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Assessment of the Quality of Education and Care in Selected Polish Preschools During the COVID-19 Pandemic Using the ECERS-E Scale

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Abstract

Objectives of the research: The aim of this project was to investigate the quality of education in Polish preschools during the COVID-19 pandemic in different social environments.

Research methods: The study uses a pedagogical approach and the ECERS-E scale, used to both define and assess the quality of preschool institutions. The research also involved interviews with teachers.

A short description of the context of the issue: An important goal of the research is to identify problem areas and areas that constitute resources or strengths of preschool institutions.

Research findings: A detailed data analysis indicated differences in the quality of education and care offered to children. The preschools under study

obtained the highest results for the mathematics subscale and the lowest for the diversity subscale. Importantly, in nearly 25% of them, the quality of science and environment classes was lower than the minimum. A comparative analysis of the locations of preschools revealed that rural institutions achieved lower results than urban institutions, both in the overall quality of everyday life and for all subscales. Despite the social changes taking place in Poland, research shows that the diversification of the educational environment may significantly determine school competences and achievements.

Conclusions and recommendations: The added value of the project is showing the potential of the ECERS scale and proving that it can be used in the Polish context. This creates an opportunity to conduct comparative research on an international scale.

Keywords: quality of early childhood education and care, competences, ECERS scale, COVID-19 pandemic, social changes

Introduction

In many countries, preschool children spend time away from home, taking advantage of a variety of forms of early childhood education and care (e.g., Belsky et al., 2007; Dahlberg et al., 2013). Research shows that this brings measurable individual and social benefits in both the short term and the long term. As the children grow up, they can be more and more independent, achieve better educational results at all levels of education, and have greater chances of success in the job market (finding and keeping a job) and in life (Brzezińska & Czub, 2012; Melhuish et al., 2017; Sylva et al., 2008). In addition to the impact on children's cognitive development, there is also clear evidence that the experience of early childhood education and care (ECEC) can have a long-term impact on socioemotional development by encouraging less aggressive behavior, more sustained attention, more playfulness, and more empathy (Barnett, 2008; Love et al., 2005; Sammons et al., 2002). Early childhood education

and care is one of the most effective tools for equalizing the opportunities in education and life for the youngest citizens (Barnes & Melhusih, 2016; Melhuish, 2004; Sylva et al., 2004, 2010). It is therefore important that all children from birth to school age have access to quality education services. These services should provide a safe, caring environment and a social, cultural, and physical space with a wide range of possibilities for children to develop their potential. Researchers, experts, and most policymakers around the world agree on this (Heckman & Landerso, 2021). The priority and overriding goal of the Polish education policy is to ensure access to high-quality education for all citizens, regardless of their place of residence, sex, religious affiliation, and social status (Białecki, 2003; Helios & Jedlecka, 2016).

Just before the COVID-19 pandemic, the Council of the European Union (2019) published recommendations on high-quality early childhood education and care systems for all member states, including Poland. The recommendations highlight the fact that the monitoring and evaluation of the quality of the educational process provide relevant information at the local, regional, national, and international levels that can be used to improve the quality of policy and practice. It seems that the international ECERS-E scale designed by Sylva, Siraj-Blatchford, and Taggart (2011)¹ may be a good instrument for this purpose.

Assuming that preschools play a significant role in cognition, care, and education, the main goal of this research project was to assess the quality of the education they offer. The main focus was on the possibility of providing children with educational experiences in literacy, mathematics, science/environment, and diversity. The last one means planning teaching according to the child's individual educational needs, gender equality and awareness of gender differences, and racial equality and awareness of racial diversity. The research project was carried out after many months of experience working with children during the pandemic.

¹ An analysis of the literature on the quality of care in school daycare centers showed that the ECERS-E scale is not used in Poland.

Early childhood education and child care in Poland

In Poland, the Ministry of Family, Labor, and Social Policy is responsible for services for children under the age of 3 years. From the ages of 3 to 6, children are covered by preschool education. Data from the Central Statistical Office (Statistics Poland, 2021) show that on September 30, 2020, 90.1% of children aged 3–6 participated in various forms of pre-school education. In the 2020–21 school year, there were 22,400 preschool education institutions that educated and looked after 1.4 million children. Most (69.5%) preschool education institutions were public.

As part of preschool education, children may attend preschool facilities in public or non-public primary schools. To address the shortage of places in ECEC institutions, preschool education units and daycare centers have been set up to provide part-time services. Their operation is regulated by a regulation from the Minister of National Education (2017). In all forms of preschool education, the maximum number of children in a group is 25, supervised by one teacher or tutor, and additionally by a supporting teacher (Karta Nauczyciela, 2023). In Poland, there is a year of preparatory preschool for 6-year-old children (Prawo oświatowe, 2021). Primary education begins at the age of 7. Parents may also decide to send their child to school at the age of 6, provided that they have attended preschool for at least 1 year or have a certificate issued by a Psychological and Pedagogical Counseling Center.

In Poland, to ensure the quality of education, teachers must have a university education with appropriate pedagogical preparation. On October 1, 2019, the standard of educating teachers for preschool education and grades 1–3 of primary school changed. Education begins with uniform master's studies in preschool and early school education (Minister of Science and Higher Education, 2019). The teacher then goes through five stages of professional development, which are regulated by an ordinance on teachers' professional development (Minister of National Education, 2018).

Each preschool institution has clearly defined standards of functioning, determined by the core curriculum, a work plan, and a statute. In early 2020, the daily work routine was disrupted by the spread of the SARS-CoV-2 virus.

This situation affected the whole world. In Poland, from March 12 to May 24, 2020, all educational institutions were closed (Minister of National Education, 2020a). Education was carried out using distance learning methods or other methods determined by the relevant authorities. Children of medical workers and law enforcement workers (including soldiers, police officers, and firefighters) were exempt and able to attend preschools and schools. In March 2020, in the interests of the safety of the children, preschool employees, and their relatives, the Chief Sanitary Inspector announced anti-epidemic guidelines for preschools, preschool units in primary schools, and other forms of preschool education and institutions for caring for children up to 3 years of age. The instructions concerned the organization of care, hygiene, disinfection of rooms and surfaces, gastronomy, and handling suspected infections among staff (Bielecka & Dudzik, 2021).

Starting on May 25, 2020, a gradual return to preschool education in classrooms began (Minister of National Education, 2020b). The restrictions introduced in ECEC institutions had significantly changed everyday life.

Research questions

The aim of this research project was to answer the following questions:

1. What was the quality of education in selected Polish preschools during the COVID-19 pandemic?
2. What were the differences in the quality of education offered to children in preschools in rural versus urban areas during the COVID-19 pandemic?
3. On which of the selected subscales did the selected preschools in urban and rural areas have the highest and lowest scores?
4. For which components of individual subscales did the selected preschools in urban and rural areas have the highest and lowest scores during the COVID-19 pandemic?
5. What do teachers say about the changes in day-to-day life in preschools caused by the COVID-19 pandemic?

Research methods

This study is defined as mixed-methods research (Bryman, 2017; Flick, 2011), which refers to research that is “a combination of quantitative and qualitative approaches” (Creswell, 2013, p. 219). Quantitative research was carried out using a diagnostic survey to diagnose the phenomenon under study (De Vaus, 2002) and the observation method (Green & Thorogood, 2018; Noel et al., 2018). The basic research tool was the fourth and most current version of the Early Childhood Environment Rating Scale (ECERS-E) by Kathy Sylva, Iram Siraj-Blatchford, and Brenda Taggart (2011). The qualitative research was carried out using content analysis (Krzystek, 2018; Miles & Huberman, 1994; Strauss & Corbin, 1998) based on data obtained from unstructured interviews conducted with teachers.

The ECERS-E is used to measure the quality of education in relation to the cognitive and social developmental outcomes of 3–5-year-olds. The ECERS-E complements the Revised Early Childhood Assessment Scale (ECERS-R), which is an internationally recognized measure of quality in education and care. The first edition of the Early Childhood Environment Rating Scale was published in 1980 by American researchers Thelma Harms and Richard Clifford (1980). In the following years, work on improving the scale was continued, resulting in subsequent editions, including the most popular and widely translated and used one: the ECERS-R, published in 1998 by the same authors. The ECERS-E is an observational scale: most activities and behaviors must be observed in order to score points for them, which makes the instrument very valuable. The scale consists of four separate subscales: (1) literacy, (2) mathematics, (3) science and environment, and (4) diversity. Each of the subscales includes detailed items comprising 18 areas whose quality is assessed by the researcher/observer on a 7-point scale, where 1 = inadequate, 3 = minimal, 5 = good, and 7 = excellent. The authors of the ECERS-E formulated detailed recommendations for the researcher/observers to ensure the objectivity, reliability, and accuracy of measuring the quality of a child’s educational environment. The guidelines include preparing for observations, maintaining objectivity,

and very detailed comments explaining the scoring system. The ECERS, ECERS-R, and ECERS-E are widely used in many countries around the world, including the USA, Great Britain, Denmark, Germany, Kazakhstan, Japan, Portugal, Russia, Sweden, Spain, and Ukraine (FPG Child Development Institute, 2022). In Poland, researchers rarely use this tool (e.g., Gindrich, 2009, 2012, 2018).

The results of the quantitative research were subjected to statistical analysis using the IBM software program SPSS; basic descriptive statistics were calculated, including means, standard deviation, and significance tests. The content analysis method (Krzystek, 2018; Miles & Huberman, 1994; Strauss & Corbin, 1998) was used to analyze data collected through unstructured interviews. Statements from 33 teachers employed in preschool institutions located in urban and rural areas of the Lublin voivodeship (eastern Poland) were systematized and organized. The data was collected from November 2021 to the end of April 2022. The interviews were completed when the theoretical saturation was achieved: common threads began to emerge from the collected data, and subsequent information did not add anything new. The interviews were recorded (audio) and transcribed. The research material was processed in accordance with the principles of modern qualitative data analysis (Denzin & Lincoln, 1998). The thematic analysis was carried out with the use of the software program MAXQDA. After compiling a list of the most common themes, we attempted to interpret them in order to find their common meaning.

The implementation of the project began with sending inquiries to preschool institutions in eastern Poland about the possibility of conducting research on their premises. A total of 101 institutions responded to the request, but due to the pandemic-related restrictions, the resulting research sample consisted of 47 preschools, including 19 from rural areas and 28 from urban areas. The participants were 90 teachers and 752 children from the oldest preschool groups. The research was carried out by trained pedagogical students from November 2021 to April 2022.

Ethical Considerations

Bearing in mind good ethical practices concerning researchers, research participants, scientists, and professional practitioners (British Educational Research Association, 2018), on October 25, 2021, the completed research project was approved by the Ethics and Scientific Research Committee of Maria Curie-Skłodowska University in Lublin (application no. 9/2021). The project does not involve minors and does not include psychological or medical risk factors for the respondents. Before the research, permission was granted by the head teachers of the preschool institutions involved. The participants were informed that participation in the research was voluntary and that there would be no consequences for refusal at any stage of the process. Moreover, we ensured them that the research results would be confidential, that the personal data of teachers would not be disseminated in a way that would identify the preschools or individuals, and that the data would only be processed for the purpose of scientific analysis.

Findings

A. The quality of education in selected Polish preschools during the COVID-19 pandemic

Our first research question concerned diagnosing the quality of education in selected Polish preschools during the COVID-19 pandemic. The analysis conducted with the ECERS-E scale showed that the average quality of everyday life of children in Polish preschools during the COVID-19 pandemic was in the range of 4–5 ($M = 4.41$).

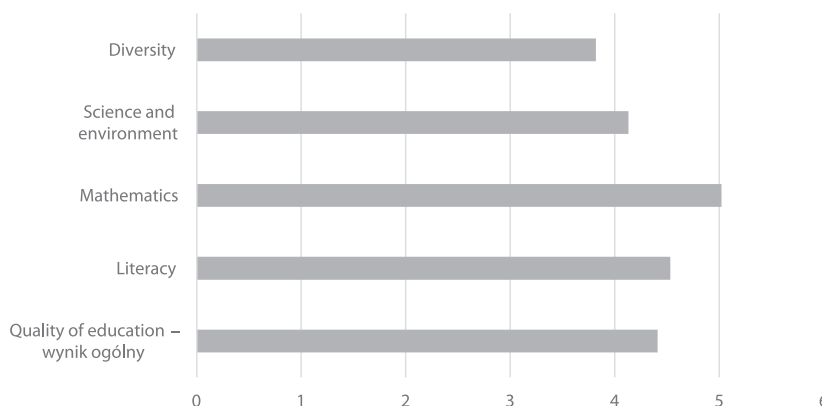
Half of the surveyed facilities had at least a good quality of everyday life, while the other half achieved results indicating a much lower quality of everyday life ($Me = 4.94$). The highest results among the selected preschools were recorded for the mathematics subscale ($M = 5.02$). Half of the institutions achieved results equal to or higher than 5.67 on this subscale. The lowest results were obtained for the diversity subscale ($M = 3.82$); half of the preschools scored lower than

or equal to 4. Moreover, for the science and environment subscale, nearly a quarter of the surveyed institutions obtained a score lower than or equal to 2.20, which proves that in 25% of preschools, the quality of classes in this subject was lower than the minimum. Detailed data, including basic descriptive statistics – means, medians, standard deviation, minimum and maximum values, and lower and upper quartiles – concerning the overall scores and scores for the individual subscales are presented in Table 1. Figure 1 is a graphical representation of the results.

**Table 1. Quality of everyday life in Polish preschools,
 by individual subscale**

	M	Me	SD	Min.	Max.	Lower quartile	Upper quartile
Quality of everyday life, total score	4.41	4.94	1.66	1.00	7.00	3.56	5.44
Literacy	4.53	5.00	1.70	1.00	7.00	3.67	5.67
Mathematics	5.02	5.67	1.97	1.00	7.00	3.75	6.50
Science and environment	4.13	4.50	1.81	1.00	7.00	2.20	4.50
Diversity	3.82	4.00	1.73	1.00	7.00	2.67	4.67

**Figure 1. Quality of everyday life in Polish preschools,
 by individual subscale**



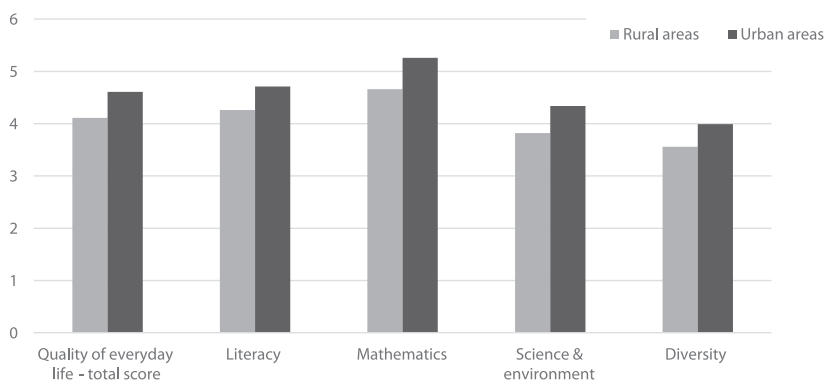
B. Differences in the quality of education offered to children in rural and urban preschool institutions during the COVID-19 pandemic

In this study, we also aimed to check whether the environment (rural vs. urban) is a factor that significantly differentiated the level of quality of everyday life in Polish preschools during the COVID-19 pandemic. The analysis was performed using Student's t-test for independent samples. The results show lower scores, both in terms of the general quality of everyday life and for all subscales in rural facilities compared to municipal facilities. However, these differences were not statistically significant (Table 2, Figure 2). Moreover, as shown in Table 2 and Figure 2, the highest scores were on the mathematics subscale, while the lowest scores in both the rural and urban schools were on the diversity subscale.

Table 2. Quality of everyday life of preschool children in Polish educational institutions, depending on the environment (rural vs. urban)

	Rural areas (n = 19)		Urban areas (n = 28)				95% CI		Cohen's <i>d</i>
	M	SD	M	SD	T	p	LL	UL	
Quality of everyday life, total score	4.11	1.45	4.61	1.79	-1.02	0.311	-1.50	0.49	0.30
Literacy	4.26	1.53	4.71	1.80	-0.89	0.377	-1.47	0.57	0.27
Mathematics	4.66	2.00	5.26	1.95	-1.03	0.309	-1.78	0.58	0.31
Science & environment	3.82	1.49	4.34	2.00	-0.96	0.342	-1.60	0.57	0.29
Diversity	3.56	1.40	3.99	1.93	-0.83	0.412	-1.46	0.61	0.25

**Figure 2. Quality of everyday life of preschool children
in selected Polish educational institutions,
depending on the environment (rural vs. urban)**



C. Components of the subscales according to the location of the preschool institution during the COVID-19 pandemic

Table 3 presents the basic descriptive statistics (means, medians, standard deviation, minimum and maximum values, and lower and upper quartiles) for the general quality of everyday life score and the results on individual subscales, separately for rural and urban preschools. The data show that in rural institutions, the maximum score (7 points) was obtained only on the mathematics subscale, whereas in urban preschools, maximum scores were achieved on each of the subscales and for the total score. In urban schools, more than half of the preschools recorded at least good results (>5) for both the total score for the quality of everyday life and the dimensions of literacy, mathematics, and science and environment. Among rural institutions, at least good results for the total score for the quality of everyday life as well as for science and environment were achieved in only about a quarter of them.

Table 3. Quality of everyday life and individual subscales in Polish preschools, depending on the type of environment (rural vs. urban)

Rural areas							
	M	Me	SD	Min.	Max.	Lower quartile	Upper quartile
Quality of everyday life, total score	4.11	4.56	1.45	1.25	6.33	3.56	5.00
Literacy	4.26	4.67	1.53	1.00	6.33	3.50	5.33
Mathematics	4.66	5.50	2.00	1.00	7.00	2.50	6.33
Science and environment	3.82	4.00	1.49	1.33	6.20	2.20	5.00
Diversity	3.56	4.00	1.40	1.00	6.67	3.00	4.00
Urban areas							
	M	Me	SD	Min.	Max.	Lower quartile	Upper quartile
Quality of everyday life, total score	4.61	5.16	1.79	1.00	7.00	3.41	5.61
Literacy	4.71	5.08	1.80	1.00	7.00	3.75	5.83
Mathematics	5.26	5.75	1.95	1.00	7.00	5.00	6.75
Science and environment	4.34	5.00	2.00	1.00	7.00	2.30	5.55
Diversity	3.99	4.00	1.93	1.00	7.00	2.42	5.50

D. Teachers facing changes in the everyday life of preschool institutions in Poland caused by the COVID-19 pandemic

To investigate teachers' opinions about changes in education and childcare during the COVID-19 pandemic, we asked them to participate in unstructured interviews (N = 33). This method allowed us to gather data on how teachers perceive and understand the reality they experience (Charmaz, 2006, p. XVII). The interview questions were open-ended, encouraging the interviewees to make longer statements and share experiences and emotions and allowing the researchers to learn how the participants construct their opinions and perspectives. Sample questions included the following: "What are your experiences with day-to-day preschool life during the

COVID-19 pandemic?," "What do you think about education and childcare during the pandemic?," "Which of the changes introduced during the pandemic are worth continuing?," and "What did the pandemic take away and what did you miss the most in your everyday life during COVID-19?"

Five key themes emerged from the analysis of the teachers' statements: 1) arrangement of the physical space in the preschool, 2) safety and health, 3) new forms of conducting classes, 4) relationships among teachers, between teachers and parents, between teachers and children, and among children, and 5) teachers' reflections and professional development.

There are many differences between the categories, but they share the fact that in both the countryside and the city, pandemic-related changes in ECEC institutions resulted in negative as well as positive reflections. This aligns with the theory of crisis behavior (Dzięgielewski & Jacinto, 2015; James & Gilliland, 2017). In terms of how physical space is arranged, according to the respondents, removing many toys from the rooms inspired the children to think and act creatively and to search for unusual solutions; it also triggered initiative and strengthened children's cognitive curiosity and independence.

Almost all teachers saw several advantages related to safety and health (e.g., more frequent hand washing, covering mouths and noses with a bent elbow or a handkerchief when sneezing and coughing, using disinfectants, and not touching one's eyes, nose, and mouth), although some disadvantages were also noted. The collected data show that the pandemic violated children's sense of safety and significantly worsened their health, especially mental health, in both the city and the countryside. For example: "The current pandemic situation introduces a lot of mess and chaos; everything has become uncertain, which causes frustration in teachers who can't achieve their intended goals. But it also has many side effects on the children's psyche, since children found themselves in a new reality and their sense of security is often seriously disturbed" (urban teacher); "The number

of children receiving psychological and pedagogical help is increasing, because they can't master the curriculum material necessary to complete primary school (a lot of absences). Emotional problems in children – tearfulness, anxiety, over-agitation, and educational problems" (rural teacher).

In terms of the teaching methods, the teachers generally expressed negative opinions about distance learning. Recurring themes were a lack of adequate equipment and competences to conduct online classes and a lack of the expected results. Parents' limited abilities, both financial and didactic, were also exposed. Among the negative opinions, there were also some positive ones: For some teachers, it was an advantage to go outdoors more often during classes.

The respondents were very critical of their contact with parents. As they stated, these were mainly quick conversations when dropping off or picking up children, since in most schools, parents were not allowed to enter the building. In a few cases, despite the established rules, parents did not follow the sanitary regime. The respondents mentioned other methods of communicating with parents: telephone calls, online register messages, online meetings, and social media. In individual cases, contact was very limited, as parents did not answer the phone or respond to emails.

Relationships among the teachers were assessed as "fairly good." Most of the respondents noted the lack of face-to-face meetings and events that created a special atmosphere and gave them a chance to hold longer conversations and get to know each other. According to teachers, contact among children deteriorated, both in and outside of the classroom. The following statement was very telling: "The pandemic has changed us a lot and our relationships with other people; it has broken our routine. It's a difficult time for the children and for us" (rural teacher).

The interviews show that although the pandemic disrupted traditional education and care, it also mobilized people to reflect more deeply and take tangible actions. The need to switch to remote education, according to the respondents, forced them to improve their

qualifications in this area, which translated into the development of professional competences. Apart from deep losses, the pandemic made it possible to see the political, economic, and educational alternatives more clearly. It also showed many challenges and paved the way for new experiences that – according to the respondents – proved to be child-friendly and should be maintained after the pandemic.

Discussion

Access to high-quality educational and health services is the basic factor of children's optimal development, functioning, and well-being, parallel to the functioning of the family and society. According to experts, depriving children of the use of these services significantly limits the development of their potential. In March 2020, the COVID-19 pandemic sparked a worldwide wave of preschool and school closings. A Supreme Audit Office report on Polish schools published at the end of 2021 (Najwyższa Izba Kontroli, 2021) revealed a lower quality of education, deeper educational inequalities, and deteriorating psychophysical condition of students and teachers during the COVID-19 epidemic. According to the Supreme Audit Office, the lack of systemic solutions that would provide schools with optimal conditions for stable didactic work had a negative impact on the educational process. The failure to define the standards of distance or hybrid teaching left it to schools to decide how to implement didactic activities on their own. Their report encouraged us to conduct research in preschool institutions that were not involved in the official audit.

In the case of the youngest children, ECEC has become a stage of education at high risk, as children in early and middle childhood have much fewer opportunities to engage in distance learning, cope with stress, and comply with health and safety measures than older children. Preschools were faced with many questions: how to deal with the new situation, how to continue providing high-quality education and care, how to cooperate with families, how to protect the most vulnerable children, which

health and safety regulations must be respected, and how to manage their employees.

This project was aimed at diagnosing the quality of education and childcare in preschools in rural and urban areas during the COVID-19 pandemic. The quantitative data collected with the use of the ECERS showed that the quality of early childhood education and care in selected Polish preschool institutions during the pandemic was average. These results are mainly related to the location of the preschool (city vs. countryside). The differences revealed in the research provoke reflection and raise the need to address the challenge of improving the development and well-being of children in crisis situations. Overall, 50% of the surveyed institutions showed at least good quality of everyday life, while the other half achieved results indicating a much lower quality of everyday life ($Me = 4.94$). The highest scores among the surveyed preschools were recorded for the mathematics subscale ($M = 5.02$), on which half of the institutions obtained scores equal to or higher than 5.67. The lowest scores were for the diversity subscale ($M = 3.82$). Half of the preschools obtained scores lower than or equal to 4 in this area. In the science and environment subscale, nearly a quarter of the surveyed preschools obtained a result lower than or equal to 2.20, which means that in 25% of them, the quality of these classes was lower than the minimum. It seems that in preschools, as in schools, the lack of a systematic approach to distance education, insufficient training for teachers in conducting online lessons, a lack of relationships with peers, and cases of the digital exclusion of children call for developing an optimal model for school and preschool functioning in the event of an epidemic (Jaskulska et al., 2020; Bielecka & Dudzik, 2021; Wyczółkowska, 2022).

The results of the qualitative research illustrate the assumption known in the social sciences that when everyday routines fail, the world of everyday life ceases to be accepted without reservations and becomes the subject of reflection (Berger & Luckmann, 1991). Since the pandemic was described by the respondents as a “disturbance of balance” or “a disturbance of the daily order based on routine,” this time was subjected to two types of reflection. On the one hand, the respondents

saw it as an opportunity to creatively re-evaluate and rework patterns of actions and the resulting strategies for coping with the new reality. On the other hand, the fact that this reflectiveness was triggered from the outside and was reactive in nature makes it appear as an obligatory task that cannot be avoided. As a result, the process of reflecting on everyday life in preschools, triggered by the pandemic, seems to be one of the symptoms of the instability and loss of sense of security during the pandemic (Giddens, 1991). The need to be safe accompanies human beings at every stage of life – from fetal life to death – and this need increases in new, sudden, and life-threatening situations, like the COVID-19 pandemic (Kozioński, 2011, p. 25).

Conclusions

The lack of a systemic approach to distance education, the insufficient support for teachers conducting online lessons, and the cases of digital exclusion of students all show the need to create an optimal model for the functioning of schools in an epidemic. In accordance with the recommendations of the scientific community (Najwyższa Izba Kontroli, 2022), it should ensure a balance between the requirements of the sanitary regime and activities protecting the mental health of students, teachers, and parents.

The data collected in the research, in addition to indicating problematic areas, also uncovered those which constitute resources. Identifying these areas can help in designing appropriate, evidence-based public policy and interventions (Cartwright & Hardie, 2012; Davies et al., 2000).

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