2), and one is found in the wide-sized span of control group. While this might indicate that the expected relationships are strongest in the middle-sized span of control group, the lack of high levels of transformational leadership in the narrow- and wide-sized spans of control makes it hard to extend this conclusion to all levels of

transformational leadership. However, the lack of high levels of transformational leadership in these groups might indicate that the opportunity to apply transformational leadership behavior varies with the size of span of control. Leaders of medium-sized childcare centers thus consistently mention the importance of applying more formalized leadership styles in order to improve professional quality, and this is contrasted by some of the leaders of childcare centers with less than 13 employees, who have a less explicit (even passive) leadership behavior. The leaders with a medium-sized span of control mention a danger of familiarity in childcare centers with a narrow span of control and the development of subcultures in childcare centers with a wide span of control. Two leaders exemplify this below:

”It’s important that you, as a leader, are capable of seeing the competencies of your team, [...] But I think it can be difficult to be a leader of a small unit where you have fewer people to rely on...It can become overly familiar, and there’s a risk you don’t dare to react if something inappropriate happens” (leader 06.1).

”If you become so close and if there is not enough disagreement, then professional quality is challenged because you think you’re supposed to be friends with everyone. You tend to agree because it is the easiest thing to do – or you want to avoid conflicts...I think that we should think about leadership differently...[What is the danger of becoming too big?] That is probably to find common ground. The larger you become, the more sub-cultures” (leader 09.1).

The statements are also backed by the observations in centers with narrow-sized spans of control. In these centers, we observed that the leaders did more front-line work and acted like “just one of the employees” to a higher extent. Correspondingly, the leaders of the childcare centers with wide spans of control find it challenging to practice transformational leadership because they are too busy or lose their sense of perspective. Leader 10.1 explains that her wide span of control means

that she is unable to prioritize the things she wants to prioritize: “*Since the number of employees is large, it’s complex...if I focus on one thing, I have to give other things up*” (leader 10.1). Further, the leaders with wide spans of control generally feel less able to give directions to all of their employees, as exemplified by the leader of childcare center 11: “*I can’t hold the hands of 21 employees and do it properly, I just can’t. I have to trust that they can do things on their own*” (leader 11.1). In sum, transformational leadership seems to have the best opportunities to affect professional quality in medium-sized spans of control. The number of employees overseen by the leader must be large enough for the leader to be more than just “one of the employees”, but also small enough to allow the leader to give directions to all employees.

Conclusion

Using a multilevel comparative case design, the article studies how transformational leadership is associated with professionals’ understanding of professional quality. This adds to the growing literature on performance, highlighting the relevance of professional quality and emphasizing the complexity of conceptualizing performance (Andrews et al., 2006; Van Dooren et al., 2010; Walker & Andrews, 2015; Andersen et al., 2016).

Although many public organizations have tried to move their focus from input/process to outcome (Van Dooren et al., 2010; Pollitt & Bouckaert, 2011), the professionals in this study still predominantly have a process-related understanding of professional quality. Childcare employees and leader thus understand professional quality mainly as reflected practice, and their focus on outcome-related understandings varies much more across organizations. There is a strong tendency towards a higher level of professional quality when employees and leaders understand professional quality similarly.

The analysis further supports the general expectation (de Bruijn, 2010 Noordegraaf, 2007; 2011b) that leadership affects professionals' understandings and ultimately also the perceived level of professional quality. If the leader uses transformational leadership, we see a more shared understanding of professional quality and a higher level of this type of performance as reported by the leaders and their employees. This is in line with recent studies that conclude that transformational leadership can have positive performance effects in public organizations (Jacobsen & Andersen., 2015; Bellé, 2014). Transactional leadership was not applied to a high degree in any of the childcare centers. Our use of qualitative data allows us to add to the literature by identifying what characterizes the understandings of professional quality among employees and leaders and by analyzing whether these understandings are aligned. Thus, in line with recent discussion of professionalism (e.g., Noordegraaf, 2011a; 2011b; Thomas & Hewitt, 2011), we find that professional quality is dynamic and can be influenced by transformational leadership—at least when leader and employees belong to the same occupation.

We studied leadership and perceptions of quality in childcare centers with varying levels of span of control. The study indicates that span of control might influence leaders' ability to perform effective transformational leadership. Thus, the study adds to the growing number of contributions that suggest that the span of control is relevant for the effects of leadership (e.g., Meier & Bohte, 2000; Doran et al., 2004; Lucas et al., 2008; Jung & Kim, 2014; Wong et al., 2015). Our results indicate that the prevalence of transformational leadership is highest when the span of control is medium-sized. Leaders with a medium span seem to have a clearer leadership role than they do in smaller centers, and the number of employees is still not too big to allow for effective communications about the vision. While it seems to be more difficult for the leaders with a wider span of control to get through to all employees, some of these leaders are still able to succeed

with transformational leadership in terms of facilitating a shared understanding of professional quality and a high perceived level of this quality.

Despite the limited generalization potential, the research presented in this article brings us somewhat closer to an understanding of the associations between leadership and professional quality. Measurement validity is high due to the qualitative, in-depth multilevel design (allowing us to compare statements from employees and leaders), and the findings from the interviews are further validated by the observations. The key limitations are the small number of investigated organizations in a very similar context with only females (leading to low generalizability) and the cross-sectional research design (weakening the causal inference). Future research should therefore supplement the findings with quantitative studies in multiple contexts and experimental data. It could also be relevant to study the extent to which the associations between leadership and professional quality hold for other performance criteria and in other contexts. Therefore, we urge future research to continue the investigation of these relationships.

Especially when the findings have been confirmed in other contexts, they have important implications for practitioners. They suggest that leaders can use transformational leadership to align the understandings of professional quality in their organizations and ultimately increase the level of professional quality. This is extremely relevant in public organizations where the leader and the entire organization must handle the fact that there are multiple performance criteria. This means that transformational leadership – as a way to align professional quality understandings – is very important, given that public organizations must be responsive towards performance understandings among politicians and citizens. This article suggests that transformational leaders can help public leaders achieve this.

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Online appendix

Appendix 1. Condensed understanding of professional quality

Appendix 2. Degree of shared understanding, all childcare centres

Appendix 3. Condensation and classification of the levels of professional quality, all childcare centres

Appendix 4: Organizational classifications of leadership styles

Appendix 5: Investigated childcare centres after span of control

Appendix 6: Interview guides

Appendix 7: Graphic illustrations of leadership styles

Appendix 8: Observation guide

Appendix 9: Start code list (M means that this is only coded for employees, L only for leaders)

Appendix 10: Additions to the start code list (during the coding process)

Appendix 1. Condensed understanding of professional quality

Interview person Understanding of professional quality

All: Reflected practice and child focus

Main: Reflected practice

- 01.1 Good professional quality is based on what we currently think is best for the child, keeping in mind that other initiatives may be better in the long run [...] And then there is reflective practice ... that you continuously try to be reflective about what we are doing and why we are doing it.

All: Reflected practice and child focus

Main: Reflected practice

- 01.2 [...] that it rests on a solid, professional foundation [...] that you actually base your work on learning themes; that you don't just make things up as you go along [...] that it is actually knowledge based

All: Resources and professional discussions

Main: Resources

- 01.3 [...] that there were only pedagogues in the institutions ... and that their number matched the number of children ... [...] the fewer pedagogues in a house, the less professional competence [...] So there is no professional exchange in that way [...] To me, it's also about talking about how the day went; how is he, how is she? What can we do better, what should be do more of maybe, what should we do less of?

All: Reflected practice

Main: Reflected practice

- 02.1 [...] giving the children different experiences and some different learning spaces. And that you actually have a set of values and some things and some requirements from the childcare legislation, from the city council and from, well, the learning plan and from our own focus area where that's what you base your practice on. [...]

All: Professional discussions and some reflected practice

Main: Professional discussions

- 02.2 Well there's, uh, for example we reserve 30 minutes at every staff meeting to split into groups get feedback. [...] you could go to those reflection rooms, and you could also grab a colleague and say, OK I've got another colleague, if you need it, I just need to discuss something with you, do you want to do that.

All: Some professional discussions and reflected practice

Main: Reflected practice

- 02.3 That's when the pedagogic practice became tough you could use each other to reflect. [...] It creates reflection in our workday. In terms of our professional competences. [...] that there are some considerations behind why we do what we do and what our goal is.
-

All: Reflected practice, learning and child focus

Main: Child focus

- 03.1 That you simply get something done that makes a difference that day, for the children [...] or that the children do something they think was fun and that they learned something from. [...] I mean, we have to do all these things because it's a requirement and it's expected of us, and that's what we do. But also that the children have a good day [...] Because they learn a lot from that too. [...] if the children are OK then they're happy and run around and are fine, [...] It's very important for us that our big children become self-sufficient.

All: Child focus

Main: Child focus

- 03.2 If it has to be topical, it has to be fun for the children [...] They'll let you know soon enough if it's not fun.

All: Learning

Main: Learning

- 03.3 That we give the children knowledge. [...] some nature experiences, something creative and something from books, for instance about letters.

All: Reflected practice, child focus

Main: Child focus

- 04.1 PRESENCE, reflection, well, planning ... I'm thinking about didactics ... [...] well-planned pedagogy. [...] Yes, I think presence is fairly crucial, but also the pedagogic approach [...] It's also about understanding children [...] and pedagogic tools and professional tools.

All: Reflected practice

Main: Reflected practice

- 04.2 Room for planning and reflection, [...] planning and the subsequent process. Discussing some objectives, objectives in relation to framework. Being allowed to use your pedagogic knowledge, being allowed to put professional knowledge and perspective on the things you do and set in motion for the children.

All: Reflected practice, professional discussions

Main: Reflected practice

- 04.3 I'm thinking professional discussions. That you have somebody else to talk to about it who is also a pedagogue. [...] and also have an opportunity to consider things first, because it's often too easy because you want to do something, but WHY do we do it? Where are we headed? This thing about defining the framework, and speaking the same language and having a common direction and goals – it's important that we evaluate those goals. At least I think that's ... good quality WHEN WE SUCCEED (laughs)
-

All: Reflected practice and some child focus

Main: Reflected practice

- 05.1 That the things we do have a purpose, and the child is in focus. It's the child perspective; everything we do in this house has to be for the children's sake.

All: Resources (time), child focus and reflected practice

Main: Child focus

- 05.2 that we have time for contemplation, that we have time to really familiarize ourselves with it and find out how we want to use it and how the children will use it. And having time for contemplation. And having time to just look at the individual child.

All: Reflected practice

Main: Reflected practice

- 05.3 [...] that you USE yourself and what you know – your professional competences, [...] that you don't just go along and don't use your professional competences, but that they are used in your daily work ...

All: Reflected practice, learning

Main: Reflected practice

- 06.1 First, I'm thinking a certainty about what kind of job we are here to do and for whom. [...] That means that we have an idea why we do as we do [...] It is very nice to walk in the woods, but we should also have some idea, maybe some didactic model they've worked with, or we have that via our nursery curriculum, that what we do has a purpose. We have to challenge the child's motor skills, we have to challenge the child's language skills; we have to be aware of social interactions [...] in other words that you can account for, at any time, why am I starting this activity.

All: Reflected practice

Main: Reflected practice

- 06.2: Our curricula [...] which we review and adjust every two years. And there are the six curriculum themes, which we should adjust during the year. An many other things come quite naturally when you have been doing it for so long, and you could say that we know why we do it, but a lot has also been incorporated in our daily practice.

All: Reflected practice

Main: Reflected practice

- 06.3 That we reflect pedagogically on what we do every day [...] and actually reflect pedagogically on what we're doing. [...] the reason we're singing. Or are taking a walk, or – that you have those professional considerations – [...] Common goals to me are professional competences,
-

All: Reflected practice
Main: Reflected practice

- 07.1 ... That what we say is what we do. That we can vouch for it, we have a motive, we have our professional competences ... are clear about our professional competences in what we have worked with, for instance ... self-sufficiency. Well, the way it should be is that when you enter the nursery, then the story they tell there, they have to tell even to the older kids they deal with. In other words, the same story is told throughout the house about our values, about our way of doing things. And not that they have to be identical all the way round, but that there is a common foundation. [...] when I started here, it was an institution that did not prioritize professional competences. And there was no direction.

All: Reflected practice and learning
Main: Reflected practice

- 07.2 [...] to practice pedagogy and vouch for your pedagogic competences and explaining it theoretically and (sighs) yeah. And I'm thinking, of course we do it at two levels, because we do it when we do it in relation to our user, our parents and so on at one level, but that we can also COLLECTIVELY explain our pedagogic competences. What are we actually doing and are we doing what we think we're doing. Well, it's also about that the work I do is develop children [...] Develop them into the children we hand off when they leave here. Uh and develop them on all, what should I call it, dimensions.

All: Learning and professional discussions
Main: Learning

- 07.3 that you look after THEIR interests and also develop them, that they don't stand still [...] that we develop the children in a positive direction and then pass them on to the school ... and then you can talk about it and each other's professional competences and so on, we go in and we nudge people a little or something like that, so that's discussions with each other.

All: Child focus, learning (perhaps reflected practice)
Main: Learning

- 08.1 If we are with them as present, engaged, professional adults, there is no way we don't contribute to their learning. [...] It is a question of the activities we plan, that they are children, or activities that match the children, groups of children we have to work with ... and that this is where we follow the children's lead [...] What are the children absorbed in – where are they now? For me it's always about including our children. What are they into? So how can I catch their attention? Because that's when I bring learning into it [...] And we can do that when we have adults who are around the children, who observe them, who know what they need, and thereby are able to plan activities in small groups, in large groups, individually, uh, so that you draw the children who have something in common and shared interests, so we can get them to move that way round.

All: Child focus, learning and reflected practice

Main: Child focus

- 08.2 ... well then I think that it's things like care and uh presence uh and seeing those little things uh that the little ones express, I mean being close to them and starting something and following their lead. Uh, and, well, making room for small developments ... [...] and then also having some professional as well as personal goals.

All: Reflected practice, learning

Main: Reflected practice

- 08.3 setting some goals and focusing on them and becoming, what's it called, it's really popular right now, it's much more and what's it called, setting some goals and, what's it called, see the signs under way, evaluate on it, so that you constantly have something new to work with and say where do we go from here ... [...] professional quality, being able to follow, follow the children's development ... and creating a structure, a workday where that is possible.

All: Child focus, learning, keeping updated and reflected practice

Main: Child focus

- 09.1 That you are into the same things the children are into, and what can they actually, uh, uh (small pause) with good ideas into what we actually ... so we don't begin to plan above the children's heads. I think it is incredibly important that children learn early on that they have a voice [...] So when children do not join the things we plan in terms of community, we have to be curious about what makes them drop out of the community [...] And then constantly adjust our practice. [...] pedagogues' ability to use their knowledge, I think, creates quality in the childcare institution [...] And then it's also a lot about being present [...] Don't have too much on your mind as a pedagogue, but make sure that you learn what it is, focus on what is important to learn when you're 18 months old, two years old, five years old [...] Being able to prioritize your day, I think is also an incredibly important competence in a time with many changes and staff reductions so that we are not limited by resources but try to make the most of what we have.

All: Reflected practice and learning

Main: Reflected practice

- 09.2 Where's the learning in it, right? It's about understanding that you can't do it just because it's fun. It has to have a meaning and it has to contain learning.

All: Learning, keeping updated, reflected practice

Main: Learning

- 09.3 Our head, she is up to date on recent developments, so she also knows what things are going on and what actually contributes to making our institution interesting and cutting edge professionally. [...] So we can focus on creating a space for learning [...] what should you be able to do as an 18-month old? What kind of learning space should I create for those kids so that they develop and so that all children in this group are seen? [...] Yes, we do some things that are right, but that knowledge you get by reading theory sometimes, that it's kind of like, this is why we do it.
-

All: Reflected practice, learning

Main: Reflected practice

- 10.1 I actually don't know (pause) [...] I'm kind of at a loss for words ... [...] that you also think in terms of didactics – you've had some ideas, that you've improved and you know what is going to happen when you're with the children. And that you are evaluated [...] that's implied in the relation with the children, that's incredibly important. It is incredibly important that you know, uh, what you mean to the child in the way to talk with the child. (small pause) [...] well, some goals for, uh, what it is we want for example. Let's take a theme in the pedagogic curriculum, what is it we want here, what is it children should be able to learn. What should children be able to learn within this theme? And then you define ... then you think ... then it's about the learning environment and you'll see some indications on that. And then you have to get better. When I want to get to that point, and these are the indications I want to see – what do I do to make that happen? In relation to the individual child and group.

All: Child focus

Main: Child focus

- 10.2 Being present around the children, I think that's a good quality and provide care when it is needed. Go in and see the children where they are.

All: Child focus and some reflected practice

Main: Child focus

- 10.3 [...] their need and of course presence and relations. I mean, in the professional approach in this house I actually see appreciative relationships and including practices, and a critical view of one's own role and the colleagues.

All: Learning and reflected practice, resources

Main: Learning

- 11.1 For me it's about creating a good child environment with room for development and learning for the children. To me, professional quality is not, and don't get me wrong, comfort, security and trust are fundamentals, and then there are some other things that have to be present to ensure high quality [...] what can I change to include this child? If you can do that, I think you're good. [...] I mean that you make a plan and have a background for what you want to accomplish, and you have a mission and a goal and don't do anything without reflection.

All: Professional discussions, keeping updated

Main: Keeping updated

- 11.2 CURIOSITY ... uh ... professional talks and CONTINUING EDUCATION and WANTING to know more. [...] and SOMETHING has been distributed to all of us so that we all start from the same point in terms of ... It could be inclusion and other things, so that we had all read the same text and we could talk professionally – what does each of us think about this [...] We have faced many challenges and had to find out how. How do we see inclusion – what is that exactly? To arrive at fairly ... identical (ideas) ... But we've talked about many other issues.

All: Keeping updated
Main: Keeping updated

11.3

Keep up, keep up with research in our field and staying up to date –that’s really important.

All: Keeping updated, reflected practice
Main: Reflected practice

12.1

[...] that there’s always a professional foundation so that you are updated in terms of knowledge [...] When you can see that the children use it later, I think you see it in the pedagogic quality. When you can see that the children have gotten something out of what the adults planned for their age group, and the children accept it and use it. Then I see that as a pedagogic quality.

All: Resources (time)
Main: Resources

12.2

Being able to pick a small group and concentrate on working with them. We can organize our way out of it, and it’s sometimes difficult because you’re left with one or two people for a group of 20 or more children, right? But being able to pick some children and do some good pedagogical work [...] on a day with language activities, or whatever we have planned. I would really like to do more of that. Doing good work does make you proud.

All: Resources (time and hands), learning, child focus
Main: Resources

12.3

[...] Well, these technical assignments, and you can see that the children develop [...] I think we become less professional because we’re not human enough [...] of course provide care for these children. But when that is done and it’s done optimally, then we’re back to only talking about hands. And that, uh, then we need more hands [...] So professional competence is when we are allowed to think these professional thoughts, when there’s time for that. And we also have time to do it with the children.

All: Keeping updated and reflected practice
Main: Keeping updated

13.1

... when people don’t stagnate [...] who have been her for a long time ... but everything is changing all the time, so being able to learn, learning all the time [...] and being able to reflect. Not only when you’re sitting here, uh ... without children around you, but also being able to reflect in your practice whether something should be done differently [...] also education and things like that, I don’t exactly have a lot of educational funds but ... sending people off for that, especially what’s currently going on [...] then we have the same foundation when we continue our discussions [...] and have something to share

All: Learning
Main: Learning

13.2

so you can see that ... they get something out of being here, that they develop in terms of language and motor skills ... and their social competences ... uh, that’s what they need in life. So uh, that’s what I focus on, that they learning something here where we do activities that support that ...

All: Learning
Main: Learning

- 13.3 that you see the children where they are and then build on that, also like [colleague] says: in terms of language and social skills and what's inside you, in an institution and can use those initiatives.

All: Reflected practice
Main: Reflected practice

- 14.1 It is reflected pedagogy. It can be many things. The fact that my pedagogues or I are able to talk about what we do. [...] I mean, there are different types of pedagogy ... uh ... but if you can talk about your pedagogy in a reflected way [...] then it becomes a good professional quality, and if you can also show that you do it [...] We don't have to do the same things, it should not be necessary to ... uh ... but you have to explain your pedagogy, your choices, and show that you act accordingly in your practice.

All: Reflected practice, professional discussions and some child focus
Main: Reflected practice

- 14.2 That you can argue for what you do with the children in your daily practice. [...] That also means that you keep each other to the mark. That you don't stagnate and rely on routines.

All: Reflected practice, professional discussions and keeping updated
Main: Professional discussions

- 14.3 And use what you've learned. And reflect with each other, what ... and help each other to what ... give others ideas for some things and ... that could also be professionally. [...] Yeah, you follow some courses and things like that so that you get some new knowledge.

All: Professional discussions and reflected practice
Main: Professional discussion

- 15.1 That we discuss views based on professional knowledge. And that we also dare talk to each other. Why did you do that, that worked well, and that you are in discussion and dare evaluate some things and test some things.

All: Reflected practice, professional discussions
Main: Reflected practice

- 15.2 For me it's also about having some overall goals, and we do have some for the institution where we are always checking, but for me it's also about how we convert it [...] in relation to the individual groups – how do we cooperate? How ... one thing is theory, but what is practice and how is it converted, what is the quality like when we look at the final result – how, did we achieve some of the things we wanted, or did we differ a lot and do we have the courage to challenge each other and say: “Hey, I'm wondering about this”, or [...]

All: Reflected practice and child focus

Main: Reflected practice

- 15.3 First of all, we have some things we have to live up to, right ... and there are some professional competences involved – no doubt [...] well, municipal ... I mean from above, right? Uh, the childcare act ... and things like that, there are some – and there is also some quality in that ... but professional quality to me is also being able to give the children something extra [...] that we are able to make a difference in their lives both here and now and in the long run.

All: Reflected practice and keeping updated

Main: Reflected practice

- 16.1: That you're focused on, and getting things done in a way that benefits the child. And that you have to be aware of what you're doing [...] And I'm thinking that it's really exciting to constantly find out, hey what's actually best for the children we have right now? [...] And what is it we can do right now? Where we are now. And I'm thinking, well we have to stay updated.

All: Reflected practice, keeping updated, child focus, learning

Main: Reflected practice

- 16.2: Being aware of why we do things the way we do them. [...] Uh, and then it's about staying updated on what's going on in society and what kind of children, what are they a product of, and what is it we receive? But also just theoretically, I think that in terms of what's going on, right, both that we have a goal and that we recapitulate and evaluate during our projects [...] But being present in our work. [...] but we have actually thought about things in terms of social skills and learning to hold hands or walking together or whatever.

All: Reflected practice (good relations to the home)

Main: Reflected practice

- 16.3: And we also choose to document the importance in relation to the parents. Also in relation to the home when we talk about self-sufficiency, and that it's not just about putting your coat on, but that it develops the child and that they start doing things themselves. [...] So we sit down with the parents and talk about "this is what we're focusing on right now" [...] But that you at least do some well thought through things underway [...] But also to get the home on board [...] and cooperate with the home.
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Appendix 2. Degree of shared understanding, all childcare centres

IP	Agreement/disagreement based on all identified themes			Qualitative ranking	Overall ranking
	Agree	Disagree	Overall Agree/disagree ranking		
1	1 Middle	3 Low	Low/Middle	Low Very vague descriptions of PC from all IP's; unclear what they actually mean and whether they mean the same thing. One employee focusing on something completely different than leader and interviewed colleague	Low
2	1 Middle	1 High	Middle/high	High Leader and both employees somewhat focused on reflected practice and seem to mean the same thing, but the importance of the theme (relative to other themes) differs	High
3	2 High	1 High	High	Middle Although the leader and one of the employees are both mainly concerned with the focus on the children, the descriptions are somewhat vague from both employees	Middle
4	1 Middle	2 Middle	Middle	Low/middle Employees are relatively clear in their descriptions, but the leader is vague, specifically mentioning that there is something 'undefined' about the professional quality	Middle
5	2(1)* High (middle)	1(2)* High (middle)	High (middle)	Low/middle Although there is some consistency in the references to the themes, the descriptions of PC from all of the IPs are very vague; rendering it unclear what they actually mean and whether they mean the same thing	Middle
6	1 Middle	1 High	Middle/high	Very high All mainly focused on reflected practice, very clear descriptions from all IPs; they seem to mean the same thing and use the same examples	High
7	1 Middle	2 Middle	Middle	Middle/high Leader and one employee very much agree on common goals, but the importance of the theme differs (relative to other themes), and there is also some inconsistency with the second employee	Middle
8	3(2)* very high (high)	0(1)* Very high (high)	Very high (high)	High The leader and employees are all somewhat focused on learning; reflected practice and child focus and uses same wordings. However, the importance of the themes (relative to other themes) differs	High
9	3 Very high	1 High	High/very high	High Leader and employees are all focused on learning and reflected practice, and the leader and especially the second employee seem to mean the same thing. However, the importance of the themes (relative to other themes) differs, and description from employee one is short.	High

10	1(0)* Middle (low)	2(3)* Middle (Low)	Middle (low)	Low Leader does not mention same themes as employees, descriptions are very short and vague for employees, leader has a hard time figuring out what to say.	Low
11	0 Low	5 Low	Low	Low Leader and employees talk about very different things, very little description from one of the employees.	Low
12	0 Low	5 Low	Low	Low Leader and employees talk about very different things.	Low
13	0 Low	3 Low	Low	Low Leader and employees talk about very different things, very little description from one of the employees.	Low
14	1 Middle	2(3)* Middle (Low)	Middle/ (Low)	Middle Leader and employees are focused on reflected practice, but employees also mention other themes and are somewhat vague in their descriptions.	Middle
15	2 High	0(1)* Very high (high)	High/very high	Middle Leader and employees are somewhat focused on the same themes, but very little description from leader, hard to distinguish whether leader and employees mean the same.	High
16	2 High	2(3)* Middle (low)	Middle/high (middle)	High	High

*Expresses that the classification of whether an understanding was mentioned or not was uncertain. In table four, this is reflected by the word 'some'. The alternative counting does not change the overall ranking in any of the cases.

Appendix 3. Condensation and classification of the levels of professional quality, all childcare centres

Interview person	Condensed perceived level of professional quality	Classification	
		Individual level	Organizational level
01.1	‘I think that we’re successful to a high degree [in creating high professional quality]. I think what’s missing if we are to create more professional quality is preparation time’	High/very high	
01.2	‘I think that it [professional quality] has grown a lot over the last couple of years...We’re working a lot with teaching environments and teaching-styles...We have a common professional consciousness’	High	High
01.3	‘I think that it [professional quality] is really difficult...The professional quality cannot always be that high when there are mainly assistant pedagogues [uneducated assistants]...What we talk about in here is not always what’s going on on the other side of the door’	Low	
02.1	‘Some days it [professional quality] is good, and other days it’s so-so...If everybody is at work and there is planning...A long way down the road it [professional quality] is [successful]. That’s not to say that it’s unproblematic in everyday life’	Medium/high	
02.2	(in agreement with employee 02.3)	high	High
02.3	‘It [professional quality] has been very high. Also in comparison to other places that I have been...there’s no hesitation, although it means extra work, but that’s handled really well. I think, that there are many good things being started...you can also feel it in periods where there is a lot [busy periods]...then you don’t have that daily professional discussion, and that’s when you sometimes have misunderstandings’	High/Very high	
03.1	‘I think they’re very conscious about what they’re doing. Because we talk about how we’re doing this, and now we have to make sure that what they learned in the nursery section is also something that they continue to work on in the childcare section...So I think they’re very conscious about what they’re doing’	High	
03.2	‘I think it [professional quality] is low [whispering]. My leader is competent, but the other pedagogues that have been here for many years – they’re stuck...I’d like to have more professionalism, but it’s not my job to get the others to go along’	Low	Medium
03.3	‘Yes, I think that we have that [good professional quality]...I think it’s like I would like it to be. Yes. I believe so’	High	

04.1	‘It [professional quality] could be better...Not everyone has the pedagogical foundation or insight...Sometimes more knowledge is needed and sometimes more planning time is needed...But not this pedagogue, she’s REALLY good’	Medium	
04.2	‘Sometimes’ (and in agreement with employee 04.3)	Medium	Medium
04.3	‘It’s always [professional discussions], that are not being prioritized...But the quality gets a boost when you have planning time...So when that succeeds, it has a really positive effect...Often we only lack the evaluation phase’	Medium	
05.1	‘When we talk about things, we say “What’s that? Is that good for the child?”...we plan our working hours according to the needs of the children and not...of course we adapt, but not according to the needs of the adults’	low	
05.2	‘We sometimes have troubles with that, because it’s so hectic...We’re really short on the time to talk...It’s like, being with the colleagues is what you need. And no one is up for that’	Low	Low
05.3	‘It [professional quality] is like ok, it could be better...We have been really, really ‘far out’, because there was no common thread...Now we have built a good foundation, and we are at a place, where we are just grooving...There was just great insecurity about who we were and which way we were going’	Low/Medium	
06.1	‘They have a very high professional quality, but it’s also because we have made it part of our practice to talk about professionalism every time we plan something, we then discuss; is it just because we think that it’s nice or can we figure out what should be the foundation of this activity?’	Very high	
06.2:	‘It’s high, I think. We don’t get to see other places much, so we don’t exactly have something to compare with, but we sense that it’s high...Money, space, time, and all the things that we know we won’t get you can always improve. But I think that we make the most of what we have’	Very high	Very high
06.3	‘It [professional quality] is high...There are so many exciting initiatives...That’s <i>definitely</i> contributing to strengthening the quality of the work here’	Very high	

07.1	‘It [professional quality] has improved...When I got here, it was an institution that was – and this isn’t to “blow my own horn” – but it was an institution that was on its knees...But there are also some ships that we had sent out to sea that we have just had to let sink’	Medium	
07.2	‘No it [professional quality] isn’t [where we would like it to be]...She [the leader] is of course developing, too, and she has started some initiatives or something like that. But if we’re going to be totally honest, YES we’re lacking...and we have just started scratching the surface’	Low	Low
07.3	‘No it [professional quality] isn’t [where we would like it to be]. That’s the honest answer’	Low	
08.1	‘I think that we have a structure and an organization that provides room for really high professional quality...I think that they do that [succeed in their work with the professional quality]...The challenge is that everyday practice sometimes wins out over the planned professional quality. And that doesn’t mean that there is no professional quality’	High/very high	
08.2	‘I also think that it [professional quality] is [very high]...I actually think that we have always sort of been that way, have been a professional, a professionally high [place]...sometimes I think that the professionalism crumbles a little in practice...I know, that there is a VERY large sense of professionalism anchored in people...in the employees, who are here’	High/very high	Very high
08.3	‘I think that it [professional quality] is very high. We work hard trying to implement the new knowledge we get...If you learn something new then you can share it with your colleagues...We’ve gotten a lot better at that, and we focus on getting better at it’	Very high	
09.1	‘I think that it [professional quality] is high, even for those who are really practical. There are some who have both great theoretical knowledge and are able to apply it in practice. And then there are those who are mainly practical and others yet who are a little bit of both. But I think that they’re all working energetically and on the bases that we agreed on’	High/very high	
09.2	‘We’re so privileged...That we develop professionally, you can really feel here, that we have a high sense of professionalism...That’s what’s so great about being here’	Very high	Very high
09.3	‘It [professional quality] is insanely high. When there’s stuff in the media about the professionals working with nursery children not being competent enough...I get so sad, because I really think that we have a high level of professionalism in this house’	Very high	

10.1	‘It [professional quality] is high. Here you don’t just do what you usually do. There is reflection...And of all the goals that are coming from the outside, how do we get them to fit with what we’re doing in this house? Because I think that we have a high level of professional quality, and the pedagogues are really good at making these learning environments, and that gives them energy...And that’s a major challenge, because there are so many things coming that you have to respond to’	High	
10.2	(Actively agreeing with employee 10.3) ‘I think, that we help each other across [the house] and in this way we get insight into each other’	High	High
10.3	‘We believe that we’re a house where you can say “professionalism” the moment you get here...We believe that the quality is very high here...That’s also why I chose to work here, there is a clear professional frame, a high quality’	Very high	
11.1	‘When we mount the next step, there’s probably something new, so I don’t think that we will ever get to the finish line. Nor are we supposed to...There’s always something new to learn and improve on. But I think that we’re a ways down the road and we have a good substance-foundation to make a good cake and get where we want...the whole thing about moving perspectives – that really scared them a lot. Now they’re just doing it’	Medium/high	
11.2	‘I think that it [professional quality] is a little bit individual – there are some who are really providing it, and then there are those who are providing it less. But I think – if I look back a year ago and until now – that we have moved a lot professionally...So we have had a lift [in professional quality]. But exactly where [it is now] – that I have a little hard time to place...That [a specific initiative] is something, that we’re really focusing on now...and I think that’s really nice – that we have that focus’	Medium	Medium
11.3	‘It [to place professional quality] can be a little hard. But I think that as an institution we’re moving in the right direction in relation to professionalism...We can still get better – I always think that you can do that – but I think that we’re moving in the right direction’	Medium	

12.1	‘I think that we’ve come a long way. I think that all of the employees are providing high professional quality...Where it fails and where they [employees] are not satisfied is in relation to sickness absenteeism, vacation and lieu days, care days and some of the meetings that the employees point out that we’re also attending...And that’s where they experience that the falling professional quality is falling...When nobody is sick, nobody has vacations, nobody has care days or time-off, then it’s running – then there’s really high quality. But it’s not always that way’	Medium	
12.2	‘We’re really competent in this house. But often it’s these “stop-gap” solutions...I think that I’m compromising in doing those [specific initiative]...So you walk around with this “ugh” feeling; that you have to spend too much time doing other things...I think that we’re a good institution, I just don’t think that we’re yielding optimal results’	Medium	Medium
12.3	‘I think that we’re hurt by not being as professional every day as I think we should be in the childcare institutions...We lack hands. I think that we have hit a point where we have to look each other in the eye and say “well then we have to compromise. It’s not because we’re not professional in what we do, because we are...But personally, I feel hurt professionally when we have compromise in areas that we know are essential and are important to children’s development...We’re insanely good at doing everything else that’s more professionally developing for the children...We possess more knowledge than we’re actually able to use’	Medium	
13.1	‘Someone said; “it’s about having the TIME to reflect”. And then I thought – but it’s no use if you don’t know how to reflect...And how do I facilitate getting that going? I hope that I’ll grow wiser on that...Why sometimes I feel as though I’m hitting my head against the wall and not really getting anywhere...It’s for the children – and that we agree about – but when we get out there, then what we agreed to or talked about isn’t exactly what happens’	Low	Low
13.2	‘I don’t feel that you can do it 100%...I often think that it’s lacking. If nothing else, then because you get started but you don’t follow through’	Low	
13.3	‘A lot of times nothing comes of it. Rather, we just end up doing a little bit of this and a little bit of that...So the initiatives are really good BUT...we’re not 500% into it’	Low	

14.1	Unassigned	unassigned	
14.2	‘I think that it [professional quality] is high...It’s one of the reasons why I’m still here. Because I had an idea when I became fully qualified [as a pedagogue] that perhaps you should work different places. But I can’t find a reason...We’re really good at discussing things and keeping each other on our toes, and we’re often told so from outside...by the parents’	Very high	High
14.3	(Actively agreeing with employee 14.2) ‘It was actually [mentions a specific area] that I had planned to work in...but I’ve simply...yes because the professionalism is so...we all share it...that we want this. Both the children and...give them challenges all the time...both the children and that we give ourselves some challenges’	High	
15.1	‘I think that it’s running fine...Sometimes it can get... But all in all it’s my impression that there are professional discussions...Unfortunately, there are also some things that are lacking...and that can be hard...But if it’s with the children in focus and more about their daily wellbeing and development, then I think that they’re pretty good at that’	Medium	
15.2	‘During the time I’ve been here, it has been raised...I think that it has been tough to come into a house where someone has been for a long time, and it’s more of a private agenda, a private pedagogy, where I sort of think that I need the other way – where we’re open and curious towards each other. What can you contribute with? What can I contribute with? That has been a little hard...I can get <i>really</i> worried about that private pedagogy’	Medium/low	Medium
15.3	‘Yes, I think so [that the professional quality is successful]... Perhaps you can never reach 100%, because then you’re somewhere where you have come to a halt. It should be a place with development, but I actually think so...I have a nice sense of how they’re doing things [in the other parts of the childcare]’	Medium/High	
16.1:	I think that there’s always something that you could do better. It’s a continuous process...I think that they would say that we at least have a vision about having a high level of professional quality. And the day I feel that I don’t think that we have that, well that will be time to find another job’	Medium/high	
16.2:	‘I really think that it [professional quality] is [going the way it’s supposed to]. I think that the bar is high here. I’m proud of that...And I also think that this thing about putting words on things talking about it – about the little stuff and the big stuff – that’s also strengthening the professionalism further, because we’re all sharpened towards what this is about. I also feel really privileged in terms of continuing professional development’	Very high	High
16.3:	(in active agreement with employee 16.2). ‘And you’re allowed to try things here, and that makes you feel involved and makes you want to be here...And even though there are these overall progression goals, we also have an eye on the individual child’	High	

Appendix 4: Organizational classifications of leadership styles

CLASSIFICATION LEADERSHIP STYLE			
Interview person	Selection of graphical leadership illustration	Transformational individual	Transformational (total)
01.1:	Combination of transformational/passive	Medium	High
01.2:	Pure transformational	High	
01.3:	Pure transformational	High	
02.1:	Combination of transformational/transactional	Medium	Low
02.2:	Combination of passive/transformational	Medium	
02.3:	Passive	Low	
03.1:	Combination of passive/transformational	Medium	Medium
03.2:	Combination of passive/transformational	Medium	
03.3:	Combination of passive/transformational	Medium	
04.1:	Combination of passive/transform	Medium	Medium
04.2:	Pure transformational	High	
04.3:	Pure transformational	High	
05.1:	Combination of passive/transformational	Medium	Low
05.2:	Combination of passive/transformational	Medium	
05.3:	Combination of passive/transformational	Medium	
06.1:	Pure transformational	High	Very high
06.2:	Pure transformational	High	
06.3:	Pure transformational	High	
07.1:	Combination of transformation/transaction	Medium	Low
07.2:	Passive	Low	
07.3:	Passive	Low	
08.1:	Combination of transformation/transaction	Medium	Medium
08.2:	Combination of passive/transformational	Medium	
08.3:	Combination of passive/transformational	Medium	
09.1:	Combination of transformational/transactional	Medium	High
09.2:	Pure transformational	High	
09.3:	Pure transformational	High	
10.1:	Pure transformational	High	Medium
10.2:	Combination of passive/transformational	Medium	
10.3:	Combination of passive/transformational	Medium	
11.1:	Combination of passive/transformational	Medium	Medium
11.2:	Combination of passive/transformational	Medium	
11.3:	Combination of passive/transformational	Medium	
12.1:	Combination of all three	Medium	Low
12.2:	Passive	Low	
12.3:	Passive	Low	
13.1:	Combination of passive and transactional	Low	Medium
13.2:	Combination of passive/transform	Medium	
13.3:	Combination of passive/transform	Medium	
14.1:	Combination of transformation/transaction	Medium	Medium
14.2:	Combination of passive/transform	Medium	
14.3:	Combination of passive/transform	Medium	
15.1:	Transformational	Medium	Medium
15.2:	Combination of transformation/transaction	High	
15.3:	Combination of transformation/transaction	High	
16.1:	Combination of all three (most passive)	Medium	Medium
16.2:	Unassigned	Unassigned	
16.3:	Pure transformational	High	

Appendix 5: Investigated childcare centres after span of control

Span of control categories	Childcare centres
Span of control between 6–10 employees/leader	4 childcare centres (no. 1, 2, 3, 4)
Span of control between 13–18 employees/leader	5 childcare centres (no. 5, 6 7, 8, 9)
Span of control between 20–34 employees/leader	7 childcare centres (no. 10, 11, 12, 13, 14, 15, 16)

Note: The numbers reflect the exact rank order of the childcare centres (small numbers, narrow spans of control). To keep the anonymity of the childcare centers the exact number of employees are not illustrated

Appendix 6: Interview guides

Main category and sub-categories	Interview persons asked these questions	Operational questions
Introduction	Leaders of leaders Leaders Employees	Briefing (anonymity, no correct answers etc.) What is your position? How long have you been here?
Professional quality	Leaders of leaders Leaders Employees	What is your understanding of professional quality? How is the professional quality here? (understood based on the description that you have just given) Please describe how you, specifically, work with securing a high level of professional quality. Do you think that you are succeeding?
Perceived leader effects on professional quality	Employees	Please describe what your leader does to support the work with the professional quality. - Do you think that she succeeds? Why/why not?
Leader–employee relations Contact patterns	Leaders of leaders Leaders Employees	When are you together with your childcare centre leaders/employees/leader? - What are you talking about when you're together? - Does this also happen in the form of regular meetings?
Employee perceptions of leader accessibility	Employees	Do you feel you have easy access to your leader? - What barriers do you experience in terms of getting access? Do you feel that your leader is busy? Do you know what she is busy doing?
Leader–employee feedback	Leaders of leaders Leaders	Do you give feedback to your childcare centre leaders/employees? - When do they get it? - How do they get it?

Main category and sub-categories	Interview persons asked these questions	Operational questions
Employee perceptions of having their need for leadership fulfilled	Employees	<p>Can you describe a positive experience in which your leader really made a difference?</p> <ul style="list-style-type: none"> - What was the good thing the leader did? <p>What other things do you need from your leader?</p> <ul style="list-style-type: none"> - E.g. related to professional feedback? - In relation to conflict etc.? - In relation to your ideas and potential changes in the childcare centre? <p>Do you generally feel that there is a leader who steps in when needed?</p>
Leadership tasks Delegation I	Leaders of leaders Leaders Employees	How are the leadership tasks distributed between you (leader and leader of leaders)?
Delegation II	Leaders Employees	<p>Has leadership work been delegated to others (e.g. the deputy manager)</p> <ul style="list-style-type: none"> - What tasks are delegated to whom? - How does that work in daily practice? - [Leaders] Do you feel that it's clear who has the responsibility between you? - [Leaders] Do you experience that the distribution of responsibility is clear between you and our own leader? <p><i>If 'no':</i></p> <ul style="list-style-type: none"> - Why not? - How does the division of labour between you and your leader function in daily practice? <p>Do you feel that things are followed up on?</p> <ul style="list-style-type: none"> - On the delegation of tasks? <p>On problems that have been discussed?</p>
Taking leadership tasks upon oneself	Leaders of leaders Leaders Employees	<p>Does anybody take leadership responsibilities upon themselves in daily practice?</p> <ul style="list-style-type: none"> - Who? - Describe what they do. <p>Are there additional leadership tasks placed elsewhere in the municipal bureaucracy?</p>

Main category and sub-categories	Interview persons asked these questions	Operational questions
Tasks I	Leaders of leaders Leaders	What do you spend most of your time doing? <ul style="list-style-type: none"> - Please describe a typical day. - How would you spend your time if it was totally up to you to decide? - What are the barriers that get in the way of you spending your time as described?
Task II	Leaders of leaders	What type of issues do the childcare centre leaders discuss with you? What do you think are the key leadership responsibilities for a childcare centre leader?
Task III	Leaders	Are you satisfied with your room for decision-making or should something be different? <ul style="list-style-type: none"> - What decisions are you allowed to make yourself? Can you affect decisions that are made elsewhere?
Specific conflicts	Leader	If you/some of our employees have a conflict with parents, how is it handled? <ul style="list-style-type: none"> - [for the leader] Do they involve you? - [for employees] Who do you involve? [ask about leader if not mentioned] - Why/for what purpose? If you/your employees are worried about a child, who is involved? Is it discussed with the leader/with you? <ul style="list-style-type: none"> - Are others involved? - Who? Why/for what purpose?
External and horizontal leadership	Leader	During you everyday work, how much time do you spend coordinating with others outside the childcare centre (e.g. in the municipal bureaucracy)?
Leaders' need for leadership	Leaders	What do you need from your leader? <ul style="list-style-type: none"> - For example feedback? - Continuous support for your work? - Do you feel that you get this from your immediate superior?

Main category and sub-categories	Interview persons asked these questions	Operational questions
		<ul style="list-style-type: none"> - Do you experience that you get this elsewhere (e.g. from others in the municipal bureaucracy)? <p>Do you experience that your own leader is accessible?</p> <p>Do you sometimes feel isolated in your role as a leader?</p> <p>Would you describe a positive experience you had with a leader while you were a leader yourself?</p> <ul style="list-style-type: none"> - Did the leader play a role in that connection? <p>What could – in your opinion – be done to make things work better?</p>
Leadership styles	<p>Leaders of leaders</p> <p>Leaders</p> <p>Employees</p>	[Present leadership styles based on graphic illustration and ask interview persons to use them to characterize their own leader]
How is the leadership style used?	Leaders	<p>[If yes to transformational leadership, use the following probes]</p> <p>What are the goals for this childcare centre?</p> <p>How do you specifically communicate the goals to the employees (written, staff meetings, informally during daily work)?</p> <p>Can you exemplify how you try to connect the employees' work to specific goals?</p> <p>What do you do if not all employees agree with the goals?</p> <p>What do you do to keep focus on the goals?</p> <p>What do you do if the goals change?</p> <p>[If yes to transactional leadership, use the following probes]</p> <p>How do you tell the employees what they will receive if they meet the demands (and what do they receive?)</p> <p>Please describe a situation where you rewarded an employee for</p>

Main category and sub-categories	Interview persons asked these questions	Operational questions
		<p>extra effort (and how did you reward the employee)?</p> <p>Please describe a situation where you asked an employee to change their behaviour (how did you do it?)</p> <p>Have you ever needed to fire an employee who did not do their job well enough?</p> <p>[If yes to passive leadership, use the following probes]</p> <p>Please exemplify a situation where you used this type of leadership.</p>
When is the leadership style used?	Leaders	<p>Is there something special about the situations where you use [mention selected leadership style]?</p> <ul style="list-style-type: none"> - Is it for example when there are new initiatives? - When there are problems? - If things are just happening very fast?
Why is the leadership style used?	Leaders	<p>Why is this/are these approaches to leadership especially useful?</p> <p>Have you had second thoughts about using this leadership style?</p> <p>Why do you not use [mention unused leadership strategies-use illustrations]</p>
Choice of leadership style	<p>Leaders of leaders</p> <p>Leaders</p> <p>Employees</p>	<p>[if not already mentioned] If forced to choose between these types of leadership, what type is closest to your own/your leader's leadership?</p>
Well-being	Employees	<p>What are the pros and cons of working as a pedagogue [= skilled childcare employee]?</p> <p>What makes you go to work in the morning – also on a wet, cold Monday morning?</p>

Main category and sub-categories	Interview persons asked these questions	Operational questions
Intrinsic motivation	Employees	<p>Are there any of your tasks that you especially like?</p> <p>What do you like about these tasks? [probes: do you enjoy doing the task? Is it interesting? Or are there other good things about it?]</p> <p>Are there some of your tasks that you do not like (as much)?</p> <p>What types of tasks fill up your day? Are there tasks that you really like or dislike?</p> <p>Before, we talked about positive experiences with your leader and whether the leader stepped in when needed. Do you also experience that this matters for...</p> <ul style="list-style-type: none"> - ...whether you enjoy your work? - ...the interest you have in your work? <p>Does your leader in any way support you in [mention the described tasks]?</p> <p>Do you talk with your leader about [mention the described tasks]?</p>

Main category and sub-categories	Interview persons asked these questions	Operational questions
Public service motivation (PSM) Compassion Commitment to the public interest Attraction to policy making Self-sacrifice Level of PSM Leadership and PSM	Employees	<p>Do you think about whether your work as a pedagogue here at the childcare centre makes a difference for others?</p> <ul style="list-style-type: none"> - For whom do you make a difference? - How do you make a difference? [probe for examples] <p>Do you (also) think about whether your work somehow contributes to society?</p> <ul style="list-style-type: none"> - How does it specifically contribute? [probe for examples] <p>Do you do anything to make political or leadership decisions relevant for this childcare centre?</p> <p>When you work late [beyond interview person's official working hours], do you register it? Or how does it work?</p> <p>In which situations do you typically work late?</p> <p>Have you ever worked late even though it was otherwise important for you to get home?</p> <p>Why did you work late in that situation?</p> <p>How much does it mean to you to be able to make a positive difference through your work?</p> <p>Does your leader work to draw attention to how the work as a pedagogue makes a difference?</p> <ul style="list-style-type: none"> - Do they talk to you about it? <p>Do they support tasks especially related to making a difference?</p>
Thoughts about span of control and leadership structure I	Leaders	<p>Do you feel that you have optimal opportunity to use our selected type of leadership?</p> <p>Do you feel that you are too busy?</p>

Main category and sub-categories	Interview persons asked these questions	Operational questions
Thoughts about span of control and leadership structure II	Leaders Employees	<p>Have you tried to be a leader/employee at a childcare centre where you/the leader had fewer or more employees?</p> <p><i>[If experience different span of control]</i></p> <p>What are the pros and cons of working in a childcare centre with many/few employees per leader?</p> <p>Have you experienced that it is different to work in these two types of centres? Please give examples of such differences.</p> <p>Have you worked in a childcare centre with a different structure (have/have not a pedagogical leader above the childcare centre leader)?</p> <p><i>[If yes]</i></p> <p>Have you experienced that working in these two types of centres is different? Please give examples of the differences.</p> <p>What is the optimal number of employees in a childcare centre?</p> <p>Is there an optimal size of a childcare centre? Is there an optimal relationship between the number of leaders and number of employees?</p>
Thoughts about span of control and leadership structure I	Leaders of leaders	<p>What are the pros and cons of small and large childcare centres, respectively?</p> <p>What does the hierarchical structure (having or not having a pedagogical leader above the childcare centre leader) mean for the number of employees that a leader can effectively lead?</p>

Appendix 7: Graphic illustrations of leadership styles (shown for interview persons in A4-format):
Transformational leader

Leader A

Giving direction
Doing this specifically
Why is this important
Enthusiasm

Describes goals and how the work contributes to the goals and tries to obtain accept of and enthusiasm for these goals. Tries to make sure that everybody works in the same direction.

Passive leader

Leader B

Lets the employees to a high degree decide themselves what they work towards, and withdraw somewhat from the employees.

Transactional leader

Leader C

Sets specific goals and uses rewards and negative consequences based on employee performance

Appendix 8: Observation guide

The purpose of and background for the observation:

- Getting insight into what the leader spends their time doing
- Getting insight into the leader's interaction with their employees
- Getting insight into the leader's impact in terms of professional quality and employee well-being
- Getting insight into the professional quality in the childcare centre by observing employees

Practicalities:

(At least) one person follows the leader all day. If the leader goes to a meeting, we go along. If the leader works in their office, we are also there and ask about what they are working with. We note how much time they use on different tasks over the course of the day.

We also note how the contact to the employees takes place (including where it takes place). It is a good idea to note entire dialogues. Please be aware as to when it is important to keep a low profile so that we do not hinder the contact and dialogue between the leader and their employees and/or between leader and children.

Meeting time is the same as for the leader.

At the end of the day (before we leave the childcare centre), we ask whether this has been a normal day.

Observation notes are written in a note book or on a computer/iPad. We note persistently all day. It is important to write as specific and descriptive notes as possible. This means that notes should include where, who, what happens and to include whole dialogues. If we have our own evaluative comments, we note this separately.

Description/observation	Evaluation/interpretation/atmosphere
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Treatment of observation notes:

All observation notes are written or edited on a computer. After the first observation, we compare all notes and discuss what we have observed, revising our note technique if necessary. Afterwards, we make short descriptions of each institution based on both observations and interviews.

Appendix 9: Start code list (M means that this is only coded for employees, L only for leaders)

Node	Child node	Description
Professional quality	Understanding of professional quality	How 'good professional quality' is understood by the interview persons
	Securing professional quality	What is specifically done to secure good professional quality
	Level of professional quality	Descriptions of the level of professional quality in the childcare centre
	Employee perception of what the leader does to support professional quality	Description of what the leader does to support professional quality (M)
Leader-employee relationships	Patterns of contact	<p>Descriptions of contact patterns: When are the leader and employees together, is there talk of formal or informal meetings, is the leader busy etc.? For the leader of leaders, patterns of contact to both childcare centre leaders and employees are included.</p> <p>Is the leader generally accessible? (M)</p> <p>[Case classification: Is the employee satisfied with the interaction?] (M)</p> <p>[Case classification: Is the leader part of daily operations?]</p>
	Content in dialogues	Description of what leaders and employees talk about when they see each other. For leaders of leaders, focus on what the childcare employees raise in talks with their own leader
	Delegation of tasks	<p>[Case classification: Are leadership tasks delegated to others?]</p> <p>Which tasks are delegated? Is it clear who is responsible for what? How does the delegation/lack of delegation work in daily practice? And is the delegation followed up on?</p>
	Taking responsibilities	<p>[Case classification: Do others take responsibility for leadership tasks?]</p> <p>Descriptions of what they do if they take responsibility</p>
	Employee feedback	<p>Whether, when, and how leaders give employee feedback</p> <p>For leaders of leaders, feedback to childcare centre leaders are coded in this node</p>

	Employee perceptions of fulfilled need for leadership (M)	Positive experiences where the leader made a difference, a sense of having one's need for leadership fulfilled, general sense of the leader stepping in when needed
Reflections about span of control	Experience with different span of control	<p>[Case classification: Have the employees earlier worked in childcare centres where the leader has been responsible for more/fewer employees?] (M)</p> <p>[Has the interview person herself previously been responsible for more/fewer employees?] (L)</p> <p>Examples of differences</p>
	Reflections about size of childcare centre	<p>Pros and cons of working in small/big childcare centres, respectively. Effects of leadership structure (is there a pedagogical leader of the childcare centre leaders?) for the optimal span of control.</p> <p>[Case Classification: Perceived optimal span of control] (L)</p>
Node	Child node	Description
Leadership strategies	Goal and vision	Descriptions of the childcare centre's vision and/or goals.
	Transformational leadership	<p>Descriptions of how the leader behaves in ways that can be interpreted as transformational.</p> <p>How the leader explains to the employees what the childcare centre should work towards and how they try to create acceptance and enthusiasm for goals and vision. Descriptions of how the leader communicates the goals to employees. Example of how work is linked to the goals and what the leader does in the case of disagreement, changed goals or lost focus.</p>
	Transactional leadership	<p>Descriptions of how the leader behaves in ways that can be interpreted as transactional.</p> <p>How the leader sets goals and rewards and sanctions based on employee performance. How the leader tells the employees what they will receive if they succeed in doing their tasks well. Example of rewards (both tangible and intangible) and sanctions.</p>
	Passive leadership/non-leadership	<p>Descriptions of leader behaviours that can be interpreted as passive leadership (absence of active leadership).</p> <p>Example of letting the employees decide what they should work towards and what the goals should be. Leaders withdraw from employees.</p>

	Choice of leadership	Choice of leadership style and reasons for this choice.
	Leadership in specific situations (L)	Description of situations where a given leadership style has been chosen. Is there something special about these situations (e.g. new initiatives, problems, stability)?
	Leadership intention – positive (L)	Intentions behind the use of a specific leadership style [only if the leader intentionally uses a specific leadership style or some parts of this style].
	Leadership intention – negative (L)	Reasons for not using a specific leadership style [only if the leader intentionally does not use a specific leadership style or some parts of this style].
Leadership structure	Distribution of leadership tasks	Distribution of leadership tasks between childcare centre leader, pedagogical leader of leaders and the municipal bureaucrats. How does this function in daily work? Is the distribution of responsibility clear?
	Decision power (L)	Description of which decisions the childcare centre leader can make and which decisions they can affect elsewhere [not coded for leader of leaders].
Leadership context (L)	Leader's need for leadership	Childcare centre leader's need for leadership from their own leader, for example in relation to feedback and continuous support. Does the leader get this support from their leader or elsewhere? Is their own leader accessible, and does the childcare centre leader feel isolated? Examples of positive experiences in which the childcare centre leader made a difference and examples of where improvement is possible.
	Leader's typical day and barriers	Description of how the leader spends their time and the barriers that they perceive to be hindering them in spending their time on what they see as most important.
Node	Child node	Description
Leadership context (L)	External coordination	The leader's description of time used on communication with external stakeholders (e.g. other childcare centres).
	Leadership feedback	Leader's description of how much and when they exchange feedback and develop their leadership skills together with other leaders.
Well-being and motivation (M)	Well-being	<p>Descriptions of employee and leader well-being in the childcare centre EXCEPT descriptions related to the dimensions of motivation mentioned below.</p> <p>Examples of included aspects are social relations, relatedness to colleagues, and mental well-being.</p>

Level of intrinsic motivation	Enjoyment and interest in the work in itself. Tasks that the interview person likes and dislikes, and the type of tasks seen as being important in daily work.
Leadership and intrinsic motivation	Description of how the leader's support/lack of support is seen as affecting enjoyment and interest in the work and how the leaders matter for whether employees like or dislike their work. Do they mention this?
Compassion	Description of employee perceptions of how the work is important for others, especially others in difficult circumstances.
Commitment to the public interest	Description of employee perceptions of how the work is important for society.
Attraction to policy making	Whether and how employees are motivated to participate in activities to be able to influence political decisions or leadership decisions related to the childcare centre.
Self-sacrifice	Example of how 'doing good' can 'cost' employees. For example, whether and why employees work late and whether this is registered (and compensated financially or by less work at other times).
Level of PSM (total)	How much does it mean for the employees to be able to do good for others and society through their jobs?
Leadership and PSM	Does the leader actively emphasize how the work as a pedagogue impacts others and society? For example, does the leader talk to the employee about this and support the work in this direction?

Appendix 10: Additions to the start code list (during the coding process)

Node	Child node	Description
Physical conditions	Importance of physical conditions	What is the interview persons' perception of how the physical conditions affect the relationship between leader and employees?
Municipal leadership structure	Distribution of leadership tasks between childcare centre leader and (if there is one) their pedagogical leader	The distribution of leadership tasks between childcare centre leader and (if there is one) their pedagogical leader, and how this works in day-to-day practice.
	Second in command (if such a person is appointed)	Text search query in Nvivo on the word <i>souschef</i> (second in command in Danish) combined with manual coding.
	Interaction with municipality (both bureaucrats and politicians)	Interaction between childcare leader and individuals from the municipality (both bureaucrats and politicians).
Leadership context (L)	Leaders function as a substitute worker (typically in case of employee sickness)	Many leaders talked about themselves as substitute workers (in Danish: <i>vikar</i>), and this appeared to be so important that we did a manual coding of everyone mentioning this (supplemented by a text search for the word <i>vikar</i>).
	Network leadership	Some leaders used the term <i>network leadership</i> to describe joint leadership tasks in networks of approximately eight childcare leaders. They saw it as so important that we chose to code all of the descriptions of this type of leadership in this separate node.