Pandemic-related challenges for team leadership in ECEC centres in Germany

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Abstract

This article investigates Early Childhood Education and Care (ECEC) leadership during the COVID-19 pandemic. The focus is on ECEC leaders' perceptions of team leadership during the COVID-19 pandemic in Germany. The purpose of the study is to increase understanding of the team-related challenges ECEC leaders have been confronted with, how they have been experienced and mastered. Therefore, two qualitative studies were designed (Hamburg, Leipzig). A total of 55 ECEC leaders from different federal states were surveyed in guideline-based qualitative interviews (Leipzig study: $n = 20$ ECEC leaders; Hamburg study: $n = 35$ ECEC leaders) and analysed with a qualitative content analysis. The results show how teamwork changed under the pandemic conditions and what challenges the leaders faced, including a lack of staff (due to e. g. quarantine, disease), structural separation of teams, lack of communication, additional tasks (political regulations), and missing collaboration with parents. The results indicate that not only ECEC leaders are required to organise team development activities on a regular basis or to reflect on the experiences of the pandemic within heterogeneous teams but also setting providers and sectoral policies are called upon to support ECEC centres in crisis according to their needs.

Keywords: ECEC leadership, Teamwork, Heterogeneous teams, COVID-19 pandemic, Germany, Qualitative interviews

In the recent years Early Childhood Education and Care (ECEC) teams in Germany have become more heterogeneous through efforts to improve pedagogical quality and to meet the growing demands of children and families, but also to counteract the lack of qualified staff. Crisis situations such as the COVID-19 pandemic pose special challenges for the leaders. This paper aims to understand how leaders in centre-based ECEC services in Germany led their teams through the pandemic and which aspects of team heterogeneity proved to be relevant.

Theoretical framework

Teamwork in the context of ECEC leadership

The work of ECEC teams is closely interwoven with the pedagogical concept of an ECEC centre and influenced by the respective organisational structure, working conditions and leadership style.

Leaders have a key position in ECEC centres: they are responsible for pedagogical leadership, for team leadership and the supervision of all individual employees with their entire interests and talents, strengths and weaknesses. In addition, they are responsible for the cooperation with parents, providers and external organisations (for example cultural institutions, public authorities for child protection, schools or family services) and they promote organisational development. To manage an ECEC centre they have to be aware of general conditions and trends in society and policies related to ECEC and be able to manage themselves by reflecting on their professional learning and development, work organisation, self-care and career planning (Strehmel & Ulber, 2020a, p. 26, Fig. 1).

These diverse tasks of the ECEC leaders are interwoven: Changing demands on ECEC centres, e.g. from the scientific community or through ECEC policy reforms, often have consequences for the pedagogical programme and require not only considerations in the team about the pedagogical work and cooperation between team members, but also about personnel and organisational development. ECEC leaders have to collect and communicate new demands, e.g. in team meetings, initiate discussions and promote decisions in the team on, for example, new learning opportunities for the children. At the same time, they have to care for the well-being of each team member (Siraj-Blatchford & Hallet, 2014) and their continuing professional development (European Commission, 2021).

To approach the question of team leadership during the COVID-19 pandemic, we will first define and discuss some aspects of teamwork and team leadership, including the challenges of heterogeneous teams. We will then sketch the state of research about ECEC teamwork in Germany during the pandemic and present own empirical results.
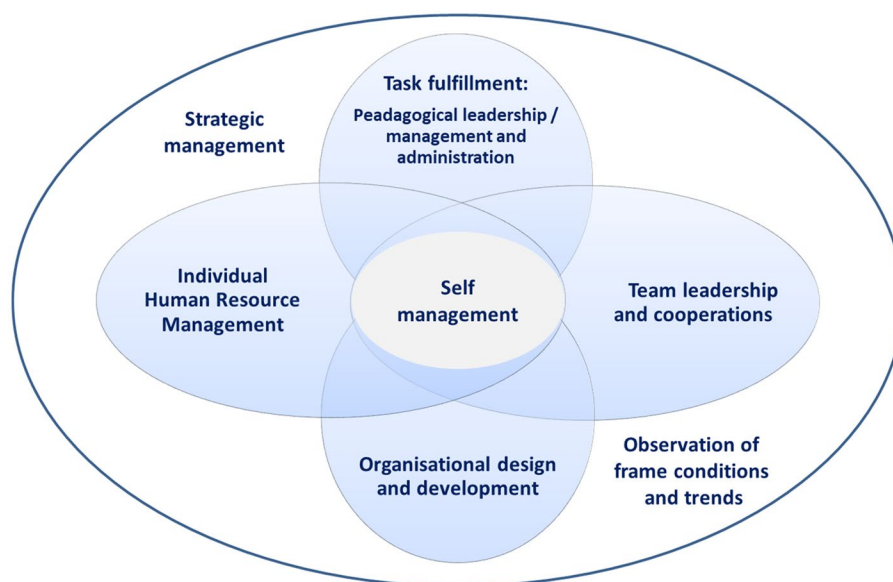

Fig. 1 Profile of leadership tasks in ECEC centres (Strehmel & Ulber, 2020a, p. 26)

Leadership in heterogeneous teams

Teams—as well as ECEC teams—are heterogeneous per se: the team members differ, for example, in terms of their age and gender, their educational biography, their cultural, professional and private experiences, their personality and social competence, their professional position and priorities, as well as individual interests and talents. They may also differ in their work status by having limited or permanent contracts, part-time or full-time jobs or different responsibilities and functions (Strehmel & Ulber, 2020b). Thus, teams can be more homogeneous with regard to certain characteristics of their members, but heterogeneous with regard to others.

In addition, teams as social units differ in terms of group characteristics, including the size, history and stability of teams, the team culture as well as the team climate. The team culture is reflected in common values and norms and the customs in everyday life, for example in team meetings. The team climate is defined by the quality of manners, friendliness, mutual support, appreciation and trust. The team culture and climate have an impact on the ways of working with the children and of approaching the parents.

Table 1 shows, on the one hand, the differences in the individual characteristics of the team members and, on the other hand, characteristics of teams that can differ greatly within an ECEC centre.

Challenges in leading heterogeneous teams lie in the communication of the team members about tasks and priorities in the joint work and the ability of the teams to approach each other openly, to reflect on different attitudes and to use the respective expertise of each team member. At the same time, leaders have to ensure that team performance is not impaired by social-psychological processes of stereotyping, group think, pressure to conform or conflicts (see, for example, Hartung & Kosfelder, 2019). Of particular importance for the success of the cooperation in heterogeneous teams is the intensive support of the team processes with sufficient time and opportunities for the team members to communicate with each other.

Table 1 Heterogeneity in teams

Individual characteristics of the group members	Characteristics of the team
• *Socio-demographic characteristics:* age, gender, cultural background, migration status, family situation (cohabitation, people in need of care: children, elderly, etc.) • *Personality* (Big five: extraversion, conscientiousness, openness, neuroticism or emotional stability, agreeableness) • *Other personal characteristics:* values and norms, talents and interests, resources and vulnerabilities, the motivation to learn • *Knowledge and competence:* general education, vocational training or studies, professional experience • Experience of life *Team-related characteristics:* • Seniority (duration of team membership) • Process of induction • Role and position in the team • Special tasks • Consistency in values and pedagogical convictions • Professional development (training, team days, etc.)	• *Team structure:* size and composition, functions and positions, hierarchies and (formal) division of labour • *Team history:* duration of existence, stability and fluctuation, team development, critical events, conflicts • *Group dynamics:* roles, cohesion, forms of cooperation, communication culture, conflict resolution • *Team climate and team culture* (mutual trust, mutual support, reflection and meta-communication, alignment of values and pedagogical beliefs, team identity, etc.) • *Management style* (meeting culture, participation, conflict culture, error friendliness, etc.) • *Relations* to other teams and organisation members

Team functioning, cooperation and team climate as well as the well-being, job satisfaction and loyalty of team members and their possibilities for continuing professional development, are influenced by factors (Fig. 2) such as the working conditions and organisational climate; these in turn are influenced by the setting providers and their values and activities to promote orientation and identification. The social environment of the respective ECEC centre and the characteristics of children and families also often shape pedagogical priorities and the climate in the centre.

Features of ECEC teams in Germany

Size, structure and qualification of ECEC teams in Germany have changed tremendously in recent years. ECEC teams vary in size between 3 and more than 50 pedagogues and between 2007 and 2016, they grew from an average of 7.5–11.7 employees (Autorengruppe Fachkräftebarometer, 2021, p. 54). With the gradual process of academisation in Germany resulting from new study programmes on childhood education introduced nearly 20 years ago, the proportion of teams with academically qualified staff has increased from 14% in 2007 to 32% in 2020 (Autorengruppe Fachkräftebarometer, 2021, p. 57). There is also a call for multi-professional teams, e.g. to include experts for special needs and inclusion; however, studies in the German context mostly compare teams with regard to different qualification levels of team members. There is a broad discussion on opportunities and risks, reinforced by the ongoing lack of qualified pedagogical staff. Teams comprising staff with different qualifications and work experiences might provide opportunities for new approaches towards working with the children, but also entail risks for more instability, conflicts and dissatisfaction of the staff. The leaders of ECEC centres with such multidisciplinary or heterogeneous teams have to face numerous challenges to reach agreement on pedagogical goals, attitudes and rules between the team members and on pedagogical measures, work division and responsibilities. Team members with various qualifications and experiences need more exchange and discussion to arrange their collaboration. A crucial question for the quality of teamwork might be whether the composition of such teams is conceptually justified with the intention to
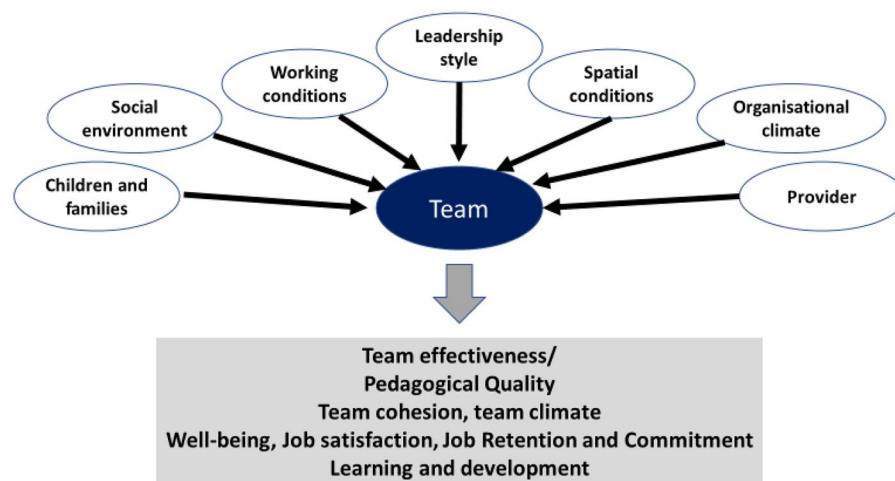

Fig. 2 Factors influencing teamwork

bring together different expertise or whether the heterogeneity is simply caused by the lack of qualified staff.

According to a survey of 768 ECEC leaders and 159 providers in Baden-Wuerttemberg, ECEC leaders on the one hand saw the chance of heterogeneous teams in an increase of the level of competence due to different qualifications; on the other hand, they considered a risk of a loss in quality resulting from non-pedagogically qualified staff (Fröhlich-Gildhoff et al., 2014). This was confirmed in a study by Weltzien (2020). Lower pedagogical quality was largely associated with team members who were not pedagogically qualified. In addition, fluctuation in such teams was high, in particular, if staff members had not been employed with pedagogical goals in mind, but had been hired due to a lack of appropriately trained staff.

The lack of qualified pedagogical staff is currently the biggest challenge for the ECEC system in Germany (Autorengruppe Fachkräftebarometer, 2021). Geiger surveyed a total of 1431 ECEC centres in 2018. In more than one in four ECEC centres (27%), at least one position was vacant (Geiger, 2019). Two-thirds of the institutions also reported difficulties in filling leadership positions (Geiger, 2019, p. 28). In a survey conducted to evaluate a new federal law to improve ECEC quality, 23% of the leaders stated that positions for pedagogical staff could not be filled in their centres for 6 months or more (Klinkhammer et al., 2022, p. 105).

The lack of personnel is exacerbated by predictable and unpredictable absenteeism of staff due to holidays, professional trainings and illnesses. Strehmel and Kiani surveyed 722 ECEC leaders of non-profit providers in Schleswig-Holstein on their handling of the absence of staff (2018). Frequent lack of staff not only affected pedagogical quality, but also the cooperation in the teams. The absence of team colleagues made it difficult for professionals to perform routine tasks. Moreover, the attention given to individual children as well as the team climate were impaired. According to these findings, even before the pandemic, ECEC leaders had to cope with the lack of staff to ensure the centres' operation. Often, team cooperation was severely disturbed and could lead to dissatisfaction among the team members.

Challenges facing German ECEC teams during the COVID-19 pandemic

During the pandemic, German ECEC settings organised children`s attendance in different ways: within the first COVID-19 wave in Germany, starting in March 2020, ECEC fully closed or provided emergency support for a few children during lockdown. After having reopened in May 2020, they worked in regular operation under pandemic conditions. The return to limited regular operation (i.e. with infection prevention regulations in place and reduced opening hours) varied regionally. Protection and hygiene measures included fixed children-staff groups, ventilation and surface disinfection, restricted access to the ECEC centre, wearing masks, maintaining a minimum distance of 1.5 m from other people (Neuberger et al., 2022). During this time, the teams experienced difficulties fulfilling their legally mandated professional obligation to educate children, in reaching families with a migration background (Hemmerich et al., 2021), communicating with network partners outside the institution (e.g. specialist counselling) (Kemper et al., 2022; Lattner et al., 2022), and in supporting children with behavioural problems (e.g. in social-emotional behaviour or language) (Schieler & Schindler, 2022). In addition,

other issues came into focus, such as the organisation of constantly changing processes, the redistribution of tasks among team members, and measures to implement the testing and documentation obligation in the facilities (health and sanitation protocols) (e.g. Pramling-Samuelsson et al., 2020). Due to the pandemic-related staff shortages, the multitude of tasks led to a "high workload and massive pressure" on professional staff (Kemper et al., 2022, p. 17) as well as signs of demotivation and exhaustion (Schieler & Schindler, 2022, p. 64).

The COVID-19 situation also negatively affected communication within the teams: There were disagreements, conflicts (e.g. controversial discussions about the necessity of vaccination), lack of exchange within the teams, and general management problems within the ECEC centre (Hemmerich et al., 2021, p. 11). In addition, the lack of appreciation on the part of political leaders (Lattner & Jankowicz, 2021), and conflicts with parents (due to the restrictions on access to ECEC) were experienced as particularly stressful by the pedagogical professionals (e.g. Kuger et al., 2022).

Empirical studies

During the COVID-19 pandemic ECEC leaders not only had to focus on the health protection and care of the children, but also on that of the staff. Nevertheless, there is still a lack of empirically based contributions from Germany that deal with the challenges of ECEC leaders in the pandemic and related effects of the (heterogeneous) teams in ECEC centres. This is where this paper comes into play.

The article focuses on two qualitative research projects (University of Leipzig, University of Applied Sciences Hamburg), which made use of comparable research questions with different approaches. The common focus of interest was on new requirements that emerged from the pandemic for the leaders in the management of the teams in ECEC centres and how they were experienced and dealt with. We pose the following research questions:

(1) What pandemic-related challenges in team leadership did ECEC leaders describe? (Leipzig and Hamburg study)
(2) How did leaders cope with these pandemic-related challenges? (Hamburg study)

The project "Changes in the everyday working life of ECEC staff due to COVID-19" (Leipzig study, Lattner)

Design and sample

The focus of the explorative-qualitative research project (Przyborski & Wohlrab-Sahr, 2014) was to explore leaders` and staff`s subjective experience of the crisis, and the impact of the pandemic on their pedagogical practice with the children, collaboration with parents, and within the pedagogical team. Two studies were designed for this purpose: Study 1 "ECEC and COVID-19: Chan[g]e or Chan[c]e" comprises dyadic, focused-episodic interviews (Flick, 2017; Friebertshäuser & Langer, 2013; Mey & Mruck, 2018) with pedagogical staff and leaders (between August and September 2020, at the time of full regular operation under pandemic conditions). The information obtained on the pandemic-related changes

in ECEC practice formed the basis for the thematic orientation of the follow-up study "ECEC and COVID-19: Pedagogical practice 2.0?" (between July and September 2021, after months of limited regular operation). This article focuses on the follow-up study and exclusively on the leaders' perceptions.

Twenty ECEC centre leaders and one educator showed interest in being interviewed in the follow-up study ($N=21$, of which $n=18$ women and $n=3$ men). Ten of them had already participated in study 1. A combination of "snowball sampling" (convenience sampling, Akremi, 2014) and "sampling according to specific, predefined criteria" (Przyborski & Wohlrab-Sahr, 2014, p. 184) was used to recruit interview partners. In addition, the project management solicited participation in the follow-up study at public presentations on the results of the first study ($n=3$) and contacted ECEC leaders from their immediate circle of acquaintances ($n=3$).

Finally, the Leibniz Institute for the Social Sciences drew a random sample of a total of 200 ECEC centres in Germany. of which the first 100 settings were from the "main study" and then another 100 ECEC centres "in reserve" received an invitation to participate in the interview study via email at the end of July 2021 (for more information see Lattner & Jankowicz, 2021). No one replied to the request. Personalised reminder emails at the end of August resulted in the response of one leader ($n=1$). The sending of personalised invitations to participate via email in September to the 100 ECEC "in reserve" led three ECEC leaders and one practitioner participating in an interview ($n=4$).

Data collection and analysis

In follow-up study, ECEC leaders and professionals were interviewed in semi-structured, guideline-based individual interviews (Kruse, 2015) in the summer/autumn of 2021. The interview guideline was developed on the basis of the research questions of the follow-up study, considering the results from study 1. The interviews were guided by a schema consisting of five main themes: challenges during the pandemic, cooperation within the team, pedagogical-conceptual work, collaboration with parents and leadership.

The interviews were mostly carried out by telephone calls, some in video conferences and partly at the ECEC centres or at the University of Leipzig, in compliance with the applicable hygiene and distance regulations. They lasted up to 90 min. All interviews were audio recorded and later transcribed for further analysis (Dresing & Paul, 2017).

In order to identify relevant content (themes) to teamwork under pandemic conditions, the statements to two interview questions ("What 'traces' has the COVID-19 pandemic left on your staff?") and ("What does your team need in order to continue to cope with the impacts of the COVID-19?") were analysed using structuring content analysis (Kuckartz, 2018). In a first coding cycle, the statements to these two questions were evaluated before the next (propositional) question was asked by the interviewers. The coding strategies "structural coding", "descriptive coding" and "in vivo coding" were used (Saldaña, 2021). Subsequently, the codes (subcategories) were subjected to an integrated re-organisation with regard to the research question (second coding cycle). The analyses were software-based (MAXQDA, version 2020).

The project "Stress and coping of ECEC leaders in the pandemic" (Hamburg study, Strehmel)

Design and sample

In this qualitative study, 35 ECEC leaders and 15 ECEC experts (professional consultants, managers from provider organisations, representatives from welfare associations) were interviewed between September 2021 and January 2022 ($n = 50$, of which 49 were female).

The interview participants were mainly recruited via "snowball sampling" (convenience sampling, Akremi, 2014) by multipliers from the ECEC system in Germany. The sample included leaders from ten federal states in Germany. The leaders were responsible for large, medium-sized and smaller ECE centres with team sizes between three and more than 50 employees. Due to the tremendous variety in the structures of ECEC centres in Germany (Strehmel, 2021), the sample cannot claim representativeness, but it covers a wide range of organisational contexts of ECEC centres in Germany.

The participants were informed about the purpose of the study and compliance with EU data protection guidelines was guaranteed.

Data collection and analysis

Leaders and ECEC experts were interviewed in semi-structured interviews. The interview guideline was based on the task profile of ECEC centre leaders. The interview guideline contained the following topics:

- Context data: number of children, information on staff and providers.
- Experiences with leadership tasks during the pandemic: pedagogical leadership, personnel management, team leadership and self-management.
- Insights and future perspectives.

The leaders were asked how they experienced the situation in the ECEC centres and their teams and how they and their teams coped with the challenges.

The interviews were mostly carried out by telephone calls, some in video conferences. They lasted between 25 and 70 min and were recorded and transcribed anonymously.

The data analysis included theoretical categories from the leadership profile and stress theory. In a first step, analysis was conducted with the help of a theoretically based content analysis, digitally supported by search criteria (Kuckartz, 2018). Search criteria were, for example: "staff", "parents", "team", "leaders", "provider" or "public health office". Other search criteria referred to stress theory, e.g. "feelings", "fear", "anxiety", "vaccination", "stress", "conflict", "coping", "support", "resources", etc. In this way, interview statements referring to the research questions were identified. In a second step the records were ordered and clustered according to criteria derived from the theoretical categories ("Ordering", Miles et al., 2014): pedagogical leadership, staff leadership, team leadership and cooperation as well as self-management. This way, the qualitative material could be ordered in a data matrix according to the theoretical framework.

Results

The results of both studies will be presented along the research questions.

> *Research question 1: What pandemic-related challenges in team leadership did ECEC leaders report? (Leipzig and Hamburg study)*

Both studies revealed a number of challenges for the leaders which are reflected in the following sub-sections.

Staff absences

During the pandemic, the pre-existing lack of staff was exacerbated by frequent absence of team members due to infections or quarantine. In addition, ECEC leaders had to consider the health risks of individual employees (for example, in the case of higher age, pre-existing health risks or living with vulnerable family members). As a result, team structures were difficult to maintain and teams had to be repeatedly reassembled—at least temporarily. However, there were practically no opportunities for team development measures.

From the statements of the leaders, the dilemma became obvious: on the one hand to protect the team members from infection and on the other hand to maintain the operation of the ECEC centre in order to provide children with educational opportunities and to enable parents to continue their employment. Some sick leaves of the employees were caused by the fear of infection and sometimes endangered the continuation of the operation of the centre.

> "Personally, I can (...) understand the fears, but as a leader I have serious problems with this, because I can no longer sustain the services. I have all the kids here and simply too few staff." (MV2)

Ethical issues relating to professional pedagogical work

Mutual support and safeguarding pedagogical standards were not possible to the same extent as before due to the distance requirements and limited communication. As a result, some pedagogical standards were temporarily lost and had to be made present again through the intervention of the leaders:

> "Colleagues no longer have the best interests of the child in mind, but only act strictly in accordance with the law (...). There was a (...) very fearful colleague (...), who really always attached great importance to the fact that everything was very strictly followed. She then also prevented hugs. It took us a long time to break it up, according to the motto: We have to keep an eye on the well-being of the children." (BW2)

Another leader mentioned a *"lack of work ethic"* of some team members:

> "... that a lot of people report sick (...) in advance when they get the vaccination. (...) So they take advantage of it (...), also with this quarantine. (...). That, on the one hand this is not adhered to, and they still go shopping, and on the other hand: 'But I can't come to work. I am in quarantine.'" (A1)

Changes in team climate and erosion of team cohesion

The leaders described erosion tendencies in their teams: the separation of the teams to prevent uncontrollable contacts and the lack of day-to-day communication caused by restrictions was accompanied by the loss of the sense of togetherness in the team and was experienced as stressful:

"If they are used to working in a large team, working across groups (...) and then suddenly are limited to their own group. This exchange with each other was missing, this togetherness was missing. So, it was a very, very high stress for the staff members." (MV1)

In addition, there were differences of opinion on vaccination issues, even in teams that had previously worked well together. This also affected team collaboration:

"Mutual support is very, very difficult at the moment. Also, because opinions are so different when it comes to vaccination. Because the educators are so different, how to deal with the situation? Some are only annoyed by COVID-19, others are afraid and athird group do not know who to believe. So that's very hard." (MV1)

In retrospect, some leaders reported a positively framed collective 'yes, we can' attitude in the team. According to their observations, coping with the crisis *"welded the team together"* (H1), in that the team members *"reflect on their own strengths (…), stay in conversation, perceive fears (…) among themselves and (…) watch out for each other"* (H2). These teams are characterised by reliability, mutual helpfulness and encouragement (e.g. motivation to persevere through the period of emergency care), supplemented by their ability to improvise, e.g. with regard to trying out new ways of communication (team meetings in the park or in online format).

In contrast, other team members *"became [...] more egoistic"* (K1) over the duration of the pandemic. They put personal needs first and look more to their 'own' group of children they cared for rather than the interests of the entire team:

"They were so much a part of their solid group and so much connected to each other, now it is more difficult to be one for all again or to think all for one. (...) that has been lost." (F1)

After 15 months of separation and limited communication, the pedagogical staff find it difficult to find their way back into the 'normal group routine' (in terms of e.g. joint service consultation, open work, feeling of belonging) from one day to the next*:*

"When we opened on June the 1st, (...) everything was so (...) strange, weird. All of a, suddenly we are together again. It really took us a few weeks to get back together. It was still the division, very strange." (W1)

Conflicts frequently arose in the teams, which were attributed to the fact that the team members had *"perhaps even (…) forgotten"* to *"talk to each other"* (H1). One leader even reported a split in their ECEC team, which was connected to the hygiene protection measures (quarantine, vaccination):

"the people who were always on site and always did everything had a lack of under-

standing for those (...) who then said 'We are risk patients. We can't. We are not allowed.' But they were also not willing to work a certain number of hours at home. (...) There was full pay for everyone here, yes? And that was this injustice". (S_K2)

Individual pedagogical professionals spoke about their intention to resign soon or to reduce their workload—because they either no longer wanted to work the prescribed hours (*"I have to be here until 6 p.m. (…). I don't want that any more"*, P1) or were overloaded.

Anxieties and feelings of helplessness

The anxieties of individual team members and fearful team climate brought new challenges to many leaders. Many felt "defenseless" and wondered how this situation would change the team:

"So, a lot of fears, insecurities. On the one hand, what does that do to us as a team? (...) And, of course, the fear of contagion. So, we had a lot of employees here with Corona. (...). In any case, there was the feeling of 'we are exposed to this without protection." (MV1)

New role as controller of health protection measures

The expectations placed on the ECEC leaders by the health authorities in turn called into question the familiar and trustful working relationships with their team members and changed their role in the centres and towards the team:

"On the one hand, of course, I am very challenged in my role as a leader, because I have to pass on a lot to the team, what actually comes in such regulations and am simply in such a special role now. I am the one who has to say: these are the rules. You have to comply with this and also check if necessary." (BW2)

The control function assigned to them affected the relationships and mutual trust with the team and the parents:

"I'm in this role as the controller now and that does something to me and that also does something to the colleagues. (...) And then it is said: 'You don't trust me anymore'. (…) And that's where you get into something in your leadership role where you are the extended arm of the health authority." (BW1)

Especially in ECEC centres in the countryside, some teams felt isolated, on their own and sometimes abandoned by providers and policy makers. The leaders then felt under pressure due to the increased responsibility and the expectations of the team members:

"The situation was such that we often felt like we were on an island here. (...) We experienced ourselves like this: We are at the front line here and have to regulate everything (...). So, the only support that the staff had was in my person as a leader. And of course, that's a very big pressure." (HE3)

The COVID-19 pandemic had varying degrees of impact—negative and positive—on team dynamics and cooperation. It is striking that in the statements about the pandemic-related impact on ECEC teams, no one referred to the level of qualification,

work status or employment relationship of the pedagogical staff. Instead, references to team climate, team dynamics, to individual stress levels, and resilience of the teams in the pandemic dominated in the interviews.

Research question 2: How did leaders cope with these pandemic-related challenges? (Hamburg study)

Overall, the pandemic created new challenges for the ECEC teams to maintain everyday cooperation. Due to frequent absences and the necessary reorganisation in the duty rosters in order to consider risk constellations among employees, team structures were dissolved. Most of the leaders expected the willingness of the team members to be flexibly deployed in ever new team constellations, whereby earlier criteria—an agreed pedagogical mission, trusting working relationships, cohesion in the team or identification through joint reflection—hardly played any role. Also, the meaning of differently qualified staff from various professions or disciplines or qualification levels did not seem to be important in the crisis, because everyone had to jump in where they were needed. The leaders considered the situation unsuitable to care for team development and tended to accept the erosion of the teams during the crisis, waiting for better times.

Their statements revealed that many team members lost the feeling of togetherness and that the team cooperation was additionally burdened, for example, by the discussion about vaccinations. Moreover, the health risks of team members and their anxieties endangered their ability to work and consequently the maintenance of operations. Some leaders tried to reduce the fears through conversations and attempts to find individual solutions, especially for vulnerable people:

> *"We talked to each other. And have shown the ways, what is feasible. Or even to show our support, what other ways there are to deal with it." (HH5)*

The leaders experienced some new fields of tension in their work. On the one hand, they reported a more individualised leadership style in order to find solutions to alleviate the fears of individual employees. On the other hand, their changed role of being responsible for implementing the containment measures during the pandemic sometimes destroyed trust between the leaders and team members. Due to the distance rules, the limited communication and few opportunities for discussion, the teams could reflect little about their situation and that of the leaders. Whether they succeeded in mastering the numerous challenges often depended on team constellations, cohesion, mutual trust and team climate before the onset of the containment measures at the beginning of the pandemic. In the expiring pandemic, when the data were collected, a "Matthew effect" became visible: Teams that had worked well together before the pandemic and had solved problems together were better able to cope with the crisis than teams in which there had been previous unresolved conflicts. The resilience of teams was also strengthened by a participatory and cooperative leadership style of the managers:

> *"By always involving the employees in the decisions in a good way, they have supported this well. They also carry the burdens." (HE2)*

The data show that the situation in the teams and challenges for the leaders were closely interwoven with questions of the pedagogical work and the care for individual team members as assumed by the leadership model presented in the theoretical framework.

Discussion

Dealing with the variety of challenges during the pandemic under the given spatial, personnel and technical conditions was often associated with stronger team cohesion, but as the pandemic progressed, an erosion of team cohesion became apparent. Limitations in coordination and mutual support possibilities went hand in hand with a heterogeneous design of pedagogical practice (e.g. in terms of quality standards, pedagogical work in their group of children). 'Pedagogical regressions' (Lattner, 2022) could be observed. This was a clear indication that compliance with hygiene and protective measures and coping with diffuse fears (e.g. of infection, fears for the future) while at the same time maintaining a high workload were the primary concerns of the teams and contradicted their mandated professional idea to educate children. In this way, teams saw the goals of ECEC reduced to their care aspect. This in turn challenged the leaders in their leadership responsibility (e.g. staff motivation) and in problem solving (regarding quarantine and staff absences due to illness, conflicts within the team) (Oeltjendiers et al., 2021).

In both studies, the role of ECEC leaders became more important and it changed (Heikkinen et al., 2022). A whole new set of expectations were placed on ECEC leaders by public health officials and the general public, requiring that they should implement and control the pandemic containment measures in their centre. This changed their role vis-à-vis the team and parents, as they had to establish rules that were not the norm in the setting. This led to drastic and stressful changes for the team as well as for children and parents (Strehmel, 2023; Strehmel et al., 2023). Both, they and the team members were expected to support and professionally master the associated impositions. They faced a dilemma between protecting the health of employees and the request for ECEC centres to remain open, against the backdrop of significant staffing shortages exacerbated by the pandemic (see also Flämig & Kalicki, 2020).

In addition, personal characteristics of team members that shape team heterogeneity came to the fore in both studies: health risks, family situations, personality characteristics (coping competencies, emotional stability, flexibility) and personal opinions (about vaccination) became more important than features or levels of vocational education, professions and disciplines (for example Hartung & Kosfelder, 2019). Leaders reported that they developed a more individualised leadership style during the pandemic, as they had to deal with the individual pandemic-related risks of their employees for the first time. New, non-professional characteristics of team members became important, casting the heterogeneity of teams in a new light. Personal resources such as coping skills and emotional stability on the one hand and vulnerabilities due to own health risks or family constellations of individual team members on the other, came to the fore.

Both studies showed that teams with strong cohesion and a good team climate were better able to cope with the crisis. An appreciative and participative leadership style helped the teams to work well together despite the severe structural cuts, even during the crisis. This finding is supported by recent research. Even more than objective

working conditions, team climate has an impact on well-being (Trauernicht et al., 2022) and staff loyalty to their teams (Züchner et al., 2017), and ECEC leaders can have a decisive influence on job satisfaction through their leadership style (Eling et al., 2023).

Conversely, the results also show that leaders` affiliation with supportive networks and teams contributed to their own stability in the process of crisis management (Strehmel, in press). This in turn highlights the importance of a "competent system" of ECEC (Urban et al., 2011).

For future work in crises, the teams would like to see more recognition and appreciation for the profession, for what has been and is being achieved (Oeltjendiers et al., 2021). They need (more) time for team-building, exchange and pedagogical-conceptual planning work, for recovery (breaks/holidays) as well as opportunities for (psychologically supported) coping with the pandemic (both on a team and personal level). In this context, preventive health care and health promotion play a particularly important role in reducing the experience of stress and strain, which can be achieved, among other things, through better working conditions (more staff, smaller groups, digital equipment) (Oeltjendiers et al., 2021).

Conclusion

The COVID-19 pandemic highlighted the importance of the quality of teamwork combined with the quality of leadership for crisis management. Good cohesion in the team and a consideration of the individual concerns of team members facilitated keeping ECEC centres open, keeping teams together (e.g. prevent dismissals), and—even in adverse conditions—not losing sight of children's needs. As the crisis expires, many leaders see the need to renew their teams so that they can work well together and develop team cohesion after a period of forced separation and limited communication. This includes the successful on-boarding and (re-)integration of (new) employees at the beginning of their career (or integration after parental leave or long-term illness). However, team development requires time and resources that are often not available under the conditions of the shortage of qualified pedagogues.

Regarding the heterogeneity of the teams in non-pandemic times, crucial challenges for the leaders usually lie in the speciality of team members` qualifications, different professional backgrounds and experiences, or qualification levels. In the pandemic, other personal characteristics of team members came to the fore: age, health risks and family situations, e.g. with responsibility for children or caring for elderly or spouses with health risks. In addition, individual fears, opinions on vaccinations or masks, and individual coping skills and resilience became more important. These individual characteristics had to be considered in the coordination of pedagogical work: in the service plans, the composition of the teams and in the rules for cooperation in pedagogical work and with parents. Whereas in non-pandemic times open communication seemed to be a success factor for team leadership, especially in heterogeneous teams, managers now sometimes had to deal with very intimate information (e.g. about health problems, fears, individual strengths) of team members and their private situation. However, to the extent that the open and trusting communication in the team was restricted in the pandemic the acceptance of division of labour and common rules also suffered.

Our findings can open up new perspectives in the discussion about heterogenous ECEC teams and shed light on the importance of the leaders' knowledge about the individual profiles of team members, not only in terms of qualifications and professional competencies, but also in terms of individual vulnerabilities and resilience. Subsequent to the pandemic, they can promote the diversity of talents in their heterogeneous teams, reflect on the experiences of the pandemic together with the team and, if necessary, revise and modernise the pedagogical concepts of their ECEC centres.

Individualised leadership in heterogeneous teams requires appropriate qualification of ECEC leaders as well as sufficient time for conversations with the staff and ability of leaders to create flexible solutions in personnel management. The leaders themselves need "a professional standing for flexible decisions and coping strategies during the crisis as well as the ability to reflect and learn from their experiences in an uncertain situation" (Strehmel et al., 2023, p. 251). Networks with other ECEC leaders to share experiences and provide mutual support have proven valuable for the ongoing professional development of leaders in the face of new leadership challenges, such as in the pandemic situation (European Commission, 2021).

International studies have identified further cornerstones for crisis management in ECEC centres (Fonsén et al., 2023). Important factors are clear communication, appreciation and participation, but also the promotion of team cohesion and individualised personnel management.

In the spirit of a competent system (Urban et al., 2011), providers should support the ECEC leaders in their autonomy, involve them in decision-making and promote networking with other leaders. In the same way, they should invest in the professionalism of the ECEC leaders (e.g. coaching, supervision, further training) and think about having two professionals in the leadership position—a pedagogical leader and a support for administrative tasks.

Ultimately, it is also about building a system of ECEC that is not only competent, but also resilient, with representatives from different levels working together in ways that strengthen local teams and allow them to focus on supporting children.

Limitations

In both studies, a random sample with small case numbers was used and the age as well as qualifications of the respondents were not recorded. Questions related to these characteristics can therefore not be answered. In addition, the surveys took place in different phases of the pandemic and in different federal states. On the one hand, this made it possible to map a wide range of experiences; on the other hand, the associated differences in responses could not be systematically analysed, for example due to the small number of cases per federal state. Therefore, the focus of the surveys was rather on in-depth findings regarding the experiences and the handling of the pandemic by ECEC centre leaders.

Abbreviation
ECEC   Early Childhood Education And Care

Author contributions
Both authors contributed a lot for the successful completion of the manuscript. Both authors read and approved the final manuscript.

Availability of data and materials
The datasets generated and/or analysed during the current study are not publicly available but are available from the corresponding author on reasonable request.

Declarations

Ethics approval and consent to participate
Research procedures were strictly followed by securing consent obtaining from respondents. Ethical considerations (DGfE, 2016) get due attention.

Competing interests
The authors declare that they have no competing interests.

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