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Editorial

The subject of ability and creativity is taken up in various scientific contexts. This multitude, however, does not limit the scope of research; on the contrary, scientists find more and more new problems that are worth exploring due to the cultural and social changes taking place.

Over the few past decades, we have observed a transition from a psychometric approach to ability through a systemic one, to the most current, a developmental (also called transactional) approach. Within the framework of modern theories of ability, the process of forming perfection has become more important. In addition to one's predispositions, conditions for achieving excellence are favorable circumstances and a supportive environment. When presenting their extensive models of abilities, researchers such as Francis Gagné, Rena Subotnik, and Jonathan Plucker try to capture those factors that are most significant in the formation of talents. Currently, that kind of perceiving that matter is especially important for pedagogy. That the importance of a person's cognitive potential is still emphasized, at the same time it is assumed that intelligence is one of many elements that contribute to the development of a young person's abilities. Therefore, psychologists and educators have different approaches to the issue: Psychologists prefer a psychometric approach, which allows talented people to be identified in psychological and pedagogical clinics, while educators attach greater importance to motivations and achievements, in particular those that occur in the educational space. Educators are closer to the egalitarian approach to ability, as it shows opportunities to empower students through appropriate interactions. The belief that it is possible to shape the potential of a young person through the right atmosphere, commitment, and stimuli for the family and school environment is deeply humanistic and provides a sense of agency to teachers, parents, and their pupils. At the same time, this belief opens up new ways of methodological and

cognitive research for scientists, which will allow them to study the determinants of the development of abilities. These pedagogical beliefs and needs are reflected in the research presented in this issue.

In the first part, which contains thematic articles, important issues in the fields of pedagogy of abilities, psychology of abilities, the social sciences, and the methodology of research on abilities and gifted students are discussed. There are also biographical threads of famous talented people. Despite the many articles and books in the literature on the subject, they are still relevant for educators, scientists, parents, and directors – mainly because talented students are capable in our country a group that is often overlooked or underestimated as part of the proper and beneficial functioning of public schools, which are still the dominant form of education in Poland. In the theoretical part, attention is paid to the profile of a talented student, taking into account the context in which they are found, the extent of their talents, achievements, and creativity, the support shown to them, and the nature of their interests. There is no shortage of analysis on students' assessments of their abilities, or more precisely, how they perceive geniuses. An extremely important issue of the emotional and social development of talented people and their contribution primarily to the development of the school and the local community was raised. The articles distinguish that a teacher who works with talented students and shows the family as the primary place of development of talented students. It was also pointed out that talented individuals are stereotyped.

The articles presented in this issue of the journal show the complexity of the issues of abilities and creativity and they draw attention to the fact that there is a constant need for further research in these areas. The diversity of topics taken up in these articles leaves the reader with a certain insufficiency and the feeling that another area worth scientific exploration is opening up.

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Thematic Articles

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Narrative Interviewing in Research on the Education of Talented Learners Based on the Own Previous Research

Abstract

The main goal of this article is to demonstrate the significant value of using narrative interviews in research on the education of talented learners. The authors decided to highlight the value of such research in the case of a specific group of learners. However, it might prove valuable to mention the special features of that method and some challenges that can appear in such research.

The authors investigate the importance of applying narrative inquiry, especially narrative interviewing, in research on talented individuals. As for the research approach, it is embedded in qualitative methods. The authors present a retrospective secondary analysis based on their previous research into talented people's experience of education, from an approach of both writer and reviewer.

The introduction contains an outline of the subject of the text. Then, a description of narrative interviews and of talented learners is presented. The research method is also characterized. The previous results regarding talented learners' experience of education are presented. Finally, the research results and recommendations for research practice are provided.

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The narrative interview technique proved to be a suitable method for the social sciences. It is appropriate for research on talented learners and their experiences within the educational process. Thanks to narrative interviews, researchers can reveal many important matters, such as learners' intellectual talents and accomplishments, their relationships with themselves and other people, and some important common patterns of their functioning, such as perfectionism or non-conformism. Moreover, the research material can very rich and researchers can interpret it in very interesting ways so that the readers (educators and parents) can understand this particular group of learners and provide them with a convenient, conducive educational environment. The final section consists of some possibilities for researchers who want to use narrative interviewing as a method of research. The authors suggest obtaining some psychological and interpretative skills and building good relationships with the narrators.

Keywords: narrative research, narrative interview, narrative, narrative researcher, narrator

Introduction

In the American, English, French, and Polish literature on the subject of the qualitative method, many authors address the theme of narrative inquiry (e.g., Wacheux, 1996; Elliott, 2005; Ward, 2003; Clandinin, 2006, 2007; Rubacha, 2008; Soroko, 2009; Norman & Lincoln, 2009; Bertaux, 2010; Kubinowski, 2010; Wertz et al., 2011; Kvale, 2012; Nowak-Dziemianowicz, 2016; Mertova &Webster, 2020; Caine et al., 2022). Moreover, the issues regarding talented learners are presented (Kamińska, 2021). However, using the narrative method in research on talented learners is a rather new perspective. This makes it useful and interesting, especially in terms of the social and emotional areas of some research. It is already known that the qualitative method, including narrative interviewing, is an integral part of the social sciences. The researchers who are also psychologists and pedagogues adjust the social sciences to reveal the deeper context of many matters of human beings, such as relationships, behavior, feelings,

self-awareness etc. The article constitutes a reflection on previous research. After about six months or so have passed, authors can take a fresh look at their research and can draw current, different, and advanced conclusions, from the perspective of both writer and reviewer. Such an approach might be effective and convenient for other authors who wish to use this method on a group of talented learners or other specific groups of learners.

Selected aspects of narrative interviewing

Narrative interviewing is one of the seven most popular strategies for research in the social sciences (along with phenomenology, ethnography, case research, grounded theory, research in action, and discourse analysis). Narration is a life experience that is verbally depicted, organized in the correct order, and which gives meaning to the events being described. It takes place at a given time and in a specific social situation. Thus, it is characterized by temporality and causality (Elliott, 2005). The biographical method is an analysis of the narrator's story about the events they have experienced. The researcher initiates the discourse. The narrator has complete freedom in interpreting the facts (Wacheux, 1996). This article focuses on a contemporary narrative interview. The authors emphasize the fact that a narrative is a joint effort between the narrator and the researcher. Narratives contain emotions, thoughts, and interpretations. They are very unique.

The more common use of narrative inquiries is associated with a philosophical change, including individuality, which nowadays is perceived as a value. By adjusting their narrative inquiry, researchers can deal with very complex human-centered matters. It is possible to show a broader and deeper context of tasks; a holistic point of view can be obtained. If the narrators are teachers, parents, or students, they can study matters connected to education. Its strengths and shortcomings can be revealed, which is very important for educators. From a broader perspective, narrative inquiries show the story of human consciousness and thoughts (Mertova &Webster, 2020).

Narration is both a method and a phenomenon. It can be helpful in understanding a person's individual behavior or social issues. The meeting of the researcher and the narrator is dynamic; it can bring about a change in their relationship, self-perception, and social outlook. A particular atmosphere is created during the meeting that is very unique and therefore allows one to produce unique research material (Clandinin, 2007).

Since the introduction of narrative interviewing into empirical research, the biographical approach has developed significantly. This refers to all studies in which a life history appears as a medium for studying individual paths of development or the achievements of the subjects under study. A life story is based on the narration of the subject when trying to give an account of their experiences. Through narration, each person builds their own identity, through which they want to be recognized. The idea is history, which is the whole life of the narrator, starting with their birth or perhaps even with the history of their parents, family traditions, and customs. It describes the inner life and actions of the individual, as well as the interpersonal and social context in which they find themselves (Bertaux, 2010). A person's narrative is rooted in the broader social context in which that person lives. Therefore, it is related to a certain philosophy chosen by that particular society and community. The teller is situated in a larger setting, which determines their choices and the way they tell their story (Caine et al., 2022).

People understand their lives through the prism of their story, binding individual events into a coherent plot. In the individual stories that are told, personal threads of other people, communities, and even societies are interwoven. Therefore, the narration is natural for the narrators. Also, it is a popular activity among researchers, one that is associated with the desire to understand someone's perspective on life. Narrative research is grounded in phenomenology, hermeneutics, ethnography, and literary analysis. It is symbolic and psychoanalytical. What distinguishes it from quantitative research is the fact that the research material is represented in words and that it is used for the benefit of understanding humankind's deep and complex nature (Wertz et al., 2011).

The narrative and the self-narrative have gained the name of narrative research (narrative inquiry) and are classified as a qualitative approach. A narrative is recognized as a product (narrative story), which is a configuration of events over time. It consists of three main parts (beginning, development, and ending). Events and actions are related temporally, intentionally, and through cause and effect; their configuration expresses the way that the author interprets the events. Self-narrative (e.g., one's life story or some aspect of it), as a product, is the narrator's story about themselves. Narration as a process, on the other hand, is the act of telling other people or oneself (internal dialogue) about events in order to give them meaning. The process of self-narration can be defined as integrating heterogeneous knowledge about oneself in a narrative way (Soroko, 2009).

The subject of a narrative interview can be the whole life of the narrator, in which case it is a biographical interview. The researcher can reconstruct the meanings that the subject gives to reality about different content, at different levels (cognitive, emotional, and moral), and due to diverse contexts. Biographical interviews are not conducted so as to reconstruct someone's biography, but to construct an answer to the question that guides the study. For this reason, a biographical or narrative interview provides much more extensive material than a researcher can use. However, the point is to see the variables under study from a broader perspective (Rubacha, 2008). Narrative research is an activity that places the observer in the world of the narrator. It consists of a set of interpretative, material practices that make the world visible (Denzin & Lincoln, 2017).

A person's life experience can be understood thanks to a narrative. It gives the researcher insight into how the person constructs the world of their life and how they perceive what happens to them. Moreover, thanks to narrative discourse, the researcher can find something unique in the person's activity, not what is common and popular (Nowak-Dziemianowicz, 2016).

Narratives allow the researcher to investigate the motivations, attitudes, and aspirations of other people, as well as the elements that play an important role in the individual's life. It makes it possible to handle

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consecutive events and provide information about how a given individual copes with the situation of social changes. The narrator, recalling their past, attempts to reconstruct their biography. It is also significant that the narration allows the researcher to understand all manifestations of human actions – from their individual and social conditions to individual and collective consequences – showing the relationship between the individual and their environment (Denzin & Lincoln, 2017).

Moreover, narratives are perceived as a separate form of discourse because they are a retrospective construction of meanings. They can be valuable to the narrator because of their shape and they can organize past experiences. They can become a way of understanding one's own and others' actions (Kubinowski, 2010).

Narrative intelligence is described by the following five characteristics: equality, interdependence, community, participation, and integrity. Equality means that both the researcher and the narrator influence the course of the study. Interdependence means that both the researcher and the narrator can change their mind. Community is connected with the atmosphere of the meeting, which determines the bond between the participants and decides to a significant extent the course of the study and the quality of its results. The last category, integrity, relates to the fact that the participants of the dialogue involve many factors in it, such as their way of thinking, views, attitudes, and the world of values (Jacob, 2003).

Narrative interviews focus on the stories that are told by the narrators. These stories may appear spontaneously during an interview or they may be provoked by the researcher. Interview as a narrative is associated with an emphasis on its social and semantic formation. With knowledge of narrative structures, a researcher can also take care of the development of time sequences, focus on who is the hero of the story, and capture the main plot, the elements of tension, conflicts, and solutions (Kvale, 2007).

Narrative research has three dimensions. The first is the interpersonal dimension, which takes into account the interactions between the researcher and the narrator. The second is the temporal dimension, which is based on the continuity of the past, present, and future. The third is the

spatial dimension, which is related to the fact that each experience occurs in a specific place, environment, and context (Clandinin, 2006).

The important fact is that there is a close relationship resulting from the common subject of interest between pedagogy and biographical research. Educational and didactic activities always have a personal dimension. Education is a form of accompaniment in biography and thus constructs the biographies of individuals. In the life stories that are told, one can recognize the results of pedagogical processes and educational interactions; the activity of educators (parents and teachers) therefore also falls within the scope of interest. The paradoxes of pedagogical interventions, the differences between the official goals and education programs, and the individual experiences of learners are evident. All this means that working with autobiographical material which adopts the perspective of the participants in the educational process changes the perspective on pedagogical practice (Jacob, 2003).

Description of talented learners

From a psychological perspective, even though talented learners are eloquent, read extensively (possess and use rich vocabulary), and learn very quickly (faster than an average student their age), they sometimes cannot cope with their strong emotions. They are highly sensitive people. Some talented learners are perfectionists and many are non-conformists. They are imaginative and original. They obtain very good academic results and win competitions. Generally, they are recognized as top students and amazing people. They show their passion to learn a great deal. Some of them are great leaders, charismatic friends, and effective and assertive communicators. Some of them are shy and isolated. The teachers that are not prepared to work with them claim that they ask too many questions, are too independent, or are even rebellious. They can spend hours cultivating their interests and passions. To conclude, talented learners are different. They vary from other students and each other. However, there are some common characteristic patterns of their

functioning, such as the intrinsic motivation to learn, an ambition to be the best at school, and work (Kamińska, 2021).

Previous research on talented learners – Using secondary data

This study follows the interpretative paradigm and qualitative methods. It involves highly talented learners who passed the graduation exam with a nearly perfect score (98% or 99%). The narrative interviews were used to discover the educational experiences of talented learners. The subject of that inquiry is the narrative interview used in the case of the education of that specific group of learners (Kamińska, 2021). The experience was an occasion for deeper reflection on such research.

The research method

Qualitative methods are used in the article. A reflective analysis of the previous research of the authors on talented people's experience of education is presented, from the perspective of both a writer and a reviewer. The authors adjusted the second analysis of the data that is useful and appropriate for qualitative research and narrative inquiry (Zamawe, 2015).

The aim of the article is to show the value of using narrative interviewing in research on the education of talented learners. The main research question was "What are the values of narrative interviewing in research on the education of talented learners?" Other specific questions were also connected to the main question:

"Does narrative interviewing depict the intellectual capabilities and scholastic success of talented learners?"

"Does narrative interviewing show the social and emotional patterns (relationships and their emotions/feelings) of talented learners?"

"Does narrative interviewing reveal the specific, common psychological/pedagogical categories of the functioning of talented learners?"

"Is narrative interviewing useful to provide educators with a better understanding of such learners?"

"Does narrative interviewing allow researchers to individualize their research?"

The results and conclusions

To answer the main research question, the role of narrative interviewing in research on talented learners is significant. It proved to be a very effective qualitative method. Authors can receive valuable research material and be able to draw novel conclusions, including the outcomes for future research practice.

As for the specific questions, the authors found that the narratives fully revealed intellectual talents. The subjects talked about their school and academic success, such as their awards in competitions. They demonstrated their eloquence and rich vocabulary during the interviews.

The narrators revealed the main patterns of their relationships with themselves and with other people (siblings, parents, teachers, and friends). They showed their attitude toward their relatives and educators. They talked at length about their emotions and social situations that were sometimes challenging and stressful. They seemed to be quite aware of their feelings and emotional state. Some of them declared that they were able to cope with difficult emotions. A minority of them claimed that they had had a demanding life experience that changed their approach toward their priorities and values.

The research material obtained through the narrative interviews contained much essential information connected to narrative codes, such as perfectionism or non-conformism. Such crucial data could not have been obtained through quantitative methods. Thanks to this method, the readers (parents and educators) were able to identify the life stories of the talented learners and to accept their behavior. They were able to learn more about their special educational needs and to adjust the learning environment.

In the process of analysis, some important matters regarding narrative interviewing appeared in connection with the authors' previous research on the experience of education of talented learners. First of all, thanks to that method they obtained some unique, original, and outstanding research material that would not have been possible using a standardized survey (quantitative method), for example. The narrators revealed very interesting, personal details from their lives. The narratives were both personal and diverse. In the authors' research, there were nine narrators and the plot of each narrative was different.

Moreover, a researcher can perceive more significant elements of behavior, body language, and tone of voice. This leads to a better understanding of the narrators and a richer analysis. Using qualitative methods such as narrative interviewing, a researcher can make their own subjective interpretation; this is an advantage of this method. However, the researcher should not overinterpret the research material. The researcher becomes a narrator themselves. The narrator and the researcher are combined, immersed in a common story. They make that story up together and for a time they have a special relationship. In the case of two other people, this relationship would be different. The researcher initiates that meeting, relationship, and narrative. They invite the narrators to confide in them.

The narrative can be therapeutic, especially for the narrators. They can show their true feelings and emotions, reveal their opinions about important matters, and tell more about their lives. They do not have to hide these facts any longer. They get the attention of the researcher. The narrators from the previous research emphasized that the narratives helped them release some tension and understand themselves better. The narrative is a kind of inimitable performance.

As for the process of interpreting the research material, the researcher read some specific structures and terms of the subject to reach deeper levels of meaning. Moreover, they search for some peculiar, common narrative codes, symbols, and traces. These give the narratives a "common denominator" – situating them on common ground. However, one should not perceive this as a generalization.

The narrators are creative. No two narratives are the same. As for the process of narration, a narrator is asked a general question, for example, "How was your educational path?" Then, they weave their original story. It depends on them which threads they wish to build and which facts they decide to omit. Furthermore, the whole process of research using narrative interviewing is innovative. During the narration, both the researcher and the narrator are in a productive process of creation. The researcher should be aware that meeting with the narrator can be very influential. Through this dialogue, they might change their mind, opinions, and perception on the subject matter. The researcher also influences the narrator. To conclude, they can discover knowledge and find solutions.

Moreover, based on the data collected and analyzed, the researcher can construct new research questions establishing unexplored areas of study. The research of someone's life story using narrative interviewing might go beyond the case of the narrator. Due to their individual history, the researcher can find an area that is much more universal.

Recommendations for future research

First of all, there are some significant steps of narrative interviewing: preparing for the research, finding narrators that are suitable for the research, building a relationship with the narrators, conducting the interviews, preparing the interpretation, and interpreting and weaving together the results. All of these steps are essential; they should occur in the given order. As for preparing for the research, the researcher has to study the literature on the subject so as to know it very well. It is not very easy to locate narrators, but it is possible. They should know the subject of the research before they agree to participate. They ought to be informed that the research is anonymous and helpful for educators. The researcher should hold the interview in a convenient and peaceful place. The narrators need time to develop their stories. Preparing for the interpretation is quite a long process, in which the researcher listens to the recordings of the interviews and then reads the transcripts. They determine the most meaningful plots

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and try to find the "narratives codes," or common patterns. The conclusions should be extensive, original, and significant.

At the beginning of such research, the researcher should realize how important their role in it is. Their awareness of their personal story, talents, boundaries, and difficulties is very important. The researcher faces the challenge of answering some significant questions concerning one's perception of the world and the potentiality of its recognition.

One of the most relevant issues in narrative interviewing is a suitable relationship with the narrators. The more authentic, understanding, and patient the researcher is, the more effective the narrative becomes. The researcher should create a suitable environment and atmosphere during the interview. This is quite a demanding task, so they should have some specific psychological and pedagogical abilities.

Moreover, one should remember that certain questions can stir up difficult or even traumatic memories for the narrators, so they should be considerate and gentle. The researcher is obliged to know themselves very well and to control their reactions to difficult facts and tasks. They should be aware of any demanding situations from their own past. The researcher should be a good listener and should not ask too many additional questions. The main initial question is enough. This opens up a space for a particular story and the creativity of the narrators.

The researchers should be perceptive in order to trace specific narrative codes and to reveal new subject matter. First of all, they should possess profound knowledge about the subject of the research. They should be particularly interested in it. Furthermore, recognizing the uniqueness of the human psyche is a great advantage.

Some other tips for the researcher would be to remember that their role is complementary in the relationship with the narrator. The research is not closed. The best way to obtain research material is during a face-to-face meeting with a narrator (not online or over the telephone). The researcher ought to have an "observation diary" in which to write down details immediately after the meeting.

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How Do You Picture a Genius? Children's Images of Outstanding People

Abstract

The aim of the research is to investigate children's ideas about outstanding people (geniuses). Three research questions were posed to 38 children aged 8–9 years: How do children imagine a genius? What gender do they identify with a genius? and What are the emotions of the genius they imagine? The research used the projection method, in which the children were asked to draw a genius and to add a description to the drawing. Qualitative analysis was conducted on the results; the codes and categories appearing in the drawings and descriptions were identified.

The research showed that children envision geniuses as both men and women (women although less frequently); in one case, it was said that a genius is everyone. Most often they were seen as scientists, but athletes, historical figures, characters from fairy tale or advertisements, or ordinary real people were described as well. The characters drawn by the children were mostly positive: attractive, elegant, and active. Only a few features testified to negative emotions accompanying the idea of a genius: being ridiculed, helpless, or disliked. The children's conceptions of geniuses indicated that

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they are people (not traits) who stand out from others with their actions, appearance, and achievements and are more likely to be a man. These findings require further investigation, particularly in the context of creating labels and stereotypes about above-average people and the outstanding capabilities of women and men.

Keywords: childhood imagination, genius, outstanding people, projection method

Introduction
The meaning of the word *genius*

The concept of genius is rooted in antiquity. It signified the guardian deity of a person or a place; in late antiquity, there was a distinction between a good genius (or white, *genius albus*) and an evil genius (or black, *genius ater*). Over the centuries, this concept took on a new dimension: In the 18th century, it signified an innate ability to produce wonderful works, obtained without learning or knowledge of crafts (Kopaliński, 1985; Szenajch, 2013). In the 19th century, Cesare Lambroso (2015) searched for analogies between genius and insanity, analyzing the importance of race and heredity. In turn, Francis Galton recognized that genius denotes outstanding abilities that largely depend on an inherited sensitivity and energy (Limont, 2010).

Nowadays, *genius* means both a person and outstanding abilities (Dictionary of the Polish language n. d.). It is a blurred concept that refers to people with outstanding abilities and creativity. Such people are unique and the effects of their activities are revolutionary (Limont, 2010). They are highly productive, original, and creative in a given field (Simonton, 2010). Genius combines a high level of intelligence with originality, while creativity is essential in the achievements of geniuses (Eynseck, 1995). Genius is judged according to cultural norms, which change. The actions, works, and achievements of outstanding people are judged by mediocre people, while perhaps those who can appropriately make such judgments should also be considered geniuses (Robertson, 2008).

Dean K. Simonton (2010) points out that genius manifests itself in artistry, creativity with a capital "C," leadership (religious, military, political, or entrepreneurial), and proficiency in certain fields, such as chess or sports. This concept is used in many contexts, including dramatic genius (outstanding playwrights), military, political, and economic genius (rulers and leaders), human genius (masterpieces), or musical genius (outstanding composers). Genius may include all spheres of human activity (Szenajch, 2013). Thus, it becomes a term with ambiguous connotations: The genius of evil defines totalitarian leaders, "the backwards genius" describes someone who has done something so bad that it is good (as the director Ed Wood was called), and "genius as if" is a person who imitates others wonderfully. Moreover, genius has also been transferred to the world of technology – computer genius refers to artificial intelligence (Simonton, 2010) – and to the world of plants and animals (there are publications whose titles contain such terms as plant genius, animal genius, canine genius, etc.).

The far-reaching democratization of the concept of genius has brought it to the world of pop culture, meaning something which someone is good at. The concept has been simplified and become synonymous with the result of practice; thus, there are guides with tips on how to become a genius or how to educate a child to make them brilliant. There are also several products on the market that bear this term. These are dietary supplements, games, diet and mind guides, toy kits, and more – all of which, can turn someone who uses them into a genius. According to Piotr Szenajch (2013), in colloquial, school, and even scientific contexts, genius has become something that can change through effort – as opposed to features that cannot be changed and are "dependent on biological or supernatural factors" (p. 29).

Imagination and its development in children

Imagination[1] is the mind's ability to generate mental images[2] of reality that resemble perceptions and appear in the absence of their real counterparts received by one's senses (Maruszewski 2001; Nęcka et al., 2008). Many scientific disciplines deal with various aspects of imagination (including psychology, pedagogy, philosophy, sociology, biology, and neurophysiology), but they always emphasize its constructive nature in human life (Górniewicz, 1995).

Traditionally, reproductive and creative imagination is distinguished in the psychological and pedagogical literature. The reproductive imagination is associated with recalling from memory and is responsible for creating previously perceived objects (reconstruction of memory traces), while the creative imagination – related to thinking, intelligence, and emotional processes – is understood as the ability to create in the mind completely new images, objects which have never been seen or events based on past observations which have been significantly modified (cf. Górniewicz, 1989; Limont, 1996; Nęcka et al., 2008; Jankowska, 2018).

Both genes and the environment influence the development of the imagination. Many factors can shape it (accelerate or inhibit it): memory, concentration, perceptiveness, thinking, and manual and linguistic skills. The child's own cognitive activity is important, where temperament plays a major role. Other factors include the child's physical activity, moral and social maturity (especially interpersonal communication skills), moral and social development. It is also worth mentioning the attitude of their social environment toward their creative activities (Górniewicz, 1991; Guzy, 2019). It is worth pointing out that analyses of the biographies of eminent authors show that those who were isolated from the influence of school and peers during childhood had highly developed imaginative (visual-spatial) abilities (Limont, 1996). A child's imagination functions differently than an

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[1]   In psychology, it is also referred to as operational notions – visualization and internal imaging (Sztuka, 2010) – but also as fantasy or imagination (Limont, 1996).

[2]   Also referred to as visualizations, internal images, mental images (Sztuka, 2010), mental representations (Nęcka et al., 2008), or mind images (Górniewicz, 1991).

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adult's because of their different life experiences. It is believed that a child's imagination is richer than that of an adult. Childhood is the time when fantasy is most developed; with development, imagination and the power of fantasy wane (Vygotsky, 2004).

Józef Górniewicz, the pioneer of pedagogical analysis of imagination in Poland, distinguished the developmental stages of children's imagination, emphasizing that this development is abrupt – periods of marked acceleration are followed by periods of stagnation or even withdrawal – and that the stated age limits are arbitrary because each child's imagination develops individually. The first stage is between the ages of 1 and 3 years, when the imagination is reproductive and imitative. The second stage, between the ages of 3 and 6, sees the development of the creative and spontaneous imagination. In the third stage (6–9 years old), the imagination coexists with elements of rationality – spontaneity, creativity, and logical elements coexist with each other – while in the fourth stage (9–12 years old), rational superiority over the freedom of imagination is noticeable. The second period is considered to be the greatest bloom of children's imagination, dominated by spontaneity, freedom, and productivity of new images as well as the expressive way of exploring the world. At that time, a sharp increase in the imagination's productivity is also observed: The images are new, original, and numerous and the fictional world that children create is closed to others and impossible to observe from the outside (Górniewicz, 1991). This is confirmed by research from Dorota Maria Jankowska on the development of creative imagination in childhood, which indicates a lack of linearity and a particularly progressive period from the ages of 4 to 7 years, while its pace and dynamics during preschool education are significantly higher than at the start of elementary education (Jankowska, 2019).

The research on children's imagination to date has concerned creative imagination (Limont, 1994, 1996; Jankowska, 2019; Pędzich & Łukasiewicz-Wieleba, 2020), images of people, concepts, objects, and landscapes (Cin, 2004; Niesporek-Szamburska, 2013; Schubert, 2014; Guzy, 2019; Jelinek, 2020; Trahorsch & Trhlíková, 2021), and perceptions and attitudes toward national minorities (Weigl, 1999; Łukaszewski, 2006) and toward the school environment (Jovchelovitch et al., 2017).

The method

The present study is in line with the research tradition known as grounded theory (Glaser & Strauss, 2009; Silverman, 2009; Glinka & Czakon, 2021) and is intended to develop new knowledge regarding children's conceptions of outstanding people. Three research questions were formulated: How do children imagine a genius? What gender do they identify with a genius? What are the emotions of the genius they imagine?

The projection method was used. The participants were asked to make a drawing and to briefly describe it according to the following instructions:

"How do you picture a genius? Who is he or she? What does he or she look like? What characterizes him or her? Make a drawing of a genius. Try to make your drawing represent your ideas, not your friend's. After completing the drawing, explain why you think this is what a genius looks like."

This method was chosen because children transform their experiences mainly through drawing and drawing becomes a form of communication for them (Tyszkowa, 1993). At the same time, children's drawings provide plenty of information about their experiences and the projection drawing method can be used as a "tool to learn about a child's emotions" (Braun-Gałkowska, 2016, p. 47), within which drawing is a "projection of seeing oneself and others" (p. 62).

The research was qualitative. The visual materials and descriptions obtained from children were analyzed in terms of the codes that appear in them, which were then grouped into categories describing the concept of genius.

Pilot studies were carried out in two classes of elementary school students. In total, 38 children (20 girls and 18 boys) aged 8 to 9 years participated in the study. In line with the principles of ethical scientific research, written consent was obtained from the children's parents. The study was conducted by teachers in order to provide the participants with optimal working conditions.

The results

In the process of analysis, the following categories concerning the concept of genius were identified: gender, identification with a character (historical or living), identification with a pop-culture character (from fairy tales, cartoons, games, toys, etc.), appearance, accessories, surroundings, and description.

1. The gender of a genius

The Polish word for *genius* functions in the masculine form. Most of the children (n=26) indicated that a genius is male (Figure 1). These children most often identified a genius with a scientist (n=10), characters from fairy tales, games, movies, or commercials (n=4), or ordinary men equipped with an attribute, such as a beard, glasses, or formal clothes (n=3). The respondents also indicated specific activities of a genius: making laptops, climbing heights, or being a racing champion or general (n=4).

Figure 1. Male representations of a genius

Eleven children identified geniuses with women (Figure 2). Two of them captioned their drawings with female generic varieties: she-genius

or she-scientist; the others used the masculine terms for genius or scientist. As in the case of male geniuses, the characters depicted were scientists (n=4), ordinary women (n=4), or fairy-tale or historical characters (n=1 each). One child indicated electronics as the field of a female genius's skill. In one case, the child indicated that everyone is a genius, drawing a class with a teacher and students instead of identifying it with any gender.

Figure 2. Female representations of a genius

2. Geniuses as historical figures

Relatively rarely, a genius was identified with a specific historical figure. Two children drew and named historical figures: Maria Skłodowska--Curie[3] and Józef Piłsudski.[4]

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[3] Maria Skłodowska-Curie (1867–1934) was a Polish chemist and physicist, the co-founder of the science of radioactivity, the author of pioneering works in nuclear physics and chemistry, and two-time winner of the Nobel Prize.

[4] Józef Piłsudski (1867–1935) was a politician, statesman, and Marshal of Poland.

Figure 3. Geniuses as historical figures:
Maria Skłodowska-Curie and Józef Piłsudski
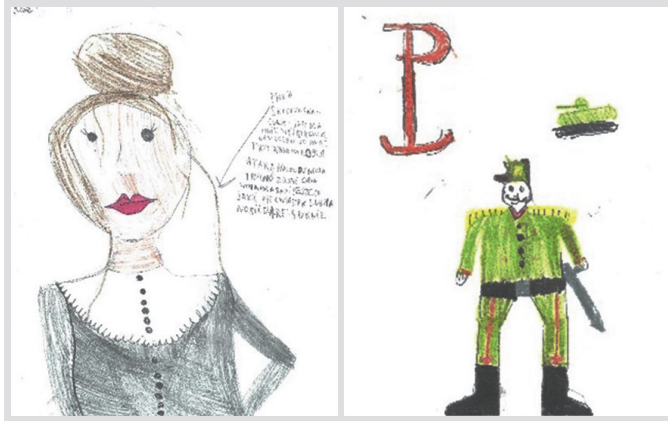
3. Geniuses as pop-culture characters

Among the characters produced by popular culture, the children indicated figures from Lego Ninjago blocks (n=2) and Axlotl (a Minecraft character), Iron Man (a character from comic books and movies), a doctor from an advertisement, and Hermione (a Harry Potter character) (n=1 each).

Figure 4. Genius as a product of popular culture, depicting Hermione,
Iron Man, and Scott (a character from Lego Ninjago)

4. The appearance of a genius

Men were most often presented as people wearing glasses (n=11) or a lab coat (n=7) or with a beard (n=6). In individual cases, the genius was dressed in a uniform, formal clothing, or clothes with many pockets, pins, labels, etc. The geniuses' hair was often wind-blown (n=7) and their pockets often had tools protruding from them (n=6). In four cases, the characters had a disproportionately large head; one of these had a visible brain. Four times the figure was drawn as a cartoon. Examples of the characters are presented in Figure 5.

Figure 5. The appearance of a male genius
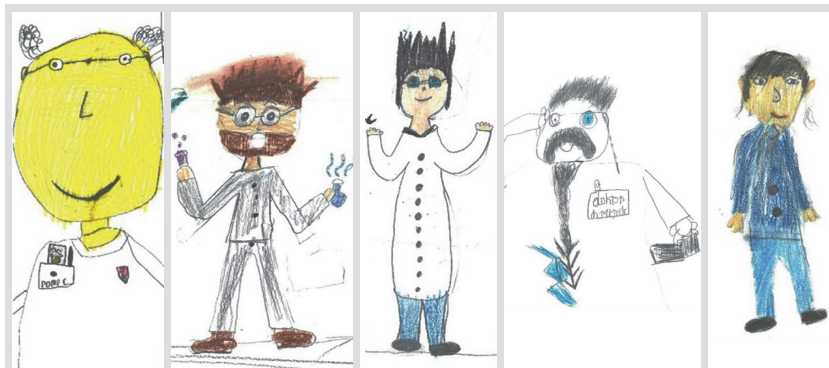
Female geniuses were usually dressed like scientists, in a lab coat (n=3), in traditional clothing (blouses and long skirts; n=3), or in old-fashioned clothing (n=1). The women in the pictures looked well-groomed: with long hair, loose or tied up (n=7), and carefully made up (n=4). Six of the women had glasses (or a monocle). Examples of the children's ideas are presented in Figure 6.

Figure 6. The appearance of a female genius

5. The surroundings of a genius

The characters were often drawn in portrait form, with no clear environment (n=15), in a laboratory (n=9), in a home (in a living room or kitchen; n=2), in a classroom or at school (n=2), or outdoors – on a training ground (n=2) or in nature (n=1). In individual cases, the characters were situated in a library or reading room, a race track, a world from a novel (Harry Potter), the sky (blue background with clouds), a laptop factory, or abstract elements in the surroundings. Figure 7 presents some examples that illustrate the surroundings of a genius.

Figure 7. The surroundings of a genius – in nature, a reading room, a laboratory, or a laptop factory, and a as portrait

6. Accessories and attributes

Surrounding the geniuses are various accessories, such as tables/desks (often packed with chemical accessories; n=11), test tubes (n=7), explosions (n=7), chairs (n=6), clouds/speech bubbles (with question marks, dialogue, or comments; n=5), lamps (often overhead, with very bright light; n=5), numbers (n=4), a clock on the wall (with clues; n=4), a blackboard in a classroom (n=3), desks in a classroom (n=2), kitchen or other equipment (n=2), weapons (a pistol or rifle; n=2), and the symbol of the underground Polish state (n=2). Individual works contained a dinosaur in an egg, a boat, cars, a tank, a podium, computers, a moon, a door, a window, flowers in a vase, a TV set, clothes on hangers, sheet music, a musical instrument, a cauldron over a fire, stars, a light bulb, patterns, abstract elements, magnifying lens , and books.

7. Descriptions of a genius

When describing a male genius, the children focused on skills/traits, appearance, achievements, potentially negative traits, and other words. They most often used the term genius, in two cases scientist, and in a single case each: nerd, general, mad scientist, and professor. Among the skills or qualities of a genius, the children mentioned the following: smart, likes to read and learn, counts well, writes well, has good eyesight, likes potions, likes explosions, agile, is knowledgeable, makes laptops, and discovered a new species of dinosaur. Six children indicated a genius's achievements: made super armor, was a racing champion, was an explorer, freed Poland from captivity, made an invisible base, and climbs great heights.

Seven children drew attention to the appearance of a male genius in their descriptions, saying that he wears glasses and a lab coat, has a (brown) beard, has a certain expression, is similar to a scientist, is well-dressed, has a blue coat and blue eyes, or carries a magnifying glass. Two children pointed to negative aspects. One noted that he has no family or that his family is far away and he does not have time to take care of himself; another mentioned that he has vision problems. These are descriptions saturated with a negative emotional charge.

In turn, when describing female geniuses, they most often used the term genius (n=7); in individual cases, the terms scientist, female genius, she-scientist, nerd, and friend were used. Two children indicated the qualities of a genius, such as nice, friendly, wise, likeable, and genius. The third category of description was the type of activities: The woman has a lot on her mind, is always doing something, invents different things, likes to help others, likes to work with electronics, has cool ideas, has a solution for every worry, learns a lot, and invented radium and was awarded a Nobel Prize. Seven people used these categories of description.

8. Other conceptions of a genius

Some other images of a genius (Figure 8) depicted imaginary characters: with a huge head filled with cerebral ganglia or as a stereotypical "mad scientist" (n=3). One of the children identified a genius as a nerd who is disliked and ridiculed by others, a momma's boy who cares about good grades. Also, one child said that everyone is a genius, illustrating his statement with an active school class solving a math problem with the teacher.

**Figure 8. Other conceptions of a genius: everyone is a genius,
an imaginary figure with a visible brain, and a genius-nerd**

Discussion

The research showed a great variety of ideas about the concept of a genius. The children's drawings showed both men and women, real and fictional people, and described them positively and negatively. There were figures representing various fields – primarily science, but also leadership, sports, and military. A genius is therefore a person who stands out from others with their features, behavior, and appearance.

For the first question, "How do children imagine a genius?" there was a great variety in terms of appearance, surroundings, accessories, and descriptions. There were elements among them that symbolized scientific interests, as well as ones unrelated to science (e.g., weapons, a clock, or classroom equipment). It is evident that children try to "tame" the concept of a genius by surrounding them with elements that are known and dear to them.

Children gain a lot of information through the media (Niesporek-Szamburska, 2013), and the figure of geniuses also appears in mass culture. For example, an analysis of Western films found that they contain the message that high intelligence and genius belong to men. This is also reflected in films aimed at children (Galvez et al., 2019), which in turn also translate into children's artwork, in which genius is identified with characters from fairy tales, movies, books, and games.

The research has shown that in the children's drawings and descriptions, the predominant identification of the notion of genius with a man is associated with skills and achievements. Many attributes related to the world of science were featured along with them, which proves the indirect relationship between a genius and a high level of intellect. In turn, women were described by their activities and features; attributes that testify to wisdom appeared less often than in the drawings of male geniuses and the women were more often associated with elegance, beauty, and warmth. This coincides with the findings that genius – a high level of the abilities necessary for scientific achievement – is stereotypically the domain of men, and empathy that of women (Storage et al., 2020).

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Children are susceptible to information that they draw from their social environment: family, kindergarten/school, and the media. They try to critically process this content (Niesporek-Szamburska, 2013). From an early age, through the family and cultural transmission of the society in which they were born, they learn to identify the characteristics of a given gender. Initially, these stereotypes relate to toys or colors (Serbin et al., 2001). However, over the years, children also establish attitudes toward traits such as status and abilities. The stereotype that associates gender with genius appears in children as early as the age of 5–6 years; in one study, children more often indicated that genius is a feature of (white) men (Bian et al., 2017), while older students used the term "brilliant" more often for men than for women (Storage et al., 2020). This also applies to peers: When indicating people who are wise, children chose their own gender first, which is developmentally conditioned, and then boys (Bian et al., 2018a).

Another study on students found that they described their male lecturers as a genius 2–3 times more often than women in fields that require a high level of intelligence (Storage et al., 2016). This tendency also continues among adults: a high level of intellectual abilities (brilliance) is more often ascribed to men, which discourages the efforts of women striving to pursue careers in given fields. Thus, although there is a belief that men and women are equally intelligent, it is also recognized that men are more likely to be brilliant (Bian et al., 2017). Because children learn from adults, they accept what adults say as the truth and imitate them (Niesporek-Szamburska, 2013).

However, another reason that children more often portray geniuses as men may be because of language. In Polish, personal names are mainly differentiated into masculine and feminine forms (Latos, 2020). However, a large proportion of nouns function in the linguistic space in the masculine form. This applies primarily to the names of professions (e.g., lawyer or driver), public functions (e.g., prime minister or president), scientific titles (e.g., professor or M.A.), or military personnel (e.g., general or officer) – in particular those which enjoy social prestige and are traditionally equated with the male domain. These include the terms genius or scientist.

As Agnieszka Latos (2020) notes, this linguistic reality was shaped by a non-linguistic reality in which "the asymmetry of the social, professional, and public position of a woman in relation to that of a man has long dominated. This asymmetry is only being eliminated in modern times by gradual social changes of an equal nature" (pp. 231–232), which in the linguistic space translates into a clear tendency to create and use feminine forms.

With regard to which emotions accompany children in their perceptions of extraordinary people, it was established that positive feelings prevailed. Such labels as "gifted" or "talented" distinguish an individual from their peers (Łukasiewicz-Wieleba, 2018). Also, the term "nerd," meaning a student who achieves a lot in school, is a way of distinguishing an individual and their academic achievement from a group. In two cases among the participants of this study, a genius was identified as a nerd, which has both positive and a negative connotations. Although the characters most often drawn by the children were portrayed positively, in several cases the children showed the downsides of being a genius, including neglect, ridicule, and a lack of sympathy from other people. More often, male geniuses were marked by negative emotions. This shows the potential dangers of the stereotypical labels that are attributed to outstanding individuals.

Children build theories based on intuition and imagine characters and the world, trying to understand it better. Even young children develop a stereotypical image of the world; the information they acquire is potentially unfavorable for some of them, in particular those that link achievements with belonging to a social category (e.g., related to gender) (Cimpian et al., 2012). Stereotypes are inflexible and resistant to changes, but also have meaning in the face of specific situations: they trigger actions and emotions (Niesporek-Szamburska, 2013). This is important in the context of Carol Dweck's research (2021), which notes that the mindset that one has a natural and unchanging talent is related to the level of achievement of young people. Children who were told that success in a given field is associated with a specific group (e.g., gender) were less persistent in their pursuit of success (Cimpian et al., 2012),

recognizing that they have no influence on it. The earlier that children associated a genius with a man, the sooner intelligent girls withdrew from areas where intellect is necessary (Storage et al., 2020). Girls at the age of 6–7 years less often than boys chose activities that were described as requiring a high level of intelligence, but the gap narrowed when it came to activities suitable for those who try harder (Bian et al., 2017). Consequently, in adulthood, women were reluctant to pursue careers in those areas where a high level of intellectual abilities is a key condition for success, while for men this criterion was irrelevant . When deciding which career to pursue in their lives, they chose one that is culturally suited to women, rather than one that requires the brilliance of men. To exclude a possible future mismatch with their chosen profession and a potential lack of success, women give up on certain careers when deciding on their life path (Bian et al., 2018b).

In conclusion, a genius as conceived by the children in this study was a person (not a trait) who stands out from other people through their actions, appearance, and achievements; they were more often a man than a woman and were mostly marked by positive emotions. However, the research covered a relatively small group of children, so this issue requires further study, among older children as well.

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Women in Chess.
Education-Related Problems
During Talent Development Process[1]

Abstract

The aim of the paper is to identify the educational problems faced by Polish female chess grandmasters during the talent development process, i.e. the time required to win the highest women's title. A free-form, in-depth, qualitative interview method was used; the research tool was a guide prepared based on Françoys Gagné's Comprehensive Model of Talent Development (CMTD). The data was subjected to qualitative analysis: codes and categories relating to educational problems were applied to the interviews with 14 female chess grandmasters.

For female athletes, it is especially important to find a balance between school/academic life and sports practice. Women have much fewer opportunities to make a living from sports than men and are thus forced to prepare

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for other professions, which is tantamount to combining a sports career with getting an education. This situation can also be observed among female chess players. Additionally, women's performance in chess is significantly lower than men's. Thus, in the series of papers titled "Women in Chess. Problems…", an attempt was made to present female chess grandmasters in the context of hardships that significantly affected the development of their talent. This paper presents hardships related to education.

The study showed that most of the future female grandmasters experienced education-related hardship during secondary school, mainly due to absenteeism from school, poor attitudes of teachers, a lack of interest from the school in their successes, and a non-conformist attitude towards the rules of the school system. As a result of the analysis, it is suggested to disseminate knowledge throughout the school environment concerning the specific nature of chess as a sport discipline and to implement support programs for female and male students who practice it.

Keywords: educational problems, student athlete, student chess player, talent development process, female chess grandmasters

Introduction

In recent decades, social and political movements focusing on women have resulted in a growing understanding of them and their talents. As early as the 1980s and 1990s, the problem of talented girls was brought to the attention of Silverman (1986, 1991), who identified areas for action that would facilitate their potential development: education provided by parents and teachers, early identification of potential, an appropriate environment (talented peers), early entry into education, special programs for gifted and talented girls, career counseling, and conferences for gifted girls. At that time in the United States, there were already specialized intervention programs for gifted and talented girls (some of them also dedicated to their teachers, family, and friends), which aimed to highlight the importance of mathematics and science in their lives and to raise awareness of gender role stereotypes that may undermine their self-esteem and

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limit their achievements (e.g., REACH, Expanding Your Horizons, Multi-plying Options Subtracting Bias (MOSB), EQUALS, and FAMILY MATH) (Mc-Cormick & Wolf, 1993). However, to date, not enough research has been done to explain how women's talents are recognized and developed, whether they differ from men's talents, and what choices women make to utilize their talents (Reis, 2005). This is especially true in male-dominated fields where men perform significantly better, such as chess.

The series of articles called "Women in Chess. Problems…" attempts to present female chess grandmasters in the context of hardships that sig-nificantly impacted the development of their talent, and this instalment in the series addresses education-related hardship. Other articles include "Women in Chess. Gender Issues in the Talent Development Process" (Baum, 2022) and "Women in Chess. Family-Related Problems in the Process of Talent Development" (in press).

Practicing sports at a high level involves spending time mainly on career development (training, competitions, regeneration), so little time is left for other aspects of life, including education. Unfortunately, the reality facing athletes is such that most of them do not receive adequate com-pensation to make a living from sports and are often unable to rely on their financial resources after they retire (Stambulova et al., 2007; Aquilina, 2013; Menke & Germany, 2019). Girls are in an even more difficult situation in that regard. Because they have significantly fewer opportunities than men to practice sports at a professional level and to make a living from sports, they are forced to prepare for other professions, which is tantamount to com-bining a sports career with getting an education (Simons et al., 1999).

Within the Polish education system, the sport predispositions of chil-dren and adolescents can be developed in sports departments, sports schools and sports championship schools, which simultaneously follow the core curriculum of general education (see Baum & Łukasiewicz-Wie-leba, 2021). Chess is a sport discipline. According to the Act of 25 June 2010 on sport (2010), "sport is also considered to be competition based on intellectual activity, the purpose of which is to achieve sporting per-formance"; as a sport discipline, chess is first and foremost developed within sports clubs and in individual classes with coaches (see Baum

& Łukasiewicz-Wieleba, 2018). Chess players can fulfil their compulsory education at schools and sport departments, though the vast majority of them do so in mainstream institutions.

Chess players with significant achievements are treated as gifted people, while chess giftedness are a part of athletic giftedness. Siekańska pointed out that athletic giftedness "is an example of directional gifted-ness that fosters the formation of skills and development of competen-cies that enable success in sport" (2013, p. 20). However, it should be emphasized that the concepts of chess aptitude and chess talent have been used in the literature (e.g., Heller [2007, 2013]; Gagné [2004, 2016]). Gifted chess players may benefit from the rights provided to this group by the Education Law (Announcement of the Speaker…, 2021a), in par-ticular, an individual program or course of study,[2] psychological and ped-agogical assistance,[3] additional classes for developing interests and talents as well as activity and creativity, academic scholarships,[4] or com-petitions, contests, and subject tournaments.[5]

However, legal solutions are not sufficient for gifted students to func-tion properly at school while fully developing their talents. This depends on many factors that make up the climate of the school – or more broadly, the

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[2] Detailed conditions for granting and organizing such a program are specified in the Ordinance of the Minister of National Education of August 9, 2017 on the condi-tions and procedure for granting permission for an individual program and course of study and the organization of an individual program or course of study (2017).

[3] Detailed requirements for providing this assistance are specified in the Ordinance of the Minister of National Education on the principles of organizing and providing psy-chological and pedagogical assistance in public kindergartens, schools, and institu-tions (2020).

[4] Details are specified in the Decree of the Council of Ministers of June 14, 2005 on scholarships of the Prime Minister, the minister responsible for education and upbringing and the minister responsible for culture and protection of national heritage (2005) and the Decree of the Council of Ministers of January 3, 2019 amending the Ordinance on scholarships of the Prime Minister, the minister responsible for education and upbring-ing, and the minister responsible for culture and protection of national heritage (2019).

[5] Details are specified in the Ordinance of the Minister of National Education of August 18, 2017 amending the Ordinance on the organization and conducting of com-petitions, tournaments, and contests (2017).

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culture of the school – including the relationships between the various participants in the educational process (including parents), the features of education and upbringing (such as creating an environment that is conducive to developing interests and teachers supporting students), perceived physical and emotional safety, and the physical environment and resources of the school (see Przewłocka, 2015; Nowosad, 2018; Giza, 2019; Kamińska, 2021). As Kamińska (2019) noted, "a climate of respect for otherness and individual cognitive, emotional, and social needs is a prerequisite for creating an environment conducive to the unconstrained development of all participants of the educational process, including gifted students" (p. 55).

In the case of student athletes, understanding their individual needs seems especially important, as this group faces additional difficulties as a result of their training load and participation in competitions. Among the problems student athletes face are fear of success, identity conflict, social isolation, poor athletic performance, educational, career, or vocational problems (see Pinkerton et al., 2010), time management, lack of time to engage in learning, and factors such as proper nutrition or sleep (Rothschild-Checroune et al., 2013).

Practicing sports significantly reduces the time available for school work, which can consequently have a significant impact on academic achievement. However, according to a study conducted in Poland by Jurgielewicz-Urniaż (2008), time spent on sport positively influences school achievements: those who practiced a sport had better results in school than their peers, and the more time they spent on training, the better the results were. In addition, the study showed that the largest proportion of students with the best school performance were in the athletic group, which the researcher associated with their ability to manage leisure time and their greater discipline in exerting physical and mental effort. At the same time, significant differences in the school performance of student athletes in favor of the girls were found, a fact which was explained by boys being more involved in developing an interest in sport than girls and thus spending less time studying. Also, a study of student athletes conducted in the United States found that female athletes had higher grade point averages in high school and college than their male peers,

which the researchers linked to significantly fewer opportunities for women to practice sports at the professional level and thus needing to focus more on fulfilling their student roles (Simons et al., 1999).

On the other hand, from Baum and Luksiewicz-Wieleba's (2018) study of gifted chess players aged 8 to 14 and their parents, a positive picture emerges of student chess players; according to their parents, they mostly identify with school, are very ambitious regarding grades and academic performance, are not fearful or apprehensive about school, and usually have respectful and appreciative attitudes toward teachers. The self-esteem of the student athletes was similar to that of their parents: almost all of them claimed to care about their grades and considered themselves good students, were not afraid or apprehensive about school, and evaluated their teachers positively and felt appreciated by them. It should be noted that the girls had slightly more positive attitudes towards school (and learning) than the boys.

Research methodology

The aim of the study is to investigate the educational problems faced by female chess grandmasters during the development of their talent, which according to Françoys Gagné (2016) is defined as

> the systematic pursuit of a *talentee*, i.e., an individual with potential talent – over a sufficiently long period of time, as part of an established program of activities – that leads to a specific goal related to the achievement of excellence. The neologism *talentee* describes a person who is actively engaged in a systematic talent development program, regardless of area of activity. (p. 127)

i.e. the length of time required to win the highest female chess title.

A free, in-depth qualitative interview method was used, which provides direct access to the respondents' experiences and descriptions

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of the world (Kvale, 2012; Silverman, 2012). In accordance with research ethics, consent was obtained from the subjects to conduct and record the interview. The confidentiality of the study was guaranteed by anonymizing the people, places, and institutions, among other measures. The respondents were assigned codes (WGM_number) according to the order in which the interviews were conducted (Flick, 2012; Gibbs, 2015). All interviews were carried out by the author. The research tool was an interview guide that structured the interview process (Kvale, 2012) according to the selected theoretical framework, the Comprehensive Model of Talent Development (CMTD), by Françoys Gagné (2004). The illustrative interview guide questions that related to education were as follows: "What roles were played by the school and teachers in developing your chess talent?" "Have you enjoyed any special education programs?" "Did your teachers know that you are a chess player?" "Did they approve of your passion?"

The research presented herein follows the pattern of retrospective research and grows out of the tradition of symbolic interactionism, according to which "people are able to subject their own lives to reflection, enabling researchers to understand its object" (Flick, 2021, p. 139).

Characteristics of the study group

Interviews with 14 Polish female chess grandmasters were analyzed. At the time of the research, 14 women in Poland held the title of Woman Grandmaster (WGM). Three female grandmasters who had switched to the English, Czech, and German federations after their titles were conferred were also invited to participate in the study. Ultimately, 14 grandmasters were interviewed. At the time of the research, one held the title of Grandmaster (GM) and three held the title of International Master (IM), which are higher titles than Grandmaster. The study focused on the period before the interviewees became chess grandmaster.

The age of the interviewees ranged from 27 to 73 years. The chess talent development process lasted from 10 to 25 years, starting between 5 and 10 years of age and ending between the ages of 17 and 35. Almost

all respondents (n=12) came from a large city (over 100,000 inhabitants), one from a small town (less than 20,000 inhabitants), and one from a village. It should be noted that during the talent development process, some of them changed their place of residence, especially during university.

The educational experiences of the respondents included learning at an eight-year elementary school and a four-year high school (n=7); at a six-year elementary school, a three-year middle school, and a three-year high school (n=7); and at university (n=13). Most of the respondents (n=11) held a university degree, while the other three had a high school degree with only one WGM who never studied.

Results of the research

No themes were found in the statements of the three respondents that could be identified as problems related to education. On the other hand, all the respondents commented on the impact that school had on the development of their chess talent. Only three of them perceived a positive impact, while the other 11 either did not perceive such an impact:

> Chess was not affected by [education] because it was not needed at all (WGM_1)
> I don't have the sense that I was helped by science at some stage… I think it translated the other way around, that chess rather boosted the learning process at school. Whereas vice versa, it doesn't (WGM_5) –

or they noticed a negative impact:

> I don't think education had any impact on chess. I can't even say that it stimulated me; it was rather an impediment for me, because there are so many unnecessary classes that I haven't used so far, that I didn't like going to, and yet I had to – so I don't see any positive aspects here. Even chemistry, which I enjoyed very much:

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I don't feel that it would help me somehow with chess. Maybe to the extent that I had to use my brain all the time. (WGM_2)

One respondent emphasized that her chess development only accelerated significantly when her schooling ended. She described her experience in this way:

I was ranked higher straight away because I started to go through these zone and inter-zone tournaments as soon as I finished high school and I wasn't so preoccupied. That is, it was somehow important that it wasn't all at once. (WGM_1)

Almost all of the respondents' statements indicated that any education-related problems occurred in secondary school (high school). Only one respondent identified college as a time that was challenging for chess development:

At university … I had a lot of work and only two absences were allowed for each class. This was monitored closely and if you had more absences, you couldn't pass – and that's it. There was no mercy. It was nice that I played chess, everyone liked that I had a nice hobby. But I'm at university now, so chess has been reduced to periods when I can play: during vacations, of course, during holiday breaks, in-between sessions, and so on… When I had a little bit of money, I could also arrange to go to a tournament. (WGM_6)

Moving to a higher educational level often involves major changes, not only for students who reconcile their education with their sports careers. Particularly in high school, the demands on students increase significantly and the curriculum is more difficult. This is how the respondents described it:

The worst times I ever had were at high school…. It was a nightmare! (WGM_12)

> High school was a shock to me! It always seemed to me that I was talented and a good student, but I ended up in a group where everyone was talented and a good student …. My first class, first paper, in general I always got A`s – but here I got a D minus. (WGM_3)

A change of educational phase often results in inferior academic performance, which was noticed by one of the female grandmasters:

> Later, I attended a better junior high school and high schools and those grades fell. (WGM_4)

For those who pursue extracurricular passions, particularly sports, the main concerns are those related to absences from school, as evidenced by the chess grandmasters:

> I had a lot of chess tournaments away from home even in high school and learning at high school was tough for me while playing. (WGM_1)
> It was practically one trip after another. That's when I started doing my best, that's when I entered this senior chess phase, so it was tournament after tournament. Then there was coming back, catching up with everything, so I didn't have time for anything… I still had my final exams on my mind… no… It was such a hard time for me. (WGM_2)

All the respondents who perceived educational problems pointed to absences as a factor that generated many difficulties, including the need to make up overdue exams (which was not always required at the lower level of education):

> In that first year of high school it was a nightmare … Every week there were three tests … I went to a tournament and when I came back it wasn't like in middle school, because if I didn't

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take tests in middle school I didn't have to make them up, but it wasn't like that here. (WGM_3)

Sometimes the writing was done in bulk! The teacher gave three cards in a row. Still I was sitting on the side and you would either write or you would fail, to be done again on the next day … Well, you had to somehow manage! (WGM_6)

Studying the material discussed in class was another issue:

My teacher… was very demanding. And when I came here, … for two weeks during the summer I remember I didn't go anywhere, because I simply had to learn Polish…. Somehow I managed to pass, but I don't remember it very fondly. (WGM_14)

Sometimes, unfortunately, the backlog was so large that it was impossible to catch up, as one respondent described:

The problems were due to the backlog. I just wasn't able to catch up very often because I would come back from a tournament and I have to leave a week later for another one, for instance. Yes! Or I came back and there was so much work to do that I simply didn't know whether I was coming or going, and right away there was, for instance, a training camp or the Polish Chess Championships …. I was just going back and forth … I played chess non-stop! (WGM_12)

The physical inability to make up for the constant absences in some cases resulted in developing personal "remedies," as one respondent stated:

I didn't sleep at night! I have no idea how I survived that school! I had to have everything and if I didn't have something, it would trample me. Then I had to figure out a different system: I only studied the subjects I wanted to. I had to give up some of them altogether. (WGM_7)

As two of the respondents admitted, it was sometimes necessary for "third parties" to intervene at school (e.g., the father or the president of the chess club) in order to pass the year:

Daddy had to go to school and make some arrangements there, because unfortunately I found learning difficult. And I had problems in subjects that, despite appearances, shouldn't have been problematic. (WGM_14)
I remember that they threatened not to pass me, and I wouldn't go to the next grade. He had to ask the president of the chess club somewhere at the school to… Well you have a player and so on, well aren't you going to pass her? I was away for a long time. (WGM_12)

One respondent was able to rely on the school principal for support when the number of absences was too high, but she says it reflected negatively on the teachers' attitudes:

The school backed me up, the school accepted me – but you know the issue was still with certain teachers. Well that's what pissed them off, that I was favored by the school. So they still got it, yeah… They knew that here the director would want to, because he knew about the successes and would be favorable, so you have to show her here and let her know her place in the row, and yet she's constantly leaving and she's not there. (WGM_1)

The most severe consequence of the numerous absences from school was failing to pass the subject. This consequence was described by two respondents:

It was just that it was the end of May and they called me up for the competition [*Olympiada*] and I didn't have a grade in history, and the competition lasted for two weeks – ending … after the grades would be posted. So, it was a huge problem! And

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Creative, Gifted, Talented, and Prodigious Learners Across Contexts: School, Family, and Society/Community

THEMATIC ARTICLES

in the case of history classes, I did not pass and my final grade was an F! (WGM_12)

Probably my worst teacher, unfortunately in physical education, was because she really couldn't believe I could be at school (a very good high school, one of the best) and she couldn't be-lieve I was gone! She counted that I was more out than present at school. And I don't have an individual course and so she said how she'd read that such people are supposed to be unclassi-fied and she failed me for PE. (WGM_14)

One of the interviewed female grandmasters mentions that many of the arrears resulting from absences were in her case the reason for severe stress connected to going to school. This is how she describes it:

At secondary school I felt awful. It was simply too much stress. The moment you had to go to school, be stressed about math and wonder whether you would have to answer the questions in front of the class at the blackboard or not. But I didn't know any of the topics in math, because I hadn't touched it for three months …. Oh dear! If he asks me to approach the blackboard to quiz me I'll fail for sure. It wasn't fun …. Of course I was ambitious and I brought textbooks and notebooks along with me to the chess tournaments, but who has the time and inclination to learn from them?! (WGM_13)

Numerous tournaments away from home also generated other prob-lems, such as in developing educational passions, as highlighted by one of the respondents:

I adore learning foreign languages. I have always excelled at them. Once I was even in the final phase of the Russian Lan-guage Competition, which I couldn't go to because the Polish Chess Championships were at the same time…. In the same way, I was supposed to take the exit exam in Russian, but the

Chess Competition was at the same time, so I had to drop out. (WGM_4)

It should be noted that despite such significant attendance problems, only two future grandmasters benefited from an individual course of study (in high school). From the statements of two others, it appeared that such a solution could have been beneficial or was being considered.

Another group of problems was the inappropriate attitudes of teachers regarding the future female grandmasters or the sport they practice. The respondents indicated the lack of teachers' understanding of chess as a sport, was is significant even for physical education teachers:

Also these PE teachers, who would differ in the approach that chess is not a sport, why would they give a six… (WGM_5)

Teachers did not accept the numerous absences, and they emphasized the negative impact they had on class attendance:

The teachers did not like the fact that I was often absent from school. There was no understanding that this is how the sport is, that here the competitions don't just last a weekend. (WGM_5) The form teacher repeated at every turn that because of me the class had one of the lowest attendance rates. In fact, there were a lot of these chess tournaments away from home at the high school at that time. (WGM_8)

The teachers' negative attitudes towards the chess players were not only related to attendance. One of the female grandmasters read a particular teacher's dislike of her as a general dislike of athletes:

He hated athletes! He hated athletes and … it was the greatest punishment for him in general that he had to let me pass. (WGM_12)

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Another grandmaster saw this rooted in teachers' jealousy of travelling to distant parts of the world:

> I didn't realize… for instance, I went to India for two weeks for the world championships. I'm very happy, I go to school and say I was there, it was great – and those teachers just don't have the chance to go there. And perhaps it was also a bit my fault that I was too open-minded? I don't know... For most of these teachers it was just unpleasant that such a little brat comes here, travels around the world, and we have to give her credit. (WGM_14)

Another grandmaster believed that her teacher had treated chess as competition for the subject she taught:

> The chemistry teacher was very unhappy because the chemistry teacher wanted me to attend some kind of chemistry competition. At the end of the day, when she realized after the first form that I was away from home attending chess tournaments, she wasn't happy about it. (WGM_2)

The respondents also emphasized the reluctance of teachers of specific subjects, which was not necessarily caused by chess playing. This is how one interviewee described her experience:

> In Polish I had a persecutor of a teacher, who would exhaust me, and you could actually say that I would advance from class to class with cleverness, reading all the assigned books and tiring myself with all of it … Four years of torment! … I always had to pass the whole semester separately, as instructed by her. (WGM_1)

Among other issues emerging from the statements of the female grandmasters, those related to education were also identified as stemming from the respondents themselves. Internal disagreement with the rigid rules of the boarding school or the school as an educational institution,

which was mentioned by two of the respondents, constituted an additional difficulty when combining a professional career with the need to fulfill school duties:

> Someone arranged my schedule for me – what to do and at what time – and I don't quite like it … it's not for me anymore, especially because I have the impression that chess players are a bit pampered, pampered by life, and they find it hard later on when it comes to adjusting to something; they are so reluctant. (WGM_2) The school that I had to go to, that I had to get up at 7 a.m. for, and the eternal homework, the eternal catching up on that, learning something by heart…. That was boring, hard to understand, just no! Completely unnecessary to my life. I had absolutely no control over what I was learning, how I was learning, or why I was learning …. There were things that were fun to do and there were things that were so frustrating at school that – please, just not that! Well that's normal, that's how it is in education; you can't do what you want. (WGM_13)

The last problem identified in relation to schooling was the lack of interest in sports performance from both the form teacher and the school as a whole. This issue was raised by one respondent:

> It never happened that I came to school and the teacher asked, "How did you do? Did you get a cup or a medal?" I never took such a thing to school, because I knew that no one there would be interested in it …. Never during an assembly was there some kind of award for [such] achievements. (WGM_8)

Conclusions

Sports practice goes well beyond physical activity, or as in the case of chess, mental activity. It benefits in many other ways, including developing important qualities (leadership, commitment, mental health awareness),

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skills (teamwork, time management) but also teaches ethical behavior. All of them allow for effective development in other fields as well (Hacı- fazlıoğlu, 2021). Thus, sports can translate into success in the lives of those who play them, including education.

Student athletes, however, struggle with striking the right balance between school/academic life and sports practicing. They encounter specific problems, face specific challenges, hence need a completely different support system than their non-athlete peers (Comeaux et al., 2011).

Analyses of the statements made by the female chess grandmasters showed that most of them experienced education-related hardship. This hardship occurred most frequently in the secondary school (high school) phase and were mainly due to absences and the need to make up missed material, write tests and tests. Other severe consequences were the physical inability to cope with the backlog, experiencing severe stress related to attending classes completely unprepared, not being able to participate, for instance, in subject contests, or failing a subject and having to pass a classification exam[6]. Sometimes, female chess players developed their own informal solutions (dropping out of certain high-level subjects) or, also informally, their environment was involved (intervention at school by a parent or a chess club representative).

Problems with formal education, were also reported by the respondents of the study carried out by Bozkus (2014). Student athletes indicated that they failed their exams because they were not able to attend classes, which affected their level of education. As many as 87.9% of them called for the introduction of distance learning. The use of technological educational tools to keep student athletes in touch with school and classmates during absences is advocated by O'Neill et al. (2017).

Another disturbing group of difficulties identified on the basis of the statements of the female grandmasters interviewed were those related to inappropriate attitudes of teachers towards female chess players or

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[6] Details are specified in Art. 44k of the Announcement of the Speaker of the Sejm of the Republic of Poland of September 16, 2021 on the publication of the uniform text of the Act on the Educational System (2021).

sports in general - misunderstanding of the principles of chess as a sport (especially of PE teachers), treating chess as competition for the subject being taught, dislike of sports players, unfavorable attitudes towards numerous absences or jealousy.

The non-conformist attitude towards the rules of the school and its institutions, as well as the feeling that learning at school does not contribute in any way to chess development was a difficulty when combining the roles of a female student and a chess player.

The last problem that was diagnosed was the complete indifference of the school to the success of the student-chess player. In the context of Giza's statement, who notes that "In the school's culture, recognized and successful gifted students or outstanding graduates tend to occupy a special place, e.g., their achievements (diplomas, photos, awards) are publicly displayed" (2019, p. 28) this seems incomprehensible.

The solution to the educational problems that few of the respondents perceived retrospectively was to either drop out of a reputable school:

Probably I should have enrolled a high school ranked at lower position (...) It was difficult to combine with such away-from-home chess tournaments not having this individual tuition (WGM_14).

or take advantage of individual tuition system:

Perhaps individual tuition system would have been better for a chess player than such (...) It was tough, really tough! I believe that all chess players had this problem (WGM_7).
Probably now, if my parents saw that I was being guided like that, I would have been assigned to the individual tuition system, or I would just take a different high school, so as not to stress both those teachers and myself unnecessarily... (WGM_14).

Both solutions have their drawbacks in the case of female student athletes - the former deprives them of the opportunity for quality education, while the latter involves individual work on the curriculum, where

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good time management is essential, and loss of contact with school peers. In this context, it is worth citing Miller and Kerr's (2003) research which found that student athletes, due to their intensive training programs, tend to develop social contacts within clubs or sports classes. So their social interactions are limited to teammates and other athletes. Difficulties related to peer contact at school were also highlighted by the female grandmasters interviewed and this issue will be addressed in the consecutive paper.

Student athletes as a group experiencing specific educational problems need different solutions and support system than their peers who are not athletes. Unfortunately, Polish schools are often not prepared to provide such support, and the extracurricular needs of gifted students are not recognized or are treated marginally. In the context of the analyses carried out, it seems justified, on the one hand, to strive to disseminate in the school environment knowledge concerning the specific nature of chess as a sport. An important initiative that may contribute to a better understanding of the specifics of chess is the Polish Chess Federation's project Education through Chess at School (see Baum et. al., 2017) and the Club at School implemented within its framework (PZSzach, 2019) while promoting women in the sport – the World Chess Federation (FIDE) establishing 2022 as the "Year of the Woman in Chess" and related events (FIDE, 2022). On the other hand, following the example of other countries, to implement support programmes for pupils taking part in sport, e. g. programmes for student athletes (see Comeaux & Harrison, 2011; Grandy, 2016) even specific ones such as those coming from abroad (Newell, 2015) or those studying STEM (Grafnetterova et. al., 2021).

O'Neill et al. (2017) also note that mainstream schools should be encouraged to support talented athletes by adopting some of the strategies used by specialist schools and sports programmes. According to the authors, an athletes-friendly school should: provide a dedicated staff person to support the student athlete and a mentor from outside the school environment to raise the school community's awareness of the physical and emotional pressures experienced by the student athlete; implement an individualized approach to goal setting, time management training, and

school scheduling for athletic commitments; Organize regular meetings (teacher, parent, coach) to monitor potential problems; implement ICT (Information and Communication Technologies) tools to monitor athletes' physical and mental status at school and home and maintain contact with school and peers during absences. Valuable guidance in this respect has also been developed by the European Commission's Not Only Fair Play project, which aims to promote sport in schools (Not Only Fair Play, n.d.).

The student athlete must balance the demands of their sport with the demands of the school curriculum. This is particularly difficult at the higher stages of education, hence secondary schools and colleges should change their perception of sport and try to provide student athletes with as much support as possible. Understanding the nature of sports and the fact that it does not compete with schooling can significantly help with this challenge, making it easier for student athletes to succeed in both sport and academics.

The problems brought to the surface by the female chess grandmasters are of such importance that it is advisable to check these results with further investigation, on a larger (maybe international) sample.

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Social Activity of Outstanding Youths: SAPERE AUSO Scholarship Recipients

Abstract

In this article, the authors analyze the pro-societal activities of students who were awarded the SAPERE AUSO scholarship, which is given to students in Warsaw, Poland. The aim of this study was to investigate the scope of social activities undertaken by scholarship beneficiaries of the SAPERE AUSO Warsaw scholarship program. The analysis revealed that these students were socially active at school, in their local community and across the country. The research also showed that the students were willing to share their talents, trying to find a use for them in society. Another group of students was those with social skills: increased empathy, an aptitude for organizing work and events, and leadership skills. Such young people are socially active regardless of their educational achievements. This is particularly important for educators and local governments, as it guides thinking about the education of gifted students, not only in the context of academic achievement, but also social achievement.

Keywords: scholarship, gifted youth, SAPERE AUSO scholarship, social engagement, social skills

Introduction

The competence and social engagement of gifted students are particularly relevant in the context of existing stereotypes about gifted people's social problems. The different social functioning of gifted individuals may be related to their asynchronous development. It is not uncommon for them to develop at an accelerated rate in the intellectual sphere, while developing more slowly in the social and emotional sphere (Limont, 2010). Over the years, the young person perceives that they are different from their peers, which can foster isolation and reinforce their lack of self-acceptance (Cross & Coleman, 1993). Behaviors can become entrenched, especially if there is an atmosphere at school that reinforces resentment and even hostility toward the gifted (Limont, 2013). This is especially true for those whose area of ability is perceived as selfish and not benefiting the wider community (Geake & Gross, 2008) and for those who are successful on their own and who enjoy demonstrating their superiority in competitions (Udvari, 2000). Another problem may be the specialised language they use, which is not understood by their schoolmates (Delzell, 1998; Pfeiffer & Stocking, 2000). Social difficulties stem from the gifted individual's focus on their passions, educational success, pursuit of a school career, or experiences and aspirations in the area of giftedness.

Over the years, gifted individuals must deal with mutually exclusive needs: the desire for human contact, the fear of being alone and the boredom of those who are not gifted enough to become attractive partners for them (Gross, 1998). Thus, for some gifted individuals, social functioning that would be consistent with their needs and values must involve the risk of going beyond the available groups (Neihart, 1999) and often takes place outside the peer group in the classroom or school (Kamińska, 2021).

Referring to Kazimierz Dąbrowski's theory, which posits the existence of increased mental excitability of gifted people, we can characterize it as

having empathy, compassion, and sensitivity to the harm of others, as well as a sense of responsibility for others (Dąbrowski, 2021; Piechowski, 2015). Social skills are even recognized in children who efficiently plan and carry out various games and projects that involve others, lead groups in various activities, execute others' ideas well, and establish and maintain very good relationships with others (Łukasiewicz-Wieleba, 2018). Such attitudes persist throughout the developmental years. Social abilities may also be accompanied by talents in other areas. Social activities, particularly volunteering, contribute to young people's appreciation of work and commitment and foster an adequate sense of self-worth (Olszewski-Kubilius, 2008; Olszewski-Kubilius et al., 2015). Having highly developed social skills is a significant factor in building achievement, regardless of the ability domain (Olszewski-Kubilius et al., 2015).

Types of Scholarships Available Globally

Scholarships are most often associated with the academic activities of gifted students and with the support of those who remain in poor social circumstances. One of the scholarships offered to students at Warsaw schools is SAPERE AUSO, whose rules appreciate both outstanding academic achievements and social and creative achievements. The scholarships are divided into four key types (see Fig. 1). Regardless of the type, scholarships are understood as a form of financial support that need not be repaid. They are offered to students at different stages of their education, from secondary to postgraduate, and are often based on academic excellence, giftedness, talent, and leadership qualities. It is worth mentioning that scholarships are different than grants, though the two are occasionally used interchangeably; scholarships, unlike grants, are awarded based on merit or need, and not financial need alone. They do not require a student to fall within a specific socioeconomic category in order to be eligible.

Figure 1. Types of scholarships

Merit-based Awarded to students who exhibit high academic achievement, they prioritize rewarding talent over financial need but can also be given based on skills, giftedness, talents, etc.	**Needs-based** Awarded to students from disadvantaged socioeconomic backgrounds in need of financial assistance in order to complete their studies – certain academic or merit criteria must be met as well
Governmental Awarded to students who need help paying their tuition fees and other living expenses during and after their degree program – only for citizens of the country funding the scholarship	**University-funded** Funded through internal resources, alumni donations, etc., they are only offered to students pursuing courses at the university itself

TYPES OF SCHOLARSHIPS

Source: Based on Santra (2022)

International Scholarships

The meta-analysis by Campbell & Neff (2020) yielded interesting and salient results: in their analysis of studies on international scholarships, they found six rationales for providing scholarships to students from the Global South (see Fig. 2). Despite the study only focusing on international scholarships, these rationales can be used to understand scholarships for gifted and talented students, as well as for the general population of students.

The logic of conducting research among different groups of students can be attributed to Perna (2004, 2010), who suggested that the financial support provided by a scholarship had varying effects on student performance after enrolment. A study by Cosentino et al. (2019) found that the vast majority of Mastercard Foundation Scholars were vulnerable, disadvantaged, and underserved youth and that the financial support effectively improved access to universities and higher levels of study, as well as to programs abroad. These findings overlap with studies conducted in Mexico regarding the effects of scholarships and conditional cash transfers (de Hoyos et al., 2019). One element almost entirely missing from current research is the environmental impact of scholarships, as noted by Anne C. Campbell and Emelye Neff (they noted one exception: Campbell & Mawer, 2019).

Figure 2. Six primary and distinguishable rationales
for international scholarships

RATIONALES FOR SCHOLARSHIPS

Skills and knowledge acquisition	Diplomatic aims	Social change or social justice	International or sustainable development and as humanitarian aid	Internationalisation of universities	Providing access to higher education
Overseas education can be utilized in the home country for human capital development, i.e., advancing from the micro to the macro level (individual, workplace, community, country).	Educational exchange fosters and strengthens connections, trust, and familiarity between citizens of two countries, especially nations with a history of colonization.	Exposure to different cultures, policies, and perspectives abroad results in students returning with more progressive values and enacting change on behalf of marginalized or ostracized populations.	Overseas education helps the home country improve in those areas that need national development.	Diversity among students will create an exchange of experiences, knowledge, and perspectives at the university.	Location, especially in countries that do not provide much educational assistance or do not have developed programs, should not dictate the quality of education.

Source: Based on Campbell & Neff (2020)

SAPERE AUSO Scholarship System

The SAPERE AUSO scholarship is part of the "Warszawski System Wspierania Uzdolnionych" (Warsaw System of Support for the Talented) and is addressed to gifted students attending secondary schools in Warsaw who have well-established passions and achievements. Because they may refer to one specific discipline, there is no requirement to have a certain high school grade point average. The name of the SAPERE AUSO scholarship is a quotation from Horace meaning "have the courage to be wise," which is interpreted as a call to devote one's time and effort to studying and learning. The monetary scholarship has been awarded since 2008.

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The rules for granting the scholarship are regulated by Resolution No. XLVII/1463/2021 of the Council of the Capital City of Warsaw of April 15, 2021. The scholarship is addressed to students who had academic or social achievements in the year prior to applying. The main criteria for a scholarship to be granted are as follows: documented scientific research or creative achievements; outstanding international educational or creative achievements; winner or finalist of an *Olimpiada* competition or other tournament (regulated by a school); and community involvement and activity that benefits the school or local community. Supplemental criteria include following an individual program or course of study; participating in classes for gifted students at school; and winning an *Olimpiada* event or a nationwide competition. The criteria are formulated so as to give a chance to both students with advanced cognitive abilities and related achievements and those with creative or social achievements outside of school.

The headmaster of the school which the student attends or the student's parent or legal guardian may apply for the scholarship on the student's behalf, or the student themselves may apply if they are of age. The scholarships are awarded by the Mayor of the Capital City of Warsaw. The scholarships are very popular, as many students apply to the program each year.[7]

Methods

The aim of the research is to investigate the scope of social activities undertaken by beneficiaries of the SAPERE AUSO Warsaw scholarship program. The research problem was formulated as follows: What social activities for the school and local community are undertaken by youths awarded the SAPERE AUSO scholarship? The research method was document analysis: 229 successful applications of secondary school students from 2020 and 2021 were analyzed. The applications, without

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[7] For example, in the 2021–2022 period, 515 applications were accepted.

the applicants' personal data, were made available for research purposes by the Education Office of Warsaw City Hall. First, a quantitative analysis was performed to characterize the grantees. The findings were then subjected to qualitative analysis. An open coding strategy was used, in which the codes were extracted from the data instead of a ready-made list of codes (Gibbs, 2011). This led to the main categories of students' prosocial activities being identified.

Characteristics of Students Applying for SAPERE AUSO Scholarships

The applications from 153 boys (66.81%) and 76 girls (33.19%) were analyzed. Of these applications, 208 (90.83%) attended a general secondary school and 21 (9.17%) a technical secondary school. A total of 219 students (95.63%) were from public schools, while 10 (4.37%) were from non-public schools. These students received a wide range of grades in school (M=4.86; max=6.0; min=3).[8] In this group, 95 (41.48%) declared having documented academic achievements, 54 (23.58) international academic achievements (in competitions, *Olimpiada*, and other forms of competitions), and 21 (9.17%) had other documented international activities. A total of 127 students (55.46%) had documented academic achievements in Poland (in competitions, tournaments, and other forms of competition), 81 (35.27%) of whom were winners of *Olimpiada* competitions and other national tournaments. There were eight students (3.49%) who had completed individual learning programs or individual courses of study and four (1.75%) who were attending institutions of higher education. In the study group, 170 people (74.24%) volunteered at the school and in the local community.

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[8]　Students are graded on a scale from 1 to 6.

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Results

The analysis of the applications for SAPERE AUSO scholarships enabled us to conclude that the youths were engaged in social activities within their schools, for the local community, and further afield – even from all over Poland. The types of activities are presented according to this categorization (see Table 1).

Table 1. Summary of Main Themes and Activities

Themes	Activities
Activities related to the school community	School events; school promotion; cultural events; competitions; dissemination; conferences and scientific events; research and surveys; workshops and training programs; simulations; pro-citizenship; representing the school; volunteer activities; self-governance; school community; tutoring peers; pro-environmental; editorial; creative; recreational
Activities related to the local community	Cultural events; popularization; sports; workshops; civic; simulations; local government; educational; dissemination; volunteering
Activities related to society	Cultural events; simulations; civic; volunteering; informational; entrepreneurial; popularization; educational; cultural; patriotic

Activities Related to the School Community

The main category of school-related activity was organizational: (co-)organizing or promoting events, managing, being an organiser or being responsible for certain activities.

School events: assemblies, anniversaries, alumni reunions, fairs, festivals, National Education Days, school ball

School promotion: education fairs, *Perspektywy* Ranking Gala,[9] photographic reports from school events, radio and TV appearances, virtual open days, guided tours of the school museum, drone footage of the school

Cultural events: festivals (e.g., Scenic Open Art Festival, Unique Off Festival, theater festival ("12 minutes"), "WIFI-Cherry Festival of Initiatives,"

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[9] *Perspektywy* is a magazine that creates a yearly ranking of schools across all of Poland.

"Cool-TURA-Inne Dobro Young Talent Festival"), concerts, school cultural days, Amateur Art Events Café

Competitions: "Polmoot High School Moot Court Competition," Science Slam, Inter-School Local Government Knowledge Tournament, Computer Science Competition, Polmoot 2021 (High School Moot Court) tournament, Constitutional Court Tournament

Popularization: "Entrepreneurship training ground," Batory Talks (lectures by famous people and online broadcasts), Festival of Professions (presentation of professions by prominent people), presentation of research conducted by students (e.g., on mental crises)

Conferences and scientific events: "ImproVszkole" (Educational Innovation Conference), Warsaw Model United Nations, Mind Your Mind (dedicated to mental health among youths), Constitutional Week "My Constitution"

Research and surveys: questionnaires for teachers and students on effective education, questionnaire for students who have experienced a mental crisis and their guardians

Workshops and training programs: film editing, sound and camera work, 3D printing, self-presentation, computer PREOI, chemical workshops and demonstrations, algorithms.

Sports events: running, bicycle trips popularizing the history of the region

Simulations: sessions of the United Nations, parliamentary and presidential elections

Pro-citizenship: the high school team of the Street Law Clinic (for spreading democracy among youths), establishing a Law Club, School Human Rights Group

In addition to organizational activities, students worked for the benefit of their school or on its premises. Categories of such activities and examples are listed below.

Representing the school: "Domeyko&Wagner – Legacy" international campaign (the Ignacy Domeyko and Wladyslaw Wagner Stage Expedition Around the World), representing the school as a member of the

delegation in the National Congress of Chile, appearing at competitions and *Olimpiada*, appearing at Oxford and sparring debates

Volunteer activities: activities in the school volunteer group, collecting money and goods, bazaars for charity (e.g., for foundations, for sick children, for the homeless, for orphanages, "Szlachetna Paczka,"[10] or "Góra Grosza"[11]), writing letters for Amnesty International, helping retired teachers, promoting school volunteer work through social networking sites

Self-governance: representative of the class or school council, member of the school government, member of the school election committee, Warsaw Academy of Young Leaders[12] projects, Ombudsman for Students

School community: informing about domestic and foreign scholarships and helping students apply for them, informing about competitions and *Olimpiada* events, presentations to students about the U.S. Department of State's FLEX program,[13] hosting students and teachers from abroad (Erasmus+ program)

Peer tutoring: leading a "scientific circle" (philosophy, mathematics, or biology), leading a mechanical section in a robotics team, starting and leading a music band, leading a school football league, leading a school debating league, preparing a team for the Polish High School Debating Championships, peer tutoring in subjects (math, computer science, or physics), preparing a friend for a biology competition, translating texts from original sources (which were not available in Polish, for a philosophy competition)

Pro-environmental: dissemination of segregating recyclables, introducing paper cups and removing plastic cutlery from a store, raising

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[10] This volunteer event involves creating holiday packages for a family according to their declared needs (www. szlachetnapaczka.pl).

[11] Fundraiser for "Towarzystwo Nasz Dom," whose purpose is directing households for children in difficult family situations.

[12] This program is dedicated to young, active Varsovians who want to take part in existing tools and mechanisms for youth participation.

[13] This cultural exchange program allows students to spend a year in the USA.

awareness about multi-use water bottles, setting up and running a website where students can exchange used textbooks

Editorial: editing the school newspaper (KoperINK and Batorak), publishing a local government or school profile on the Internet, school TV (IgnaśTV) or radio station

Creative: directing performances ("Three Kings' Night" and "Balladyna"), performing in plays, creating music performances or school events

Recreational: creating a recreation corner for students, running a cafeteria

Activities related to the local community

The second category of activities reported by the students refers to the broader community, that is, to people, places, and institutions connected with their place of residence. Organizational activities also became evident within this category, including (co-)organizing, promoting, managing, performing, or being responsible for an activity.

Cultural events: music festivals, tournaments, film groups, meetings with cultural figures, discussion clubs, "12 Minutes" Inter-School Theater Festival, "All the Mazurkas of the World" Festival

Dissemination: "Bet on Entrepreneurship," the project "Diplomacy Action," Youth Forum of Geopolitics, Youth Forum of Young Lawyers

Sports: running in marathons

Workshops: mathematics

Civic: Forum of Young Social Democrats (a way for youths to work on local problems), Warsaw Volunteer Fair (allowing organizations and volunteers to connect)

Simulations: court proceedings of the Warsaw High School Moot Court

Other community activities for the local environment are listed below.

Local government: councilor or council chair, election committee member of the Youth District Council, or Youth Council of the City of Warsaw (or suburban towns), Youth ejmik of the Mazovia Province, participant in the Warsaw Academy of Young Leaders, member of the Warsaw

Educational Council,[14] participant in the Youth Council at the Józef Pił-
sudski Museum in Sulejówek

Civic: creating projects for the local community (e.g., workshops for sen-
iors, reducing smog, planting trees/flowers in the city, improving
infrastructure, creating "pocket parks"), participating in the Youth
Marathon of Writing Projects for the Civic Budget, cooperating with
MPs (social assistant), reporting irregularities in the city to the City
Contact Center

Educational: nature education (nature walks and workshops), participat-
ing in the "Share Your Talent" campaign (conducting lessons and
teaching various subjects to children from disadvantaged families
and seniors), Math Clinic (helping children of medical workers during
the pandemic with physics, mathematics, computer science, chem-
istry, or the humanities), the project "Antek and Pola in the land of
Polish language" (a free book for foreign language children to learn
Polish), "Knowledge to the Power" (tutoring immigrant children and
making teaching aids for extra-curricular activities)

Dissemination: dissemination of research reports, lectures, and meetings
on AIDS/HIV in Warsaw high schools, conducting information cam-
paigns (e.g., the "I am" campaign on mental health, the "#cheatout"
campaign on the negative aspects of unfair education and cheating,
or taking up the issues of communication exclusion, the environment,
discrimination of minorities, hate speech, or energy transition), "Re-
volt in Art" (dissemination and promotion of art created by teenagers),
popularization of classical music and orchestras, urban games, "Read-
ing is Cool" campaign, recording the film "Reading a Fairy Tale".

Volunteering: 1) cash and in-kind collections for charity campaigns (Christ-
mas Food Collection for the SOS Food Bank, Help the Children Survive
the Winter, Resourceful Santa, and Christmas Eve Neighborly Aid) or
for children from orphanages and animals from the shelter, 2) assis-
tance to the homeless and disabled, preparing Christmas meals for the

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14   This commission is dedicated to giving opinions and advice to the mayor of War-
saw related to the development of education in the city.

needy, singing carols for a social welfare home, serving as an assistant to the disabled, cleaning shelters for the homeless, participating in the "Medics on the street" campaign (medical assistance and dressing the homeless as a member of the youth rescue team, 3) assisting students in accessing student exchanges, helping children with their homework, and reading books to children, 4) leading sports activities for children, supporting sports events (e.g., refereeing or organizing), and renovating sport club's boats, 5) taking care of animals at the shelter, 6) cleaning books at the hospital, 7) repairing computer equipment, repairing bicycles at aid stations, and repairing and renovating old apartments, 8) during the pandemic, printing protective visors for medical workers, helping with the "Meal for a Medic" campaign or at vaccination centers, providing masks for hospitals, helping to prepare meals, and helping seniors through the District Support Team and "Visible Hand" campaign (distributing masks and delivering packages to seniors), 9) patriotic: cleaning up the graves of insurgents at the "Kiliński" battalion at Powązki Mili-tary Cemetery,[15] taking part in "Daffodils," a social and educational campaign and part of the anniversary of the Warsaw Ghetto Uprising, and representing the Polish Scouting Association at ceremonies, 10) ecological: cleaning up the local lake and collecting trash in the Warsaw woods, 11) creative: creating 3D models of buildings and streets, documenting regional wooden monuments, creating a repository of pre-war wooden architecture of the district, creating a blog about architecture and models, taking and processing photos of historical places in Warsaw, and photographing and reporting on local events, 12) recreational: participating in the events "Winter in the City" and "Summer in the City," the "Neighborhood House" project (a network of people involved socially and artistically in the neighborhood), and camps for people with disabilities and creating a local youth internet television program, 13) being involved in Jewish community activities in Warsaw, 14) being a local representative of organizations such as Our Future Foundation, Youth Together, and Youth Climate Strike

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[15] Cemetery where people who are honoured by the country are buried

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It should be pointed out that 27 different foundations and associations[16] were listed in the applications, as well as a number of institutions[17] in which or through which the young people were socially active.

Activities Related to Society

In their applications, the young people also submitted activities that went beyond their place of study and residence. This category of activities is addressed to recipients all across Poland, or even to the international community. Organizational activities were also part of this area, mostly participation in specific projects.

Cultural events: the National Christian Music Festival Hosanna Festival
Simulations: Polmoot (a simulation of court proceedings, in English, for high school students from Poland and abroad), the Ad Personam Initiative (political debates and interviews), the Public Speaking Club
Civic: "Young people vote" (a pre-election, pro-turnout campaign), the Ad Personam Initiative (political debates and interviews)
Voluntary: Little Brothers of the Poor (a campaign on the occasion of International Elderly Day), the Polish Red Cross, "No to Cancer in Children" (workshops and playing with patients), Penny Mountain

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[16] The full list consists of Związek Harcerstwa Polskiego (ZHP), Związek Harcerstwa Rzeczpospolitej (ZHR), Uniwersytet Dzieci na terenie Warszawy, Centrum Aktywności Międzypokoleniowej, Towarzystwo Społeczno-Kulturalne Miasto Ogród Sadyba, Integracyjny Ośrodek Wsparcia dla Dzieci i Młodzieży "Stokrotka," Fundacja "Świat na tak," Our Future Foundation, Warszawska Akademia Młodych Liderów, Fundacja Promień Nadziei, Stowarzyszenie Anioły Wiedzy, Fundacja Ocalenie, grupa młodzieży żydowskiej Hultaj, Ognisko Pracy Pozaszkolnej, Fundacja Wolne Miejsce, stowarzyszenie CZTERY ŁAPY, stowarzyszenie Polka Potrafi.pl, stowarzyszenie Miasto Jest Nasze, Fundacja AFS, Stowarzyszenie Warszawskich Szkół Średnich, Fundacji na Rzecz Praw Ucznia, Studenckie Koło Naukowe Spraw Zagranicznych w Szkole Głównej Handlowej, Centrum Zintegrowanej Pomocy i Redukcji Szkód Drop in, Fundacja Joanny Radziwiłł Opiekuńcze Skrzydła, Wielka Orkiestra Świątecznej Pomocy, and fundacja Polska Gościnność.

[17] They included public libraries, religious groups, hospitals, the Children's Health Centre, sports clubs, kindergartens, cultural centers, social care centers, upbringing and prevention centers, neighborhood clubs, cafeterias, the National Library, POLIN Museum of the History of Polish Jews, the Concentus Viridis Orchestra, J. Pilsudski Museum, and the Youth Palace.

Informational: information in social media accounts of initiatives or organizations, the OFF Podcast initiative (regular meetings with activists), promotion of the platform pogadajmyostudiach.pl to help high school students choose their university degree program

Scientific: "Manufaktura Naukowców" (scientific workshops), TedexKids conferences, Oxford Economics Talks (a youth economic conference)

Entrepreneurial: "@WspieramPL" (campaign supporting small Polish companies in the clothing and decorative industry), assistance in creating startups

Apart from organizational activities, young people also carried out other social activities, including the following.

Civic: candidate or member of the Youth Parliament of the Republic of Poland (drafting articles, resolutions, and speeches that communicate youth demands to decision-makers), Ambassador of the EU Youth Dialogue for Mazowieckie Voivodeship (a scoping study on the implementation of the resolution "European Union Youth Strategy 2019–2027"), Delegate representing India at the Economic and Financial Affairs Council, Youth Advisor at the Office of the Member of the European Parliament, member of the All-Poland Youth Federation, ambassador of the EU Youth Dialogue at the youth organization PROM, participant in the Institute of Youth (a youth political think tank), the youth committee of the trade union OZZ Inicjatywa Pracownicza, or the Warsaw Autonomous High School Anti-Fascist Committee (anti-discrimination), collecting signatures for various civic projects, monitoring court hearings

Volunteering: volunteering abroad and helping local communities (the "Leadership in your own hands" program, funded by the Canadian government), collecting food for the S.O.S. Food Bank, collecting registration data from potential bone marrow donors, helping people with hand and forearm amputations (prototyping a bionic prosthesis and making instructions for 3D printing it), renovation work at the parish in Legnica (WorkCamp)

Popularization: social activities within the "Zwolnieni z teorii" *Olympiada* competition, the project "Szczęśliwa Krowa Smakuje lepiej" ["A Happy Cow Tastes Better"] (education on the fate of farm animals in the food industry), "Niusy Fusy" ["News Hits"] (raising awareness about misinformation in the media), BEEst world (popularizing knowledge about bees)

Educational: recording 30 biology lessons, including presentations for use in remote work with elementary school students

Cultural: member of the youth jury at the Up to 21 International Film Festival

Patriotic: participating in a reenactment group of soldiers and civilians from Polish history

Editorial: editing the magazine *Voice of Generations*

For these activities as well, the students repeatedly identified specific foundations, associations, and institutions that they worked with in their community activities.[18] It is also worth adding that the social activities of young people are noticed and even appreciated. Indicators of their popularity also include the number of visits to the websites/blogs/profiles run by the students, the high results in competitions/masters (e.g., in the competitions "Zwolnieni z teorii"[19] or "The Magnificent Eight"[20]), and the number of nominations to the Prize of Warsaw's Cultural Education Program and distinctions at school.

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[18] These include the Polish Centre for National Aid Foundation, Amnesty International, S.O.S. Food Bank, Studia na Horyzoncie, Stowarzyszenie Inicjatywa Perspektywa, Court Watch Polska Foundation, Extinction Rebellion Youth, Youth Climate Strike, Universal Reading Foundation, the Polish Centre for National Aid, Young Talent Management, the Polish Youth Federation Association, the Polish Red Cross, the Open University named after Karol Modzelewski, Young Democrats Association, DKMS Foundation, Foundation of Academy of Civic Knowledge, Youth Institute, PROM, and the Ronald McDonald Foundation.

[19] This is a method of engaging students with social activism that includes creating a team, brainstorming, and creating a project, which is later graded (https://zwolnienizteorii.pl).

[20] This competition is geared toward teenagers to promote positive behavior, actions, and attitudes, as well as volunteering among youths.

Summary

The criteria for SAPERE AUSO scholarships, in the context of developing the social competences of youths, have a double function. On the one hand, they stimulate young people with high intellectual potential to not only achieve in education and science, but also to work for the benefit of their classmates and the wider community. On the other hand, these criteria motivate those students whose talents are more social than academic. In our schools, pro-social activities are not rewarded with grades; potential appreciation may only come in the form of an exemplary grade in the behavior category. Thus, the SAPERE AUSO scholarship is one form of reinforcing the message that abilities and social activity are valuable.

The coping strategies of gifted students with social groups vary. Some intellectually gifted individuals understate their abilities and achievements or hide them to gain the approval of their peers (Kamińska, 2021). The gifted students may have trouble finding compatible peers or friends with whom to share interests and to spend time together (Robinson, 2008). Therefore, they either fit into a group at the expense of their own development or isolate themselves so that they can maintain their values. Meanwhile, the analysis of pro-social activities of SAPERE AUSO grantees shows that gifted students with measurable success not only focus on their academic achievements and intellectual development, but also undertake selfless actions for the benefit of their fellow students.[21] Thus, rather than hiding in the shadows or understating their achievements to please the group, they turn their talents into tools for social support.

Research has shown that even students with "egoistic" abilities (Geake & Gross, 2008) – for example, in mathematics, physics, or foreign languages – engage in pro-social activities. They use their abilities to selflessly help others, by tutoring, translating texts, disseminating knowledge, or repairing equipment. It can be thought that these are students

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[21] As is suggested in the name, the category of behaviour includes behaviour in school and lessons, as well as pro-social activities in school. This category doesn't need to include societal activities.

THEMATIC ARTICLES

Creative, Gifted, Talented, and Prodigious Learners Across Contexts: School, Family, and Society/Community

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who are more likely to focus on similarities with their peers (Delzell, 1998) and are consequently able to see their problems and remedy them to the best of their ability.

It also became apparent that for some of the grantees social activity is the main area of personal development. The information in the applications shows that these students believe that voluntary activities, helping other people, and being active in various institutions and organizations – including local government – allows them to contribute to various social groups' functioning, even of the country and the world. Thus, patriotic, self-government, civic, pro-ecological activities are described. Among these activities, it is also apparent that young people, through their actions, build their own social support network, which they will be able to reach in case of need. Such a network is based on interests, values, cooperation, and achievements.

This research leads to the development of specific pedagogical conclusions related to a reflection on the scope of educational and motivational interventions aimed at gifted youths. Young, gifted people seek a space to be able to externalize their social needs, are willing to share their talents, and engage in voluntary, cultural, creative, and other types of action. In this way, they change the world in which they live, beautifying it or making it better. Thus, distinctions in the form of scholarships, which also take into account the criterion of social achievements, seem to be appropriate to the needs of gifted students.

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Opportunities, Possibilities and Limitations of the Development of a Gifted Student During a Pandemic in the Opinion of Parents

Abstract

The introduction of remote learning during the coronavirus pandemic has changed the way of working with gifted students. The article presents the results of a survey conducted among parents of gifted students aged 10–15 years. The parents filled out an electronic questionnaire containing both open- and closed-ended questions. Data were collected on 1,477 gifted children. The aim of the research is to diagnose the opportunities, possibilities, and limitations of the development of gifted students aged 10–15 (grades 4–8, secondary education) under the distance learning during the pandemic. The subject of the study is an analysis of selected elements of educating gifted students during the pandemic. The results indicate that 36.8% of students had comfortable conditions for remote learning (their own computer and room and a good Internet connection). The students' involvement in learning and independence were differentiated by their ability. The girls were significantly more involved than the boys and were statistically significantly

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more independent. The students' involvement correlated positively with their independence. The main themes of the parents' statements regarding the possibilities and advantages of remote education were saving time, developing and strengthening academic competences, developing existing or acquiring new skills, maintaining children's safety and using IT tools during online learning. The students mainly developed their interests and abilities on their own, often with the support of the family, using the media or referring to online resources. No systemic support for gifted students was indicated.

Keywords: remote education, gifted students, COVID-19

Introduction

The pandemic significantly affected the identification and education of gifted students (Erdem, 2021). Some studies have indicated that the process of formal education has become more effective and beneficial from the point of view of socialization and self-development (Türksoy & Karabulut, 2020). On the other hand, school closures and isolation have resulted in greater psychological stress on children and more frequent family conflicts. Gifted learners have had to change their learning habits, leading to sleep disturbance, depression, frustration, and loss of motivation. Students have declared that remote learning was ineffective and inefficient (Aboud, 2021). Other negative feelings reported by gifted students during the pandemic include boredom, loneliness, sadness, anger, helplessness, and regret; the main shortcoming of gifted teaching was the lack of opportunity for interaction and discussion (Duraku & Hoxha, 2021). Gifted students defended themselves against these issues through the use of positive and effective coping strategies that, together with hope, correlated with positive subjective well-being (Kaya & Islekeller-Bozca, 2021). The normal students do not demonstrate higher rates of anxiety and mental disorders (Pfeiffer, 2015), but in the course of social isolation – in the absence of intellectual stimulation – fears, anxieties, or worries could increase in this social group as well.

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The people who came to the aid of children's interests and abilities during the pandemic were their parents (Trzcińska-Król, 2020; Baum & Łukasiewicz-Wieleba, 2021), who had to find time and organize space for their children's activities, become a teacher as well as a companion in these activities, and mentally support and motivate them to work systematically. Reduced motivation was a factor that hindered such work with gifted students (Łukasiewicz-Wieleba & Jabłońska, 2022). Teachers, apart from noting the many possibilities of distance learning, also pointed to its limitations: no access to facilities and materials only being available in printed form (Łukasiewicz-Wieleba, 2020; Łukasiewicz-Wieleba & Jabłońska, 2022). Attempts were made to maintain individualized education of gifted students through various programs, such as the Differentiated Science Curriculum, which students and teachers deemed to be effective (Ceylan & Umdu Topsakal, 2021). A study with a tool for measuring the impact of COVID-19 on gifted students' quality of life showed that the impact was insignificant, though the results depended on the financial and intellectual resources of the family (Erçetin et al., 2021). Despite the lack of the possibility of enriching the educational program for gifted children, the potential for meeting academic and socio-emotional needs in virtual reality is high (Wolfgang & Snyderman, 2021; Romaniuk & Łukasiewicz-Wieleba, 2021). Gifted students are in the category of special needs students, for whom the impact of the pandemic turned out to be much higher than for ordinary students (Yakut, 2021). Various models of care and development strategies for such students have been proposed; if consciously implemented, they may increase the effectiveness of the educational services provided (Nasser & AlAli, 2022). The three important conclusions drawn from the experiences of recent months were found to be providing students with a choice through self-education, taking care of their social and emotional needs, and being aware that talented students are particularly vulnerable to the impact of the pandemic (Guilbault & McCormick, 2022). Teachers sought to better understand how to use distance learning, change the way how gifted students imagine the classroom, and use a variety of strategies to provide students with more choice, diversity, and an individualized pace of learning (Guilbault & McCormick, 2021). Despite the many initiatives

supporting gifted students, self-education is a challenge for them, which is difficult to cope with during a pandemic. Distance learning itself arouses such strong emotions that its impact on the functioning of a gifted student is significant (Trzcińska-Król, 2020). The opinions of gifted students about remote education varied greatly: They ranged from loving the home learning opportunities to hating every minute of it (Guilbault & McCormick, 2022). This type of learning was preferred by motivated and independent students, who saw in the virtual environment greater flexibility and accelerated learning – not having to waste time waiting for others; they could also devote additional time to personal projects, reading, musical instruments, or board or video games (Guilbault & McCormick, 2022).

Research problems

The aim of the research is to diagnose the opportunities, possibilities, and limitations of the development of gifted students[1] aged 10–15 (grades 4–8, secondary education) under the remote education of the pandemic. The study analyzes selected elements of the process of educating gifted students during the pandemic. The following research questions were formulated: What factors do parents of gifted students see as opportunities, difficulties, and limitations of the teaching process during a pandemic? Is there a relationship between the child's abilities, gender, and degree of independence and involvement during distance learning? Is there a relationship between the child's independence and commitment and selected aspects of education? How do parents of gifted children assess the work and possibilities of developing children's abilities in the course of remote education?

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[1] Tadeusz Lewowicki's definition (1986) of a gifted student was adopted, in which a gifted student is characterized as having "a high level of general abilities and intelligence; a high level of special abilities and talents; high achievements or opportunities for such achievements in science or other fields of socially valuable activity; and original and creative achievements or the possibility of such achievements" (see: Łukasiewicz-Wieleba, 2018).

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Context of the issue in question

It is justified to address this issue because of the need to analyze the impact of the pandemic on the remote education of gifted students and by the desire to capture and understand the changes taking place therein. The perspective of parents of gifted pupils, who have special educational needs, is rarely considered.

Research methods

The study used the diagnostic survey method. A questionnaire for the students' parents was constructed using the online form available through Google Forms. The researchers intended to obtain information from parents. Even though more accurate data would most likely have been provided by the students themselves, the researchers did not wish to add to the difficult workload associated with distance learning by addressing the students themselves. The collected data were statistically analyzed with the use of the software program IBM SPSS 27. The problematic aspect of online research was Internet access and the parents' use of indirect communication. Caregivers who did not use or avoided this form of communication may not have received the invitation to participate in the study. Other groups of caregivers who may have been underrepresented in the study were people who for various reasons were not interested in their child's education, were overburdened with other duties, or had insufficient IT and media skills.

The research was conducted in late June and early July 2021. The questionnaire was sent via e-mail to primary schools listed in the Register of Schools and Educational Institutions in Poland. Parents had the opportunity to comment on each of their children by completing the questionnaire multiple times. Participation in the study was voluntary.

The students were recognized as gifted on the basis of parental nominations. Parents who nominated their child as specially gifted were asked to indicate the areas in which the child's abilities manifest (education,

sports, art, and social areas) or provide any documentation of their achievements and successes or participation in activities that develop abilities and indicate the passions and interests of the child.

The sample

Parents with multiple gifted children were able to fill out the questionnaire for each of their children; therefore, the number of students/questionnaires is used in the study instead of the number of respondents.

Parents completed questionnaires on 1,477 children aged 10–15 who show exceptional abilities or talents (grades 4–8, secondary education) (Table 1). The table does not include 22 surveys which indicated the second stage of education, but had incorrect information about the child's age. The areas in which the children had special abilities, as declared by the parents, were learning (n=570; 38.6%), sports (n=479; 32.4%), social competences (n=356; 24.1%), art (n=721; 48.8%), and other fields (n=182; 12.3%). These abilities were often reflected in the achievements of children, including in contests (n=592; 40.1%), competitions (n=304; 20.6%), tournaments (n=169; 11.4%), *olympiada* competitions (n=58; 3.9%), and other similar events (n=41; 2.8%). The respondents also indicated Paralympics, theater, and vocal performances, football games, school competitions, dance, and achievements confirmed by certificates. A lack of documented achievements was noted in 41.6% of the questionnaires (n=614). Despite the lack of documented achievements, the respondents wrote about their children's successes, which included their own work (because the child does not like to participate in competitions), academic achievements (grades or knowledge in a particular field), and scouting. Although these achievements were undocumented, it can be assumed that the child's potential would allow them to achieve success under favorable circumstances.

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Table 1. Age of the respondents' children

Child's age	Frequency	Percentage
10	19	1.3
11	365	24.7
12	378	25.6
13	308	20.9
14	244	16.5
15	141	19.5
No data	22	1.5
Total	1455	100.0

The caregivers were mainly mothers (92.5%; Table 2). The questionnaires referred to 741 girls (50.2%) and 736 boys (49.8%). The largest percentage of students were children living in rural areas (n=559; 37.8%), while fewer students lived in large cities (n=351; 23.8%). One in four students lived in a medium-sized city (n=342; 23.2%) and the smallest group were students from small towns (n=225; 15.2%). The caregivers assessed their own financial situations as good (M = 3.91; SD = 0.76; Min = 1; Max = 5; Me = 4; Mo = 4; Ske = -0.16; K = -0.53).

Table 2. Respondents' relationship to the child

	Frequency	Percentage
Mother	1366	92.5
Father	103	7.0
Legal Guardian	8	0.5
Total	1477	100

The findings

The starting point for further analysis is to indicate the environmental conditions in which gifted students function. The vast majority of them (n=1,168; 79.1%) had their own room, and only a small percentage shared a room with the whole family (n=25; 1.7%). One in five children (n=284; 19.2%) had a different housing situation, such as sharing a room with one family member or not having their own room. Four fifths of the respondents (n=1,165; 78.9%) declared that their child studied in their own room. Some of the children (n=207; 14%) had their own space to work in a room shared with siblings, while a few had their own space in the family room (n=54; 3.7%) or shared a space with siblings (n=29; 2%). A few children did not have their own place to work at home (n=10; 0.7%) or had a different housing situation (n=12; 0.8%), for example, studying outside of the home or in a separate space within the parent's workplace. The study group also included children who, despite having their own study space in the home, preferred to remain with their family in the living room or had limited access to equipment because one computer was shared by all household members. One of the respondents wrote about technical problems with an Internet connection which forced all household members to work in one room.

One potential factor in a student's effective learning and work is the technical aspect: the computer equipment and the internet connection. Three fourths of the children (n=1,130; 76.5%) had their own computer, and on in seven (n=210; 14.2%) shared computer equipment with other family members. Some children (n=246; 16.7%) used mobile devices such as tablets or smartphones for remote learning. There were children (n=18; 1.2%) who did not have a computer at home that could be used for remote learning and those (n=72; 4.9%) who worked on borrowed equipment.

More than half of the children (n=826; 55.9%) used a permanent Internet connection (via cable modem or fiber optic connection) and almost half (n=633; 42.9%) connected via a mobile modem and SIM card. One in ten children (n=149; 10.1%) connected to the Internet using the signal provided by a smartphone. Some of the respondents did not have

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an Internet connection at home (n=6; 0.4%) or their children coped in some other way (n=10; 0.7%), by taking part in remote lessons at the parent's workplace, connecting to the Internet through a set-top box, or using a weak wireless connection.

The parents indicated various technical problems that their children had to deal with in their remote education. The largest group of people was affected by transmission problems, such as hang-ups or interruptions (n=900; 60.9%) or problems with the Internet connection (n=829; 56.1%). One in four children (n=407; 27.6%) had problems with hardware, others (n=207; 14%) had software problems, and others still (n=110; 7.4%) had problems with data loss despite using the auto-save option. A few children (n=20; 1.4%) had other technical difficulties, such as problems logging in or changing passwords, system failure, noise and distractions, insufficient IT skills (the student or the teacher), or inaccurate information from teachers. A large group of people (n=240; 16.2%) declared that their children had not encountered any problems.

The second group of difficulties was organizational problems. The most common problem (n=824; 55.8%) was with the Internet connection when all household members were using the Internet at the same time. Another problem was the need to work in one room with siblings or adults (n=195; 13.2%) and too few electronic devices (n=186; 12.6%). Less frequent was the situation in which all household members wanted to use the main computer at the same time (n=89; 6%). Parents also declared other organizational difficulties (n=112; 7.6%), including external distractions (noise, siblings, parents working remotely, etc.), a slow pace of work, fatigue, the need for adult help, and a lack of self-discipline, efficiency and concentration, IT skills, exercise, time with peers, physical supervision from the teacher, or teacher preparation. One in five parents (n=294; 19.9%) declared no organizational problems.

The results show that less than two thirds of the respondents' children (n=935; 63.3%) had comfortable conditions for remote learning: using their own computers in their own rooms with privacy. This percentage dropped to 36.8% (n=543) when the need to have a good Internet connection was taken into account.

In order to check whether giftedness and gender differentiated the degree of involvement and independence of the children during remote learning, a two-way analysis of variance for independent samples was performed in a 2x2 factorial design (boy, girl vs. gifted, not gifted). The variances in the groups compared in terms of involvement were homogeneous ($F(3; 1764) = 1.63$; $p = 0.180$). The main effect of ability was significant, although weak ($F(1; 1764) = 15.12$; $p < 0.001$; $\eta^2_p = 0.008$). The gifted students ($M = 3.49$; $SD = 1.09$), in the eyes of their parents, were significantly more involved in distance learning than non-gifted students ($M = 3.18$; $SD = 1.07$). The main effect of gender was significant, although weak ($F(1; 1764) = 10.66$; $p = 0.001$; $\eta^2_p = 0.006$). The girls ($M = 3.57$; $SD = 1.08$) were significantly more involved in distance learning than the boys ($M = 3.32$; $SD = 1.09$). The effect of the interaction of gender and giftedness was not significant ($F(1; 1764) = 0.013$; $p = 0.909$). The gifted girls ($M = 3.60$; $SD = 1.07$) were more engaged than the gifted boys ($M = 3.38$; $SD = 1.09$) and this difference was statistically significant ($F = 0.002$; $p = 0.965$; $t(1475) = 3.99$; $p < 0.001$; CI95% [0.11; 0.33]).

The variances in the groups compared in terms of independence were not homogeneous ($F(3; 1764) = 5.26$; $p = 0.001$). The main effect of the ability is significant, although weak ($F(1; 1764) = 44.83$; $p < 0.001$; $\eta^2_p = 0.025$). The gifted pupils ($M = 3.90$; $SD = 1.02$) were significantly more independent in the eyes of their parents than non-gifted pupils ($M = 3.45$; $SD = 1.03$). The main effect of gender was statistically significant ($F(1; 1764) = 2.97$; $p = 0.085$). The girls ($M = 3.94$; $SD = 1.03$) were slightly more independent than the boys ($M = 3.72$; $SD = 1.04$). The effect of the gender–ability interaction was not significant ($F(1; 1764) = 2.43$; $p = 0.119$). The gifted girls ($M = 4.01$; $SD = 1.00$) were more independent than the gifted boys ($M = 3.79$; $SD = 1.03$) and this difference was statistically significant ($F = 8.41$; $p = 0.004$; $t(1; 472.85) = 4.20$; $p < 0.001$; CI95% [0.12; 0.33]).

The transition to distance learning had a significant impact on many aspects of the students' functioning. The analysis with Student's t-test for one sample showed that in the study group, the mean of comparative assessments of selected elements that are common to both remote and traditional education was statistically significantly lower than 3 (this value

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was adopted because it indicated that the parents of gifted students found the elements of education to be "the same in traditional and remote education" on a five-point scale). The results show that parents assessed as better the commitment, activity, regularity of work, timeliness and quality of performed tasks, independence of work, and success in learning within full-time education (Table 3).

Table 3. Selected aspects of education during social isolation

	t*	M	SD	Mean difference	Upper limit**	Lower limit**
Traditional vs. remote engagement	-67.13	1.77	0.97	-1.24	-1.27	-1.20
Activity	-54.31	1.93	1.04	-1.07	-1.11	-1.04
Systematic work	-55.68	1.96	0.98	-1.04	-1.08	-1.01
Timely execution of tasks	-43.30	2.16	1.02	-0.84	-0.87	-0.80
Quality of tasks	-46.06	2.11	1.01	-0.89	-0.92	-0.85
Independence of doing housework	-41.12	2.25	0.96	-0.75	-0.79	-0.72
Independence in taking tests	-48.84	2.10	0.97	-0.90	-0.94	-0.87
Success in science	-37.73	2.21	1.10	-0.79	-0.83	-0.75

*One-sample t-test, test value = 3; df = 2755; $p < 0.001$

**95% confidence interval for the difference of means

The children's involvement significantly, strongly, and positively correlated with their independence ($\tau_b = 0.53$; $p < 0.001$). The correlations between the degree of the children's involvement with the above-mentioned aspects of education were statistically significant ($p < 0.001$ for all) and positive, which means that the higher the parents rated their child's involvement, the more their indications shifted towards remote education. The strength of these correlations was weak. The correlation coefficients (Kendall's *tau-b*) between the level of involvement and selected aspects of education were as follows: traditional vs. remote involvement: $\tau_b = 0.38$; activity: $\tau_b = 0.32$; regularity of work: $\tau_b = 0.36$; timely performance of tasks: $\tau_b = 0.32$; quality of tasks: $\tau_b = 0.31$; independence

of doing homework: $\tau_b = 0.27$; independence of taking tests: $\tau_b = 0.28$; and success in learning: $\tau_b = 0.25$.

The correlations between the children's degree of independence and the above-mentioned aspects of education were statistically significant ($p<0.001$ for all) and positive, which means that the higher the parents rated the involvement of the child's degree of independence, the more their indications shifted towards remote education. The strength of these correlations was weak. The correlation coefficients (Kendall's *tau-b*) between the level of independence and selected aspects of education were as follows: traditional vs. remote involvement: $\tau_b = 0.24$; activity: $\tau_b = 0.22$; regularity of work: $\tau_b = 0.25$; tasks: $\tau_b = 0.22$; quality of tasks: $\tau_b = 0.21$; independence of doing homework: $\tau_b = 0.28$; independence of taking tests: $\tau_b = 0.29$; and success in learning: $\tau_b = 0.16$.

In order to better understand the opinions of parents regarding online learning and pupils' work in remote education, an open question was asked about its perceived advantages. Open coding was used to analyze the resulting data (categorizing the answers to open-ended questions). In this way, 1,139 opinions (78.7%) on distance learning were obtained. Some carers refined their thoughts and statements in a more detailed way. While one third of the opinions (n=481; 32.6%) stated that they did not see any advantages in remote education, eight respondents (0.5%) said that they could not say anything positive or negative about this form of education. Among the statements regarding positive aspects of distance education, five main categories were identified. The first one refers to saving time (n=196; 13.3%) by not traveling to and from school and shortening the duration of some lessons. Some students were able to devote this extra time to developing their hobbies, resting longer, doing work assigned by the teacher, or better organizing their day. Here are some examples of what the respondents said:

R.989: "My child has more free time for hobbies, etc."
R.958: "Children have more time to rest."
R.383: "[They are] able to use breaks to do homework."
R.765: "Better planning and execution of daily activities and tasks"

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R.1052: "Lessons shorter than usual resulted in having additional time for developing interests."

The second category was developing and strengthening academic competences (n=187; 12.6%). Some parents (n=59; 4.0%) mentioned more independence for students. The respondents also wrote about the lack of distractions (school noise, judging colleagues) and the possibility of focusing more during lessons (n=40; 2.7%). The children were able to participate in lessons despite colds or chronic illnesses (n=34; 2.7%) and experienced less stress from school (n=30; 2.0%). The pace of work could be adjusted to the child's needs (n=15; 1.0%), for example, by capturing a screenshot and adding it to their lesson notes. In some students, parents noticed more self-confidence due to a certain anonymity that the remote connection provided, and thus better learning results (n=9; 0.6%). Statements from parents illustrating this category are quoted below.

R.673: "Learning to be independent, searching for knowledge, drawing conclusions, being able to adjust the time"

R.859: "My child is dealing with the system on his own – he reports himself, openly, responds willingly, is not afraid, feels safe …, no one teases him, makes fun of him, or insults him."

R.1695: "No falling behind, e.g., in the case of illness. Lessons should always be like this – the teacher should have a camera all the time so that absent children can listen in on lessons."

R.1872: "For my child, who has Asperger's syndrome, the stress of having face-to-face contact and confronting sometimes difficult situations has gone away."

R.1881: "She could take notes more precisely because it was possible to take photos, she wasn't distracted by other students, there were no educational problems, there was no additional stress from contact with unpopular classmates, less stress in answering verbally (no one is looking at me during lesson and there are no comments from other pupils towards me, which often happened in classroom)."

R.2647: "In my opinion, distance learning contributed to my child be-coming independent faster, taught regularity and scrupulousness when obeying teachers commands."

The third category was IT competences, whether developing existing ones or acquiring new ones, by both students and teachers. This topic appeared in almost one tenth of the responses (n=132; 8.9%). Using the Internet and digital tools and being able to search for information were the main skills indicated for this area:

R.742: "Learning the use of various computer programs, quickly learning a word processor, spelling, handling and transferring materials on the computer."

R.746: "Everyone is more technologically advanced; they can do more with a computer."

R.821: "Adapting to work and collaborating with others through remote technology."

R.1247: "Students learn to be more independent in their search for in-formation (instead of relying only on what the teacher says in the lesson)."

The fourth category was related to the children's safety (n=80; 5.4%), which refers to both protecting against viruses, including SARS-CoV-2, and safety at school (no peer violence).

R.1901: "Reduced virus emission and transmission to family members."
R.2659: "No aggression or harassment problems by older colleagues."

The fifth category concerned the use of IT tools during online learn-ing, gathering all the necessary information about lessons and homework in one place (n=32; 2.2%).

R.1144: "New working methods, teachers using e-resources. Students searched for and learned about new educational programs."

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Creative, Gifted, Talented, and Prodigious Learners Across Contexts: School, Family, and Society/Community

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R.1449: "Access to materials from previous lessons and homework that has been returned; homework and instructions saved in emails and messages."

R. 1945: "Possibility of replaying lesson materials and videos that were sent online."

R.2156: "Using new technologies for certain topics, e.g., a virtual tour of a museum."

Additional, extra-curricular activities enable children not only to develop their interests and abilities, but also to compensate for deficits and maintain physical fitness. During social isolation, access to these activities was severely limited, but almost one third of the children in the study (n=530; 35.9%) continued attending all the same extracurricular activities as before the pandemic. One quarter of them (n=377; 25.5%) were forced to limit the number of classes and attend only some of them. In turn, 63 children (4.3%) attended different classes than during regular education. Almost one third of the students (n=507; 34.3%) did not participate in extracurricular activities during the pandemic.

An open-ended question was asked regarding the parents' views on how to develop students' interests during the pandemic. Open coding was used to analyze the data and the responses were categorized. According to the respondents, the way to develop children's interests at that time was for them to work on their own, in the family circle. Almost one third of the children (n=429; 29.0%) developed their interests and skills at home with the support of their parents and siblings, (e.g., by planning trips together, playing outside, and cooking) and through self-education. For artistically gifted children, the parents tried to provide the necessary materials to work at home. In turn, about 20% of the students (n=321; 21.7%) used the opportunities offered by the media (searching for the necessary information online, watching TV channels and programs, and working with the available software on a tablet/computer). Less than 20% of the respondents' children (n=282; 19.5%) took additional classes (e.g., training, remote classes, private lessons, individual meetings, and consultations with a guardian). Some children used literature (n=181; 12.3%). It should

also be noted that parents indicated inhibition or lack of interest in almost one fifth of the children (n=283; 19.2%). The reasons given included a lack of opportunities, fatigue, constant online learning, a lack of motivation, stimulus for the development, and discouragement to work.

Summary and discussion of the results

Our analysis allows us to conclude that the main problems in remote education related to Internet connections, access to hardware and software, and the need to share equipment and space with other household members. These problems have also been indicated by many other researchers of crisis distance education (Omyła-Rudzka, 2021; Buchner et al., 2020; Romaniuk et al., 2020; Ptaszek et al., 2020; Plebańska et al., 2020).

In gifted students, we observe different developmental patterns (Silverman, 2010), involving cognitive, emotional, social, and academic experiences of gifted students that differ from those of their peers; this creates unique educational needs. They also have more of a predilection for learning with the kinesthetic and tactile senses than with the auditory senses (Yong & McIntyre, 1992), which online learning predominantly entails. Research on gifted students' perception of virtual classrooms shows that they were concerned about the lack of social contacts and reported a preference for frequent interactions with classmates and the instructor. The content of the lesson and the quality of instruction were more important than the manner and environment in which it was conducted (Potts, 2019). In the present research, the completely opposite picture emerged, wherein the curriculum and education were rated much more highly in the case of full-time education. We can see similar conclusions in a study by Yusra Aboud (2021), in which gifted students said that it was ineffective. The students who were more motivated and involved in learning during crisis education functioned much better in it. Similar results were obtained by Keri Guilbault and Kimberly McCormick (2022).

The main topics of free statements by parents regarding the possibilities and advantages of remote education were saving time, developing

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and strengthening academic competences, developing existing or acquiring new IT skills, security, and using IT tools for online learning. These themes also appeared in studies by Fatih Kaya and Aysegul Islekeller-Bozca (2021). Some of the respondents saw in remote education the possibility of developing their interests and passions (Bieganowska-Skin & Pankowska, 2020), the freedom from commuting to school, and time to devote to their own interests thanks to the shorter lessons.

Conclusions

As the study shows – in line with research by other researchers (Trzcińska-Król, 2020; Baum & Łukasiewicz-Wieleba, 2021) – as a result of limiting social contact and closing facilities, the burden of developing skills rested on the shoulders of parents and guardians. The systemic support that was available for gifted students before the pandemic (Łukasiewicz--Wieleba & Romaniuk, 2020) has been limited. Strengthening IT, Computer Science, and media skills came at the expense of social skills.

Remote education was a major challenge for all participants in education and we cannot treat it only in terms of wasted time. One cannot go unnoticed by the didactic and educational solutions that can be an inspiration for modern education and cannot fail to notice the students who have benefited from this form of education.

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The Nature of Support Provided to Gifted Primary School Students Is Based on the Teacher's Concept of Giftedness

Abstract

The aim of the research was to identify the type of support that teachers provide to gifted students in grades 4–6 of primary schools in Poland in relation to their concepts of giftedness. Teachers' understanding of the category of gifted students was analyzed: What do they find crucial in identifying gifted students? What areas of gifted students' development are most important to them? Are there differences in the strategies for supporting gifted students between teachers who have different concepts of giftedness and who teach different subjects? The research was conducted on a group of 188 teachers using the standardized 20-item Balanced Development of Gifted Students Questionnaire. It helped identify the scope of the teachers' activities in the cognitive, emotional/social, motivational, and creative spheres. It was shown that the dominant concept of giftedness among the surveyed teachers was cognitive and that their activities supporting gifted students were mainly aimed at mental development and knowledge acquisition. Support of the emotional/social sphere of gifted students was

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least frequently indicated by the respondents. There was consistency between the type of support provided and the teacher's preferred concept of giftedness. There were significant differences in the definition of giftedness and the related type of support between teachers of different subjects. The subject which they taught also significantly differentiated the number of students identified as gifted: The most gifted students were identified by the art teachers, while the least were identified by the math teachers. The results may serve as guidelines for developing teachers' competencies in working with gifted students by popularizing the concept of balanced development and making them aware of the links between beliefs about giftedness and the type of support provided.

Keywords: gifted student, intuitive concept of giftedness, balanced development, teacher's support

Introduction

Gifted students are often perceived as those who, because of their above-average potential, do not require special support from teachers (Carman, 2011; Geake & Gross, 2008). Schools rarely offer comprehensive support aimed at developing the student's potential, not only in the cognitive dimension (Knopik, 2019; Lewowicki, 1986). Moreover, in the Polish education system, no consistent definition of a gifted student or a model for their identification or psychological and pedagogical assistance has yet been developed (Limont, 2012). From the available publications, it can be concluded that teachers identify a gifted student mainly on the basis of their own beliefs and *intuitive* (implicit) knowledge (Cieślikowska & Limont, 2010; Lee, 1999; Moon & Brighton, 2008), rather than on the findings of researchers and specialists. In the Polish context, no research has been conducted so far on the relationship between teachers' definitions of giftedness and practices of supporting gifted students, especially in terms of their comprehensive development.

The aim of the article is to fill this gap and to explain (to some extent) the possible reasons for teachers' failure to recognize as gifted

approximately 30%–50% of the students who meet the psychological and pedagogical criteria for giftedness (Najwyższa Izba Kontroli, 2016). The study can also explain teachers' shortcomings in providing support that meets the educational and developmental needs of gifted students (Knopik, 2019).

Comprehensive support for gifted students: The idea of balanced development

The need to support gifted students with a view toward balancing their development has been present since the 1980s in Robert Sternberg's (1984) theory and its subsequent augmented versions (Sternberg, 2000; 2015; 2019). The indication to stimulate and develop successful and adaptive intelligence alongside general intelligence is a leading theme of his theory. Successful intelligence is an integrated set of abilities necessary for success in life, analyzed in a broader social and cultural context (Sternberg, 2015). *Analytical skills* are needed for the critical evaluation of ideas, abstract thinking, the analysis of the learning process itself, and problem-solving. *Creative abilities* are needed to generate ideas in new tasks and situations. *Practical skills* refer to the application of solutions and ideas with the aim of optimally adapting to the environment and convincing others of their value (Sternberg, 2019).

Therefore, in education, it seems necessary to support the development, assessment, and reward of all skills – not only analytical ones, but also creative and practical ones. Successful intelligence proposes a way to influence and support students toward balanced development and demonstrates the inadequacy of the current methods of measuring intelligence, being limited to conventional intelligence alone (see Sternberg, 2019).

In its expanded form, the triadic theory of intelligence has been supplemented with wisdom. In his Wisdom Intelligence Creativity Synthesized Theory (WICS), Sternberg (2009) argues that in order to solve complex problems, students need analytical abilities, creativity, and practical skills,

as well as wisdom. Considering two dimensions – generality and depth – the researcher lists four types of wisdom: a) domain-general deep wisdom (deep reflection on many kinds of problems in different domains, or the wisdom of great thinkers); b) domain-general shallow wisdom (wisdom of life, such as from parents to children); c) domain-specific deep wisdom (deep knowledge and the ability to solve complex problems in one domain); and d) domain-specific shallow wisdom (superficial wisdom limited to one domain) (Sternberg, 2019).

> In the balance theory of wisdom, which is part of the WICS theory, wisdom is defined as the application of intelligence, creativity, and knowledge, as mediated by positive ethical values toward the achievement of a common good through a balance among the following: (a) intrapersonal, (b) interpersonal, and (c) extrapersonal interests, over the (a) short- and (b) long-term periods. (Sternberg et al., 2019, p. 10).

This means that stimulating and supporting a student toward balanced development should include not only interactions which shape and reward their analytical, creative, and practical abilities, but which also address wisdom in its broadest sense, understood as the ability to balance many of one's own interests and goals and reconciling them with the interests and goals of others, while remaining in harmony with the goals of the social and cultural environment, in the form of active assistance to the school or through volunteer work.

The idea of the balanced development of gifted students refers to classical psychological concepts of giftedness (Joseph Renzulli, Franz Mőnks, John Feldusen, Jane Piirto - see: Limont, 2012), which list – in addition to cognitive factors – personality properties and emotional/social components that regulate the process of updating the intellectual potential of a gifted person. In the Polish context, a synthesis of these components can be found in the GROW model, which is a description of four crucial activities supporting the development of gifted students in the school context: 1) social skills and teamwork, 2) emotional awareness

and resilience in difficulties, 3) care for passion in interests, and 4) a supportive social network (Knopik, 2019).

Teachers' concepts of giftedness

In the psychology of abilities, explicit (direct) and implicit (indirect) theories of giftedness have been distinguished (Heller et al., 2001; Sternberg & Zhang, 1995). Implicit theories are concepts and definitions proposed by experts and based on scientific findings. Implicit theories are naive, private, often colloquial constructs; they are firmly anchored in the minds of individuals and can have a significant impact on the educational practice and nomination strategies used by teachers in real-life situations, in which they assess their students' abilities (Sternberg & Zhang, 1995). Implicit concepts are related to culture and social scripts operating in the area of ability; therefore, it is important to expose different views of ability in their social and cultural context (Sternberg, 2007). Teachers' concepts influence which needs of gifted students are considered in the school environment and what gifted students are offered by their teachers (De Wet & Gubbins, 2011; Moon & Brighton, 2008; Schroth & Helfer, 2009).

A study among 384 German primary school teachers (Endepohls-Ulpe & Ruf, 2005) found that the dominant characteristic of gifted students was their above-average cognitive development. The respondents also indicated motivational characteristics, but social functioning, specific personality development, and asynchrony played minor roles. Researchers tend to emphasize the risks associated with such implicit concepts – overlooking gifted students with low motivation and an overly one-sided perception of supporting strategies – and to not take into account the social/personal sphere of the student at all.

An analysis of the descriptions of 563 high school students nominated by their teachers as gifted (Hernández-Torrano et al., 2013) showed that they were characterized by higher scores in their naturalistic and social intelligences, stress management, and verbal, mechanical, and spatial reasoning. That study also found significant differences in the gender

and age of the nominated students. The teachers showed a tendency to nominate more boys than girls as gifted in the cognitive domain: verbal and numerical reasoning. There was also a tendency to perceive younger students as having higher abilities than their older counterparts. This may have been due to a more complete view of younger students' functioning and perceiving their abilities as more separate from the core curriculum and achievement within individual subjects.

A study of 212 Finnish teachers (Laine et al., 2016) demonstrated the multidimensional nature of the perception of ability, relating to the cognitive, creative, and motivational domains. The same study also showed a dual approach to the developmental nature of ability: some of the subjects emphasized the static nature of ability, while others pointed to its dynamic structure. This finding is consistent with Dweck's (2006) observations, which indicated that growth-oriented teachers believe abilities to be malleable properties that can be changed through motivation and training. This indicates that abilities develop through learning and, as such, may have an egalitarian status (Matthews & Folsom, 2009). Teachers who are committed to treating abilities as immutable traits do not provide the opportunity to think about students' self-development. They would rather reassure them that their ability to intervene in the face of biological endowment is limited (Dweck, 2006).

As can be seen from the cited research, it may be assumed that the definitions of a gifted learner held by teachers will determine the type of support the teachers provide. It is worth remembering that gifted students' education should take place within a broader teaching paradigm that includes four elements (Dai & Chen, 2014): a) different views of giftedness (what); b) purposes of gifted education (why); c) those who are supported and based on what information (who), and d) which educational strategies are chosen (how). They interact with each other in following the order: what – why – who – how.

The study reported in the paper attempted to establish the implicit, naive definitions of gifted students held by their teachers and analyzed the relationship between these definitions and the type and goals of support provided to gifted students by teachers of different school subjects.

Method

Research questions. Based on the literature review, the study sought answers to the following questions:

Q1: How do teachers define the category of "gifted student"? What do they think is crucial to identifying a gifted student?

Q2: How do teachers with a particular definition of "gifted student" support the development of their talented learners? Are there differences in strategies for supporting gifted students between teachers with different concepts of giftedness?

Q3: Are there differences in the perceptions of giftedness and support for gifted students between teachers of different subjects?

Study subjects. The study was conducted between November 2019 and March 2020 among 188 primary school teachers (123 women and 65 men) of grades 4–6. The respondents originated from 57 schools (36 urban and 21 rural). The choice of this stage of education results from the key role the teacher plays in identifying the abilities, talents, and interests of students. It was related to the stage of transition from integrated to subject-specific education in the Polish education system. The average professional experience of the respondents was 13 years (M=13.4; SD=7.34). The teachers represented different fields of education (Table 1).

Table 1: Number of teachers by school subject

School subject taught	n	%
Polish language	44	23.4
Foreign languages	33	17.6
Mathematics	59	31.4
Science	27	14.4
Art and music	25	13.3

Source: Own study

Measures and procedure. The data were collected in both written form (n=103) and electronic form (n=85); the procedure was chosen by the respondents according to their preferences. Two tools were used in the study.

1. *The Balanced Development of the Gifted Student Questionnaire* (Knopik, 2018), composed of 20 items, was used to measure teachers' activity in the 1) cognitive, 2) creative, 3) motivational, and 4) emotional/social spheres. The items referred to specific activities of the teacher. The respondent was asked to recall their activities in each of the four dimensions and to indicate the frequency with which they applied them in work with gifted students (Likert scale from 3 [very often] to 0 [never]). The possible score in the tool ranges from 0 to 15 points.

2. *The Personalized Survey* includes questions about gender, seniority, subject taught, current number of students identified as gifted, monthly average time spent supporting a gifted student, and personal definition of a gifted student – provided in the answers to two questions: "Who do you think a gifted student is?" "What is the most important characteristic(s) that determines giftedness?"

Table 2: Balanced Development of Gifted Students Questionnaire

Dimension	Number of items	Characteristics of the dimension	Internal consistency of the scale (Cronbach's alpha)
Cognition	5	• Above-average general cognitive abilities manifested by quickly mastering the curriculum and having knowledge that exceeds the curriculum • Demonstrating reasoning and problem-solving that is characteristic of older students and working very quickly	0.93
Creativity	5	• Originality of thinking, non-standard solutions compared to their peers' ideas, a high tolerance for cognitive risk, and an openness to new problems	0.89
Motivation	5	• Striving for in-depth understanding of an issue (cognitive curiosity), interest in selected issues that imply independent work and a striving for development in a specific area, hard work, and high self-motivation	0.85
Emotion and social areas	5	• Understanding and controlling their emotions, maintaining constructive social relationships, having a sense of belonging to a group, efficient coping with failure and social evaluation	0.91

Source: Own study

Data analysis and results

On the basis of the teachers' descriptions of gifted students, five types of definitions were identified. They were oriented around the following dominant features of the student: a) intelligence; b) creativity; c) achievement; d) ambition and passion (fascinated by problems); and e) withdrawal (emotionally hypersensitive or alienated). The procedure of type extraction was carried out by competent judges in four stages:

1. *Preliminary ordering* of respondents' statements into a typology of eight categories by three competent judges
2. *Re-analysis* of the statements within the types and reduction of categories: the category "having many ideas" was included in the category "creativity," the categories "ambition" and "passion" were combined based on the recognition that the respondents' statements indicated a common motivational factor, and emotional and social difficulties were combined under the common type "withdrawal"
3. *Verification of typology*, wherein competent judges (four psychologists, different from the first stage) read short empirical definitions of gifted students (Table 3) and made independent classifications of each statement into one of five types
4. *Final analysis* of the differentiated assessments and classification into the types based on the consensus scores obtained through discussion

Table 3: Types and distributions of teachers' definitions of a gifted student

Implicit empirical definition	n	%
Intelligence: A fast learner with no difficulty in learning new skills, very good memory, high concentration and divided attention	64	34.0
Creativity: A student who is an original thinker, pushes boundaries, provocative, has many ideas, and executes them effectively	39	20.7
Achievements: A student who wins awards in competitions and has above-average performance	33	17.6

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Implicit empirical definition	n	%
Ambition and Passion: A student who is highly motivated to grow and develop, a hard worker, a perfectionist, consumed by an interesting area or specific problem.	30	16.0
Withdrawal: A closed-in student for whom the world of knowledge and learning is more important than their immediate environment; one who has difficulty with social relationships, is emotionally vulnerable, hypersensitive	22	11.7

Source: Own study

Table 3 shows that the dominant definition of a gifted student was cognitive, while the respondents least frequently indicated emotional/social difficulties as the domain of gifted students. It can be concluded from the support that the respondents direct to gifted students (Fig. 1) that the main activity involves teachers supporting the development of the cognitive sphere and much less often targeting the emotional/social sphere.

Figure 1: Frequency of support for gifted students in different spheres of their development
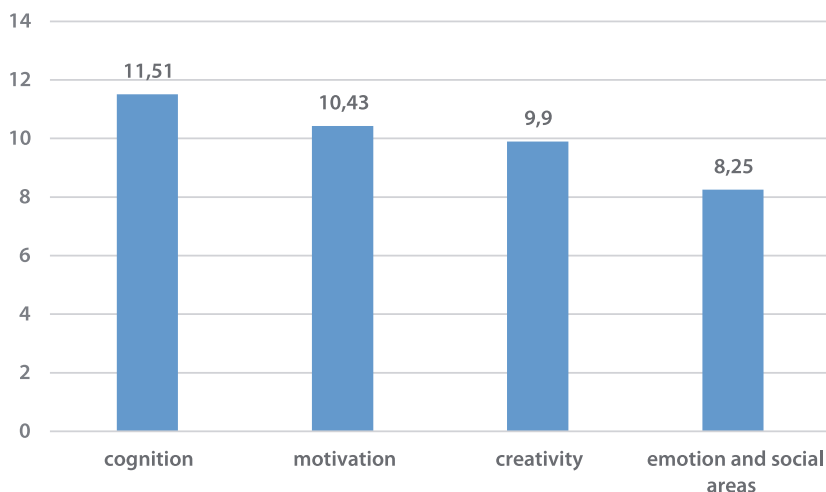
Source: Own study

The teachers' definitions of a gifted student were contrasted with the support they directed toward such students (Table 4).

Table 4: Compliance of the type of support with the type of definition

Definition/Area		Cognition	Motivation	Creativity	Emotion	Compliance of the support with the definition
Cognition	M	12.71	9.09	8.52	7.33	YES
	N	64	64	64	64	
	SD	1.70	1.49	1.73	2.01	
Ambition and Passion	M	10.03	13.10	9.60	9.07	YES
	N	30	30	30	30	
	SD	0.93	1.42	1.52	1.62	
Achievements	M	12.40	10.39	8.45	7.61	YES
	N	33	33	33	33	
	SD	1.46	1.62	2.37	2.16	
Creativity	M	10.03	10.77	13.97	9.62	YES
	N	39	39	39	39	
	SD	1.61	1.18	1.18	0.78	
Withdrawal	M	11.32	10.09	9.31	8.36	NO, cognitive activities dominate
	N	22	22	22	22	
	SD	2.01	0.97	1.86	1.18	

Source: Own study

The non-parametric Kruskal–Wallis H test confirmed the statistical significance of the observed differences (Table 5). In most of the groups selected by the teachers' definition of a gifted student, there was consistency in the dominant support activities and the characteristics of gifted students. This was not the case, however, for the group with the definition "a gifted student is a withdrawn student"; like the rest of the respondents, this group was the least likely to support the emotional/social development of a gifted student. The teachers in the "ambition/passion" and "creative student" groups used emotional support more often than the "withdrawn student" group.

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Table 5: Frequency and statistical indicators of types of support from teachers, by their definitions of a gifted student

Statistics	Cognition	Motivation	Creativity	Emotion
Kruskal–Wallis H	74.016	84.840	95.440	42.916
df	4	4	4	4
p	p<0.001	p<0.001	p<0.001	p<0.001

Source: Own study

It was also analyzed whether there were differences in the number of gifted students identified according to the definition. Table 6 shows that teachers who defined a gifted student as a creative student indicated the most gifted students, while teachers with a cognitive definition of giftedness indicated the fewest students. These differences were found to be statistically significant (p<0.001, Kruskal–Wallis H=69.06).

Table 6: Number of gifted students identified by the respondents, by definition of gifted students

Type of definition	Number of gifted students identified
Cognition	4.54
Ambition and Passion	6.50
Achievements	5.52
Creativity	12.72
Withdrawal	7.09

Source: Own study

Subsequent analysis took into account the school subject which the teacher taught. Table 7 shows that depending on their subject area, teachers characterized gifted students differently: Teachers of mathematics, foreign languages, and science more often followed the cognitive definition, while teachers of Polish language, the visual arts, and music held

the creative definition. Interestingly, none of the teachers of visual arts and music found students' cognitive characteristics to be crucial in defining them as gifted, while none of the teachers of mathematics took creativity into account. The teachers of foreign languages and science did not select the emotional and social difficulties of gifted students as part of their definition of giftedness.

**Table 7: Frequency of definition types of a gifted student,
by school subject taught**

		DEFINITION OF A GIFTED STUDENT				
		Cognition	Ambition and Passion	Achievments	Creativity	Withdrawal
Polish language	n	7	5	1	16	15
	%	15.9%	11.4%	2.3%	36.4%	34.1%
Foreign languages	n	15	9	3	6	0
	%	45.5%	27.3%	9.1%	18.2%	0.0%
Mathematics	n	29	7	22	0	1
	%	49.2%	11.9%	37.3%	0.0%	1.7%
Science	n	13	6	6	2	0
	%	48.1%	22.2%	22.2%	7.4%	0.0%
Art and music	n	0	3	1	15	6
	%	0.0%	12.0%	4.0%	60.0%	24.0%

Source: Own study

The differences in the numbers of gifted students identified by teachers of different subjects were also examined (Table 8). Art and music teachers identified the most gifted students, while mathematics teachers indicated the fewest. The observed differences were statistically significant ($p < 0.001$, Kruskal–Wallis H=87.35).

**Table 8: Numbers of gifted students identified by teachers,
by school subject taught**

School subject taught	M	SD
Polish language	8.20	4.11
Foreign languages	9.27	4.30
Mathematics	3.81	1.85
Science	4.41	2.11
Art and music	12.36	4.65

Source: Own study

The support offered to gifted students was also analyzed for each group of teachers according to the school subject which they taught (Table 9).

**Table 9: Support provided to gifted students,
by school subject taught**

School subject taught	Cognition	Motivation	Creativity	Emotion	Kendall's W	p
Polish language	10.52	10.57	11.05	8.73	0.284	<0.001
Foreign languages	11.48	11.27	10.18	9.27	0.363	<0.001
Mathematics	12.49	9.47	7.81	6.76	0654	<0.001
Science	11.85	10.74	9.81	7.96	0.534	<0.001
Art and music	10.60	10.96	12.56	9.88	0.287	<0.001

Source: Own study

Statistically significant differences were identified at the group level for type of support. It was consistent with the intergroup analysis comparing the intensities of activities in each sphere (Table 10).

**Table 10: Intensity and statistical indicators of support
for gifted students, by school subject taught**

	Cognition	Motivation	Creativity	Emotion
Kruskal–Wallis H	32.014	26.100	61.069	63.519
df	4	4	4	4
p	p<0.001	p<0.001	p<0.001	p<0.001

Source: Own study

Particular disproportions in the extent of support provided were noted among the mathematics teachers, who focused on the cognitive sphere of gifted students while neglecting the emotional sphere. In the remaining groups, the differences mainly concerned this sphere, which was supported the least. Among the visual arts and music teachers, the predominance of supporting the creativity of gifted students was noted, a finding which was consistent with the sphere of artistic subjects.

Discussion

The results of the study revealed that teachers had an implicit definition of a "gifted student" which was based mainly on an assessment of cognitive abilities and that this definition was crucial in them identifying gifted students. The dominance of cognitive concepts of giftedness and the reduced role of non-cognitive factors in teachers' concept of giftedness is contrary to previous scientific evidence (see Sternberg, 2015). At the same time, it has been still presented as a kind of stereotype implying into pedagogical practices (Ledzińska, 2009). This is due to the recognition of the intelligence quotient as a general measure of "above average" and the best predictor of achievement (Lo et al., 2019). Focusing on the intellectual aspect may eliminate from the ranks of gifted students those who do not manifest such high achievements in knowledge, due to motivational difficulties, despite their high potential (Endepohls-Ulpe & Ruf, 2005; Rimm, 2001).

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These regularities highlight the low level of contemporary scientific knowledge of teachers regarding giftedness. This topic is not a separate component in pedagogical curricula and there is inadequate support in the form of postgraduate studies and training. The study conducted by the Institute for Education Research (Instytut Badań Edukacyjnych, 2021) found that less than 1% of the surveyed schools had trained their staff in this area. This might result in implicit concepts not being confronted with explicit ones, since there is no platform for such confrontation (Lee, 1999).

The extent of support provided to gifted students remained consistent with the implicit definitions of giftedness held by the teachers. This applied to all respondents except those who preferred the concept of a gifted student based on disengagement and specific emotional/social problems. Emotional support was provided by the respondents the least among all types of supporting activities. It is likely that tasks related to the formation of emotional competence are still overlooked in the teaching practice in Polish schools (Brzezińska, 2013) and are thus moved to the background, despite the indications that they are needed. Thus, these results show that a key step in changing the methodological strategies used by teachers for gifted students is to work in the area of theory of ability. Promoting the concept of balanced development of abilities, therefore, could potentially have a positive impact on teaching practices that take into account a balanced ratio between the four types of support identified in the questionnaire (none of the definition sub-groups identified such balanced proportions).

The analysis revealed significant differences in strategies for supporting gifted students among teachers with different concepts of giftedness. The teachers who based their definition on creativity placed the least importance on supporting the cognitive sphere, whereas the other groups of respondents focused more on developing creativity and emotional/social resources. The most similar support strategies were used by the teachers in the sub-groups for "achievement" and "cognition," showing that achievement itself can be interpreted at the primary school stage mainly through cognitive criteria (Cieślikowska & Limont, 2010; Dweck, 2006). The teachers did not sufficiently recognize the role of emotional/social components

in developing a student's achievement and adaptability, pointing to analytical intelligence as being far more important than creative and practical intelligence (Sternberg, 2019).

However, this finding did not apply equally to teachers of all school subjects. Teachers of mathematics and science most often preferred a definition of giftedness related to cognition and achievement, which entailed support in the cognitive and motivational domains. Strategies aimed at enhancing creativity and emotional/social competences were used much less frequently, practiced by teachers of art, music, and languages. This may have been a consequence of the stereotype that is persistent in Poland and relates to the methodology of the humanities and the sciences, which clearly distinguishes between a) divergent problems, which require creativity (the humanities), and b) convergent problems (the sciences), which practically neglect the creativity component and work in the emotional sphere (Knopik & Oszwa, 2022; Pieronkiewicz, 2020).

At the same time, the teachers of mathematics and science identified decidedly more gifted students than the other respondents, which was probably indicative of the more elite criteria they adopt when identifying gifted students. A strong orientation toward knowledge and correlated achievement was the main determinant in this group of respondents. This approach results in the teachers paying no attention to students who underachieve due to emotional difficulties (Rimm, 2001; Sękowski, 2000).

As a follow-up to this study, it is worth expanding the group of respondents to include secondary school teachers. Their concepts of giftedness and related strategies for supporting gifted students may influence future educational and career choices. Thus, describing teachers' definitions of giftedness along with their methodological implications may provide a starting point for faculty to self-reflect and work on their general beliefs about the nature of giftedness and their teaching strategies (Mazzoli Smith & Campbell, 2016) in order to foster an environment that catalyzes the development of a gifted student's potential (Lo et al., 2019).

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Declaration of interest statement

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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Theoretical Assumptions and Validation of a Scale for International Comparative Research on Teachers' Attitudes Toward Educating Talented Students

Abstract

The aim of the research was to construct a scale of teachers' attitudes toward the education of gifted students that could identify the types and predictors of attitudes. The research was prompted by the current lack of tools with good psychometric parameters. A questionnaire was prepared for the needs of an international comparative study on teachers (N = 630) from six Central and Eastern European countries: Belarus, Bulgaria, Poland, Romania, Slovakia, and Ukraine. The theoretical models of giftedness and empirical data both indicated the important role teachers play in the development of students' giftedness. The teachers' characteristics were somewhat ambiguous. The article describes the assumptions, construction stages, and validation results of the questionnaire, which contained 64 statements (items) selected from a wide range of opinions after thorough substantive and linguistic consultations. The fundamental descriptive statistics for each item were analyzed. The final selection of items occurred as a result of confirmatory factor analysis, which did not demonstrate sufficient fit between the questionnaire's theoretical structure and the data. Exploratory factor analysis, on the other hand, allowed for the version of the questionnaire

with a three-factor structure to be adopted. Three types of attitudes were identified regarding gifted students' education: one expressing a negative attitude and two positive ones. As a result of the validation, a scale of attitudes was created with appropriate psychometric characteristics, consisting of 33 items. Further studies are being conducted to interpret the three dimensions of the scale and the variables that differentiate them.

Keywords: gifted students' education, teachers' attitudes, attitude scale, validation

Introduction

In recent years, cultural analysis has been an important line of research on giftedness and creativity. The organization and effectiveness of gifted students' education at school reflects the characteristics of society, its values, interests, and attitudes toward gifted students, and the role of gifted people in society. Giftedness and creativity always appear and develop in an environment in which individuals are motivated, supported, and appreciated. The social environment includes social and cultural resources. A cultural educational resource refers to values, ways of thinking, and possible perspectives that may facilitate or impede the achievement of educational goals. Numerous studies have shown that the cultural educational resource for gifted students is the attitude of parents, teachers, and peers toward learning and education. The more positive these attitudes are, the more conducive they are to developing talent (Stoeger et al., 2018). Teachers' attitudes, in accordance with the systemic concept of giftedness, constitute a cultural educational resource for gifted students (Ziegler et al., 2017).

In intercultural research, the countries of East and West are usually compared with each other, where the West means the United States and Western Europe and the East means Southeast Asia. The most common difference between them are the dichotomies of individualism–collectivism (Lau, 1992; Lau et al., 2004) and egalitarianism–elitism (Freeman, 2015). The area that is forgotten in intercultural research on giftedness

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is Central and Eastern Europe. This region has become a field of research on teachers' attitudes toward gifted students' education, which will be presented in the part of the article concerning the measurement of attitudes.

The role of teachers in the education of gifted students

Teachers have the greatest real impact on achievements and the development of students' giftedness (Salcher, 2009). The importance of teachers is indicated in both educational practice (educational biographies of gifted people) and theoretical concepts (Cieślikowska, 2005). In a new report from a study on gifted British and Polish students' retrospective perception of the school environment, Marcin Gierczyk and Steven I. Pfeiffer (2021) confirmed that according to both groups of students, teachers played an extremely important role in the development of their talents. The role of teachers is included in giftedness models, such as the Talent Development Mega Model (Subotnik et al., 2015), the Actiotope Model of Giftedness (Ziegler, 2005), the Differentiated Model of Giftedness and Talent (Gagné, 2004), the Munich Model of Giftedness (Heller, 2005), and the Three-Ring Conception of Giftedness (Renzulli, 2005).

Teachers of gifted students have an ambiguous image when it comes to the attributes that determine their effectiveness in working with gifted students (Matheis et al., 2017). This results from the different needs of students, their age, features of the school system, the characteristics of a gifted student's family, and the nature of talents in a particular area. The most frequently recognized are professional features – competence, knowledge of giftedness, professional development, professional motivation, experience in working with the gifted, teaching methodology, and interpersonal skills – and individual features such as age, commitment, self-confidence, faith in students' achievements, a friendly attitude toward students, care, reflectiveness, and autonomy (Khalil & Accariya, 2016). These variables may be arranged on the axis of knowledge and personality. The characteristics of teachers of gifted students coincide with those of good teachers (Tirri, 2008). In the literature on the subject, a good

teacher is defined as one whose students achieve more in their educational pursuits (Hanushek & Rivkin, 2007). The research by Eric Hanushek and Steven Rivkin (2007) shows that it is very difficult to conclude which qualities of a teacher make them effective. Factors such as the type of education or professional experience are not considered significant. This problem has also been noted by Polish researchers dealing with the determinants of learning outcomes. Kamila Hernik, Karolina Malinowska, and Kamil Sijko (2014) write that

> the variables we examined, i.e. the seniority in the teaching profession, the degree of career progression, the teacher's social background, and psychological variables (attitude toward social domination and a sense of happiness), are not related to their students' test results. (p. 266)
> Relationships with the variables related to the teacher should be expected elsewhere – primarily in the variables resulting from the observation of what the teacher does, i.e., from the observation of the lesson they teach or their didactic work. (Hernik et al., 2014, p. 268)

Roman Dolata (2014) states similarly that

> certainly, among the various school factors, this is the teacher who has the strongest influence on the school achievements of students. On the other hand, several decades of intensive research on teachers have failed to explain what characteristics of teachers make them teach effectively or ineffectively. The results of the SUEK study [abbreviation from Polish: School Determinants of Education Effectiveness study] unfortunately once again confirmed that we are still unable to explain the teacher effect. (p. 307)

Questionnaires completed by teachers inquire about their opinions on various areas of gifted students' education: the perception of a gifted pupil, the competences needed to work with gifted students, the methods

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and forms of work, experience, existing procedures, identification, and school support (Bochniarz & Grabowiec, 2019; Cieślikowska & Limont, 2010; Dyrda, 2012; Giza, 2006). Teachers assess their own skills highly. This is in contradiction with the actual state of affairs, which has not changed for many years: In schools, gifted students are still given little attention and support is rarely provided and covers a narrow scope (Bochniarz & Grabowiec, 2019).

Another approach in understanding the particular situation of teachers of gifted students is to study their attitudes. Teachers' attitudes toward gifted students and their education have been the focus of attention and research of giftedness educators for over 70 years (McCoach & Siegle, 2007). However, I have not found any Polish research in this area.

The ineffectiveness in explaining *the teacher effect* in gifted students' education through individual characteristics, the discrepancy between the declarations and the realities of gifted students' education, as well as the lack of Polish research on teachers' attitudes toward gifted students' education prompted me to analyze the literature and to prepare a concept for research on attitudes. The interest in the study of attitudes was also due to the fact that one seeks the causes – at least partial causes – of people's behavior toward various categories of objects or situations with which they come into contact (Nowak, 1973, p. 7). The correlation of attitudes with behaviors is high and, as Bogdan Wojciszke (2011, p. 210) argues, contrasting opinions are usually based on unreliable studies.

Teachers' attitudes toward gifted students' education – A research review

Social attitudes toward gifted people are an important area of research on giftedness (Heller & Schofield, 2000; Shaughnessy & Persson, 2009). They are part of the social capital available to gifted students (Renzulli, 2002). The attitudes of society toward gifted students influence the scope and forms of their education (Subotnik et al., 2011). Cultivating positive attitudes is important in providing these students with educational

opportunities appropriate to their needs. Thus, the attitudes that teachers adopt toward gifted students is important for the professional development and culture of the school (Clark, 2002; Lassig, 2009). It influences not only practical actions and approaches toward teaching, but also the behavior of the parents and peers of gifted students, as well as the classroom atmosphere that ensures optimal talent development (Lassig, 2009). Individual statements or assessments expressing teachers' attitudes are not only subjective opinions, but they articulate the cognitive interests of the entire profession of teachers.

Teachers' attitudes help in understanding relationships with gifted students and to explain the work undertaken to develop giftedness (Bégin & Gagné, 1994). It is important to first discover and understand attitudes and only then to implement effective training programs. It is crucial to discover and understand teachers' attitudes and beliefs about the education of gifted students for more effective education. It also makes it possible to assess the extent to which these attitudes are shaped by prejudices, stereotypes, and common opinions and the extent to which they are justified by theory.

In empirical research, the scales developed in the 1980s by Françoys Gagné and his associates Lorraine Nadeau and Jean Bégin (Gagné, 2018) are usually used. The Attitudes Toward Gifted Education (ATGE) questionnaire is available in two versions and includes 60 statements, 30 of which are common to both versions. The second questionnaire is a 34-item scale, Opinions about the Gifted and their Education (OGE), divided into six subscales: Needs and Support, Resistance to Objectives, Social Value, Rejection, Ability Grouping, and Acceleration. It applies a 5-point Likert scale. The guidelines suggest calculating seven average scores, one for each subscale plus the total score (Gagné & Nadeau, 1991). Along with the study of attitudes, one study also attempted to identify their predictors (Bégin & Gagné, 1994). A comprehensive literature review was carried out (35 studies from the 1970s and 1980s including approximately 50 variables) and the ten most "promising" predictors were empirically verified and finally reduced to two: socioeconomic status and contact with giftedness. The scores on attitudes from the entire research sample

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(139 teachers and 138 parents) ranged from 1.9 (very negative attitude) to 4.6 (very positive attitude), with an average of 3.4. Bégin and Gagné stated that the most favorable attitude toward the education of gifted students was represented by a well-educated, high-income teacher, childless or with one or two children (1994).

The questionnaire is still very popular, which is reflected in the number times the OGE is used (Gagné, 2018) and the wealth of papers in the literature on the subject. The research in various countries indicates that the psychometric properties of the translated versions of OTG and ATGE are not sufficient. First of all, it was not possible to confirm the six-factor structure of the questionnaires, as demonstrated by Slovenian (Juriševič & Žerak, 2019), Croatian (Perković Krijan & Borić, 2015), American (McCoach & Siegle, 2007), Greek (Polyzopoulou et al., 2014) and Irish (Cross et al., 2018) researchers. In contrast, researchers from Serbia (Blanuša et al., 2021) reported a positive validation of the questionnaire.

In 2018, Gagné published an article titled "Attitudes Toward Gifted Education: Retrospective and Prospective Update," in which he carried out a critical analysis of the current measurement of attitudes toward the education of gifted students. The author pointed to the main weaknesses: The questionnaires do not take into account the changes that have occurred over the last four decades; they do not investigate the relationship between attitudes, political and cultural values, or features of education systems; there is a lack of current research with representative samples; the measurement results do not meet the psychometric criteria ; and there is no good questionnaire to assess the general attitude toward the gifted and their education. Consequently, Gagne (2018) designed an empirical research program that would lead to the creation of a new research tool: the General Attitude toward the Gifted, their Needs, and their Education (GAGNE).

One of the latest and least known areas of research on attitudes – and the most interesting for me because of my own project – is the differences observed at the intercultural level. Mary K. Talent-Runnels, Kirsi A. Tirri, and Aida Medina Adams (2000) conducted a cross-cultural study using the ATGE questionnaire among school and kindergarten teachers and those

from gifted programs in Finland and the United States. Several cultural differences were identified. Negative attitudes toward gifted children were most often expressed by the kindergarten teachers. The Finnish teachers were more concerned about the negative side effects of special classes and other particular solutions for the gifted outside of classrooms than their American colleagues. The Finnish teachers were apprehensive about the possible negative effects of segregation. In Finland, the main emphasis is on providing equal opportunities and high-quality educational services for all students. Teachers promote the skills of gifted students, who – in a diverse class – provide a good example for the less gifted (Tirri & Tallent-Runnells, 2004).

In another study that applied the same research tool, cultural differences among Finnish, American, and Hong Kong teachers were identified (Tirri et al., 2002). The teachers from Finland and the USA were more similar in their attitudes than were their Hong Kong colleagues. The latter teachers were a more homogeneous group in terms of attitudes than the Finns and Americans. The attitudes in the American group were the most diverse. The most discriminative item in the questionnaire was statement No. 60: "There are no gifted children in our school." The teachers from the USA and Finland strongly disagreed with this point, while the Hong Kong teachers disagreed significantly less. The second-most discriminative variable was statement No. 47: "Talented people should spend their leisure time helping those who learn more slowly." This variable was mostly supported by the Hong Kong teachers. The teachers from the USA represented all kinds of attitudes toward this opinion, and the Finnish teachers adopted two opposing attitudes. These results reflect the difference between the assistance-oriented Asian culture and the more independent Western culture. The third-most discriminative statement in the questionnaire was No. 18: "All children are gifted." The Hong Kong teachers differed from the Western teachers in their answers: The Asian teachers disagreed the most in this regard, while the Finnish teachers agreed the most and those from the USA presented varying responses.

Following an analysis of the literature, particularly regarding 1) my critical evaluation of the OGE and ATGE, 2) the ambiguous results of

psychometric analyses of attitude scales published by researchers from different countries, 3) the cognitive and practical significance of international comparative studies – which indicate that differences between countries are related to cultural values and educational policy (features of the education system) – and 4) the cultural diversity of the countries covered by the research project, I decided to construct a scale to measure the cultural contexts of teachers' attitudes toward gifted students' education.

The starting point was to explain the construct of *teachers' attitudes toward gifted students' education*.

The importance of the construct of *teachers' attitudes toward gifted students' education*

The concept of attitude is well described and explained in the social sciences. It is interdisciplinary, which means that it is applied by researchers from various disciplines. There is no single or unified theory of attitudes; researchers use definitions of *attitude* with one, two, or three components.

Stefan Nowak's definition (1973) is representative of the three-factor understanding of attitudes:

> The attitude of a certain person toward a certain object is the whole of relatively permanent predispositions for evaluating this object and reacting to it emotionally, and relatively persistent beliefs about the nature and properties of this object as well as relatively permanent predispositions to behave toward this object, accompanying these emotional and evaluating predispositions. (p. 23)

This definition understands an attitude as a three-element affective/cognitive/behavioral structure. Nowak calls the attitudes covering all three components *full attitudes*. He recognizes the affective component as the most important one, without which it is impossible to discuss attitudes. Emotions/judgments appear at the very first moment that the object of

an attitude emerges; they are decisive and they influence beliefs and trigger actions. Similar viewpoints were expressed by Mirosława Marody (1976) and Stanisław Mika (1984). Other components may or may not exist in the attitude. Bogdan Wojciszke (2011) adopted a definition of an attitude that refers to a permanent emotional relationship: "A person's attitude toward an object (person, thing, event, or idea) is a relatively permanent tendency for them to value this object positively or negatively" (p. 200).

All three components of an attitude are interrelated and conditioned. There may be inconsistency and contradiction between them. They may have various values of emotions. Changing one component of an attitude results in changes in its other components. The starting point for a scale of teachers' attitudes toward gifted students' education was to adopt a structural three-factor concept of attitudes. It was assumed that in pedagogical research one should not abandon the behavioral dimension,[1] especially when there is a possibility of inconsistencies between behavior, knowledge, and emotions.

An attitude is always *someone's* attitude and is *toward* some object. The research subject is the attitudes of teachers working in generally accessible public schools. No selection was used in choosing the teachers. In most countries, gifted students are educated within a functioning education system, including the existing resources of the teaching staff. Gifted students usually do not have the opportunity to choose their teacher. They are subjected to the influence of people with diverse attitudes toward giftedness and the need to support them.

Education was defined by Wincenty Okoń (2003) as a process,

a sequence of events ordered in time, including such activities of teachers and students, targeted by the appropriate selection of purposes and content of education, as well as by such conditions and means that serve to cause changes in students, applying to the adopted goals. (p. 133)

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[1] A similar standpoint was adopted by Krzysztof Szmidt (2019, p. 275), who constructed the model of the creative attitude structure.

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Giftedness is understood to be outstanding potential which will most likely be completed if the students experience appropriate learning opportunities based on their predispositions, interests, and needs at various stages of development (Gagné, 2018; Renzulli & Reis, 2018; Subotnik et al., 2018). A gifted student is one who has above-average potential and opportunities for high achievement. Therefore, ensuring proper conditions for their education requires the use of appropriate material, methods of teaching and learning, and involvement in various enrichment and extracurricular activities. The purpose of educating gifted students is to develop their talent (Renzulli, 2021; Subotnik et al., 2018).

Stages and principles of constructing the scale

The construction of scales is defined by precise principles and rules of procedure (Hornowska, 1999/2007). It is not a goal in itself, but it serves to describe groups of people selected by their characteristics. First, its domain (construct) and purpose must be defined. The area of measurement is the teachers' attitudes toward gifted students' education. The purpose is to answer the following questions: What attitudes do teachers adopt toward a specific construct? How can the differences in these attitudes be explained? What explanatory variables for individual and cultural differences are significant? The research involved teachers of public schools who teach children and adolescents of school age in large cities in six countries of Central and Eastern Europe: Belarus, Bulgaria, Poland, Romania, Slovakia, and Ukraine (N = 630).

It was assumed that the educational and cultural system of a given country significantly influences how gifted people are perceived and how they are able to develop their predispositions. The importance of macrosystems in gifted students' education is still relatively unknown (Ziegler et al., 2017). Comparative cross-cultural studies usually reveal differences in the attitudes of people living in various cultures. "Knowing some of the characteristics of these cultures, one may try to reflect on what factors could influence the formation of such and no other attitudes" (Mika, 1984, p. 59).

The challenge was to ensure the comparability of respondents from six countries. For this purpose, a content and linguistic analysis was performed. In order to adapt the tool to various cultural conditions, care was taken to select the statements from the entire research area. The statements came from the literature analysis and interviews with teachers and researchers/specialists. The author's study visits to the countries included in this research were supportive. Efforts were made to make the final set of items diverse (i.e., including extreme and neutral, positive, negative, and mixed, and inversely diagnostic opinions). All of the statements had a closed-ended format. The statements were selected substantively, so that they are accurate in terms of content.

The problem of language and culture as well as the associated risk of measurement errors was addressed in several stages of verification (Hornowska, 1999/2007): when collecting the statements, during consultation, and when translating and proofreading with language and substantive specialists. The test was first translated by translators and then verified by scholars in terms of its adequacy for the research subject. A five-point Likert scale was used for the assessment (the response categories were "I disagree," "I rather disagree," "hard to say," "I rather agree," and "I agree"). As Jerzy Brzeziński (1999) indicates, the use of a five-point scale allows for a relatively high internal consistency of individual dimensions.

At the preliminary stage of work on the questionnaire, 150 statements were collected. After content selection and expert consultations, a version of 62 statements (items) was created. Attitudes are always measured on a limited sample of behaviors, because it is difficult to draw up a complete list of behaviors related to the attitude being measured.

There are two strategies for constructing measurement scales and defining the dimensions they represent: logical/theoretical and empirical (Hornowska, 1999/2007, p. 83). The starting point for the first strategy is the theory of the feature being measured, while in the second one, the structure of the phenomenon in question is derived from the data, based on the results of factor analysis (Hornowska, 2007). In the research on the attitudes of teachers from six Central and Eastern European countries

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toward gifted students' education, it was assumed that the attitudes would result from empirical relationships between test items. Without completely rejecting the theoretical approach at this stage, 62 items were analyzed and grouped, in accordance with the definition of attitude: 19 items to the affective dimension, 21 items to the cognitive dimension, and 22 items to the behavioral dimension.

The final version of the scale was created following the validation of the 62-factor questionnaire. Validation is a necessary procedure in the social sciences because it leads to accurate and reliable measurement of theoretical constructs. The final selection of the items was a result of statistical calculations. Factor analysis eliminated statements with low factor loadings and identified common attitudes that underly the different opinions.

Data analysis and statistical description

The first stage of the analysis covered the entire sample (N = 630) in order to establish one general model for all data.

Missing data analysis

It was found that the percentage of the missing data for one test item did not exceed 5% (0%–4.3%). Little's test indicated that the deficiencies were not completely random (χ^2 (5125) = 5918.54; $p < 0.001$); therefore, the missing data were replaced by Expectation–Maximization estimation (EM).

Preliminary data analysis

At this stage, the basic descriptive statistics of each of the questionnaire's 62 items were analyzed. On the basis of a variance value of <1, six items were excluded from further analysis.

Confirmatory factor analysis (CFA)

In order to confirm the theoretical structure of the questionnaire, confirmatory factor analysis was performed. The analysis did not demonstrate that the assumed model fit the data well ($\chi^2/df = 4.93$; CFI = 0.332;

RMSEA = 0.079; SRMR = 0.117)[2]. Then, the model included second-order factors, creating three more general scales consisting of three subscales each. Again, the analysis did not reveal a sufficient fit with the data (x^2/df = 5.04; CFI = 0.304; RMSEA = 0.080; SRMR = 0.119).

Exploratory factor analysis (EFA)

The measure of the selection adequacy of the Kaiser–Mayer–Olkin input variables (0.803) and the results of Bartlett's test of sphericity (x^2 = 12015.78; df = 1891; $p < 0.001$) confirmed the validity of the factor analysis. Therefore, exploratory factor analysis was performed using the principal components method with Varimax rotation. Because the eigenvalues were greater than 1 (Kaiser criterion), a 17-factor structure of the questionnaire may be assumed. These factors explain a total of 59.70% of the variance. Based on the scree plot (Figure 1), a three-factor or seven-factor solution may be adopted.

Figure 1. Scree plot
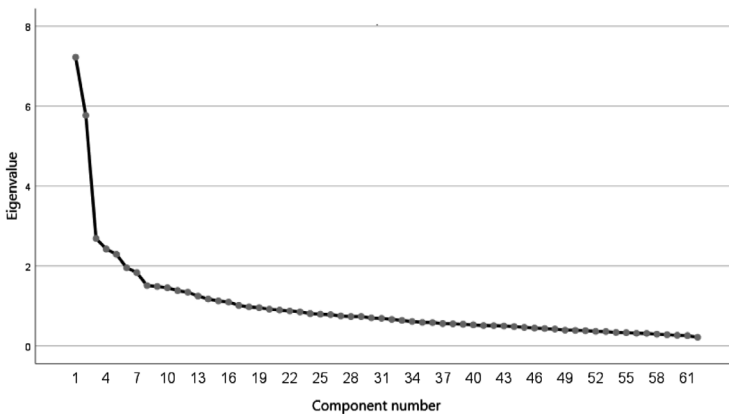
Due to the lack of unambiguous information on the number of factors that should be included in the structure of the questionnaire, several alternative methods were used to determine the optimal number of

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2 SRMR – standardized root mean square residual; RMSEA – root mean square error of approximation; CFI –confirmatory fit index. Acceptable fit values are as follows: x^2/df < 5; CFI > 0.90; RMSEA < 0.08; SRMR < 0.10 (Hu & Bentler, 1999).

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factors and the optimal solution was selected as a result. Among the available methods, the ones selected for testing were Velicer's Minimum Average Partial test (VMAP) and comparison data (CD) (Courtney & Gordon, 2013). The VMAP test showed a seven-factor structure for the questionnaire, while the CD method showed an eight-factor structure. Both structures were tested by measuring factor loadings along with reliability (Cronbach's alpha). Any items with a loading value below 0.4 were excluded from the analysis (Samuels, 2017). As a result of these measurements, the reliability of all seven or eight factors was insufficient.

Subsequently, a second three-factor solution resulting from the scree plot was tested with Varimax and Promax rotation. The resulting two three-factor structures were found to be similar to each other. The analysis determined that the three-factor structure with Promax rotation was better. Despite the fact that factor 3 had a lower reliability value (below 0.7), it was at an acceptable level (Taber, 2018). The values of factor loadings for the three-factor solution with Promax rotation are provided in Table 1.

Table 1. The Value of Factor Loadings for 3 Factors (Types of Attitude)

	Factor 1 – 13 items; reliability = 0.802	
P32	The school has no major impact on the recognition and development of giftedness.	0.653
P44	In a democratic society, gifted students should not be specially supported in public schools.	0.619
P55	Girls in school are less encouraged to develop their talents than boys.	0.618
P25	Teachers cannot recognize the talents of a disadvantaged child.	0.593
P49	Gifted students are rarely supported by teachers in my professional environment.	0.573
P51	Gifted students are usually not very creative.	0.566
P27	Gifted students' education should be a private matter for such students.	0.505
P33	In a typical classroom, there are no conditions for working with gifted students.	0.500
P21	A gifted child from a low-status family is unlikely to succeed in school.	0.462
P56	Gifted students often suffer from emotional development disorders.	0.462
P17	Gifted students should be educated in special schools for the gifted.	0.458
P52	Gifted students care most about success.	0.436
P34	Talents other than those developed in school are important in life.	0.425

Factor 2 – 13 items; reliability = 0.778		
P53	The successes of gifted people raise the prestige of the school, family, and state.	0.754
P60	Gifted people are the wealth of a nation and they need special care.	0.646
P30	Even the greatest talent will not develop without effort (work or training).	0.619
P39	All students, regardless of giftedness, should be treated in the same way.	0.556
P45	Gifted students like to compete.	0.547
P20	Gifted students' parents support their development very much.	0.518
P59	Everyone enjoys the results of gifted people's learning and work.	0.506
P19	Gifted students cause fewer educational problems at school than their peers.	0.481
P54	Gifted people have a better position on the job market than average gifted people.	0.459
P2	Every gifted student has the opportunity to develop interests in extracurricular activities.	0.451
P36	The successes of gifted students are also the successes of their teachers.	0.436
P48	Gifted girls are more often perfectionists than gifted boys.	0.431
P31	Gifted students from low-status families are able to succeed in school because they are more motivated than their peers.	0.407
Factor 3 – 7 items; reliability = 0.582		
P4	Gifted students often receive material support to develop their talents.	0.700
P1	We have clear procedures at school for working with gifted students.	0.530
P3	The gifted have good access to out-of-school facilities (community centers, youth centers, etc.).	0.498
P8	Knowledge about giftedness was provided at my university or in vocational training.	0.447
P12	Only teachers who are exceptionally professionally committed work with gifted students at school.	0.432
P14	I believe that the achievements of gifted students depend on my work.	0.425
P28	If a student is exceptionally gifted in one particular field, the requirements in other subjects may be reduced.	0.405

Conclusion

As a result of the validation, a scale of attitudes with appropriate psychometric characteristics consisting of 33 items was created. The CFA did not reveal sufficient fit between the theoretical structure of the questionnaire and the data. On the other hand, EFA allowed for the version of the questionnaire with a three-factor structure to be adopted. Three

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types of attitudes were thus identified: one that expresses a negative attitude toward gifted students' education and two that are positive. These attitudes include cognitive, emotional, and behavioral components, but they are represented to varying degrees in particular dimensions. Further studies are underway to interpret the three dimensions of the scale as well as the individual and cultural variables that differentiate them.

The results confirm the validity of the methodological assumptions and the entire international studies project. As Abraham N. Oppenheim (2004) stated,

the factor analysis of the scale of attitudes also creates the possibility for intercultural comparisons. However, as a rule this causes problems with an equivalent semantic translation. Moreover, one never knows if the structure of attitudes is identical in various countries. Nevertheless, if the scales were translated and the factor analysis demonstrated similar results in different countries, it would strongly indicate a similar structure and point to the possibilities of intercultural comparisons. (p. 233)

The research is of theoretical importance for the pedagogy of talents as a new typology of teachers' attitudes and of practical importance for improving teacher education by identifying those components of attitudes that are the least favorable for the education of gifted students and those which should be strengthened.

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THEMATIC ARTICLES

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Teachers' Experiences in Working With Cognitively Gifted Students

Abstract

The article presents the results of research into the knowledge and experience of Polish primary school teachers. The main aim of the research was to identify the experiences of primary school teachers in educational work with cognitively gifted students. Within this framework, the following research tasks were selected: (1) investigate teachers' preferred ways of supporting cognitively gifted students in the learning process and (2) investigate the difficulties experienced by teachers in working with cognitively gifted students. The research sought answers to the following questions: How do teachers recognize the individual needs of cognitively gifted students? How do they monitor their development? How do they evaluate their progress? What methods and forms of working with gifted students do they prefer? What difficulties do they experience in working with cognitively gifted students and what are the sources? How do they deal with these difficulties? The relationship between selected aspects of teachers working with gifted students in grades 1–3 versus grades 4–8 and the level of education were examined. The empirical data show that in Polish schools, cognitively gifted students are neglected and do not receive adequate educational support from their teachers. The preferred forms and methods of organizing the education of cognitively gifted students are mainly characterized by a teacher-centered attitude. The respondents indicated that difficulties working with

cognitively gifted students result mainly from a lack of time, the need to evaluate the student against the background of the class, a lack from support from experts and parents, and their own insufficient competency. The research is important because it shows the desirable changes to teacher education programs and the process of supporting teachers in their professional practice.

Keywords: cognitively gifted student, lack of achievement syndrome, abilities, school, education, teacher

Introduction

Educational work with a gifted student is not an easy challenge for any teacher, because it requires from them certain competences that particularly support the development of the student's abilities, in addition to the obvious competences. This difficulty is intensified by the lack of ready-made, universal, standardized models of educational activities that maximize gifted students' potential. Giftedness is a complex and ambiguous phenomenon; most of all, it is individual. Although it is commonly equated with abilities, it has a broader meaning (Feldhusen, 2005; Gagne, 2004). As noted by Michał Chruszczewski (2009), giftedness is a specific set of physical properties, abilities, and other psychological features of a person, thanks to which they achieve clearly above-average results (compared to the reference group) in a given field of activity. This activity requires not only basic operations (which are made possible by one's capabilities) or possibly specific physical resources, but also the inclusion of these operations or resources in an organized sequence of activities with a higher degree of complexity. Wiesława Limont (2010, p. 17) takes a similar view, defining giftedness as directional abilities that are interpreted as special giftedness or talent and which allow for high achievements in a specific field of activity.

Thus, giftedness is included in the category of special abilities, which Joseph Renzulli classifies as cognitive, artistic, psychomotor, and pro-social abilities and Bronisław Hornowski classifies as cognitive, linguistic,

literary, mathematical, technical, inventive, fine arts, musical, and peda-gogical (as cited in Szewczuk, 1990).

Giftedness is subject to the improvement process and school edu-cation likely plays an important role in this process, especially in relation to cognitive skills (Drost-Rudnicka, 2015; Dyrda, 2012; Fechner-Sędzicka, 2013; Gagne, 2004; Gondzik, 2001; Hłobił, 2010; Legutko, 2012; Mönks, 2008; Sternberg & Grigorenko, 2011; Szmidt, 2008; Wojnarowska, 2014). Taking into account the most famous models of giftedness – for exam-ple, Renzulli's Tricyclic Model of Abilities (2005, 2016), Monks's Multidi-mensional Model of Abilities (Mönks & Katzko, 2005), Popek's Interactive Model of Development of Abilities (2001), or Tannenbaum's Model of Abil-ities (1986),[1] which not only explain the essence of giftedness, but also show its multi-range determinants – it is easier to outline the ways of sup-porting the development of a cognitively gifted student and the role of a teacher. Moreover, it is much easier to identify the needs of a cognitively gifted student, as well as difficulties in their functioning and the sources of these difficulties.

It should be noted that a gifted student is often identified in terms of their achievements, as they are observable and measurable. This does not mean, however, that their school functions and competencies are equally highly developed (Czaja-Chudyba, 2005; Dyrda, 2007; Gwiaz-dowska-Stańczyk & Sękowski, 2018; Mönks, 2008; Wojnarowska, 2014). A cognitively gifted student is characterized by curiosity, the unabated en-ergy that they put into intellectual activities, and a great passion. Thanks to this, not only do they achieve success in school, but they also often – but not always – become group leaders. They can use their creativity in various areas of knowledge (Aleksandrovich, 2013; Pinter, 1993). It has also been noted that working with such a student is easier, faster, more effective, and – above all – free from major problems in motivating them to learn (Dyrda, 2007; Koszyk, 2015; Mönks, 2008; Porzucek-Miśkiewicz,

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[1] Descriptions of these models are included in many Polish publications, e.g., Schmidt (2008), Gwiazdowska-Stańczak & Sękowski (2018), Chruszczewski (2009), Gierczyk (2016), and Popek (1988).

2017). They are eager for adventure, independent, and willing to act; they are better able to connect various matters together (Okołowicz, as cited in Landau, 2013, p. 164). Their talents are manifested in cleverness, resourcefulness, and unconventional solutions and actions. Such a student definitely differs from their peers in one specific area: They have a high intelligence quotient and a wide range of interests, thanks to which they can be identified as a gifted, outstanding, or talented student with accelerated development (Dzierzgowska, 2012).

Cognitively gifted students are characterized by a combination of many positive personal traits: (1) they are over-developed and because learning is easy, they make progress faster than others; (2) they have their own "script" for life and learn quickly in their own way; and (3) they are characterized by a passion for knowledge, a desire to learn immediately, an obsessive level of interest, and the ability to concentrate. They often focus on one particular subject, forgetting the whole world around them (Dzierzgowska, 2012, pp. 13–14). Janet Bates and Sarah Munday (2005, pp. 11–12) add to this list of features (1) an early ability to form complete sentences and talk to adults; (2) a wide vocabulary and highly developed reading ability; (3) an insatiable curiosity and willingness to ask questions; (4) the ability to stay focused longer, especially on an interesting topic; (5) a tendency toward complex thinking processes; (6) abstract thinking skills, often with the use of higher intellectual abilities; (7) an excellent memory and the ability to apply information; (8) an ability to combine abstract concepts; (9) a rich imagination; (10) a wide range of general knowledge; and (11) leadership skills.

The attributes typical of a gifted child may, in some situations, help them with active and satisfactory functioning as a student, while in others they may cause difficulties. These difficulties may result from the diverse paces of development of emotional, intellectual, psychomotor, or linguistic abilities in students who are gifted in one field. Cognitively gifted students, being clearly accelerated in their intellectual development, may be significantly different from their peers in terms of emotional and social development and they are usually more vulnerable to existential depression (Fiedler, 1999; Gross, 2002; Limont, 2013). They

show strong emotions when they are unable to achieve their goal, which causes emotional tension in them and may, in turn, lead to frustration that disrupts their functioning. Cognitively gifted students are more sensitive and experience stronger emotional tension; it is more difficult for them to come to terms with the inconsistency between stated values and the behavior they perceive in others; they are more idealistic about the world and their increased emotional sensitivity influences the way they experience moral issues (Mróz, 2015, p. 20). They do not hesitate to call on others when their knowledge contradicts their experience.

These features, as already mentioned, may cause difficulties in social relationships with teachers and peers. Typically, cognitively gifted students experience a lack of understanding and their behavior is perceived as disruptive, disobedient, embarrassing, malicious, or bothersome. Teachers do not stimulate the development of such students and by punishing them, they often lead to the student's enthusiasm being extinguished and their achievements not matching their potential. Other pupils, however, tend to isolate and reject above-average gifted students, which condemns them to loneliness and marginalization in class life. Reluctance and pressure from peers may lead a gifted student to deliberately lower their own success and achievements in order to gain their peers' acceptance, which is confirmed by the results of research. The "loneliness of a long-distance runner" is a common phrase for the situation of gifted and outstanding children. Faster development distances them from their peers. Sometimes they lack friends and their talent breeds jealousy. Unusual ideas and solutions may lead to conflict in a group (Dzierzgowska, 2012; Gross, 2002; Mönks, 2008; Peterson, 2001; Rimm, 2000; Salcher, 2009). An adult's loneliness is often a voluntary decision dictated by their own aspirations. This is not the case for a gifted child, as they usually have no choice in the matter. The danger of spontaneity in the child's psychological development is associated with experiencing negative emotions and their suppression, which may result in emotional immaturity, neurotic and characterological disorders, or psychosomatic diseases (Pufal-Struzik, 2017; Worobiej, 2011).

The unfavorable situation of a gifted student is not a marginal phenomenon in our schools. Therefore, everything should be done to prevent

problems, mainly through the conscious and professional work of teachers, who are mainly responsible for the developmental conditions of their students. Studying their experiences from working with gifted students can allow them to discover neglected areas that require support.

Methodology

Goals/Aims
The main aim of the research was to identify the experiences of primary school teachers in their work with gifted pupils. Within this framework, the following research tasks were selected:

1. Investigate teachers' preferred ways of supporting cognitively gifted students in the learning process.
2. Investigate the difficulties experienced by teachers in working with cognitively gifted students.

Research Questions
Examining the experiences of primary school teachers working with cognitively gifted students entailed the adoption of the following research questions:

1. What experiences do primary school teachers have in working with cognitively gifted students?
2. Are there any differences in the experiences of teachers working with cognitively gifted students in grades 1–3 versus grades 4–8?

The following detailed problems were derived from the questions broadly defined above:

1. How do teachers of grades 1–3 and grades 4–8 recognize the individual needs of cognitively gifted students?
2. How do teachers monitor and evaluate the learning process of cognitively gifted students?

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3. What methods and forms of working with cognitively gifted students are preferred by teachers of grades 1–3 versus grades 4–8?

4. How do teachers of grades 1–3 and grades 4–8 support the development of cognitively gifted students?

5. Do primary school teachers collaborate with parents and other institutions to stimulate the educational development of cognitively gifted students, and if so, how?

6. What difficulties do teachers of grades 1–3 and grades 4–8 experience in working with cognitively gifted students?

7. How do teachers reduce the difficulties experienced in working with cognitively gifted students?

Method

The choice of method, technique, and design of a research tool are extremely important in the context of finding answers to specific research problems. A proper selection is a condition of correctly conducting the research. Due to the diagnostic nature of the research, the diagnostic survey method and the questionnaire technique were used. As noted by Apanowicz (2000, p. 126), surveying is a technique where written answers to a logical, consistent, coherent set of questions are used to investigate a specific research problem. Therefore, a questionnaire consisting mainly of multiple-choice questions and the possibility to add original answers was developed. The questionnaires were delivered to 57 schools, where they were distributed to teachers via the principals. A total of 327 completed questionnaires were returned. The data were subjected to statistical and qualitative analysis, as a result of which 300 people were qualified for the study. The values of the measurable parameters are presented as mean and median values, standard deviation, and rank mean; non-measurable parameters are presented as numbers and percentages. The chi-square test was used to check the relationship. The differences in the frequency of using certain forms and methods of working with cognitively gifted students and forms of evaluation based on the level of education were assessed using the Mann–Whitney U test. A significance level of $p<0.05$ was adopted, indicating statistically significant differences

or relationships. The statistical analysis was carried out with the software program Statistica 9.1 (StatSoft, Poland). The content analysis method (Krzystek, 2018; Miles & Huberman, 1994; Strauss & Corbin, 1998) was used in the analysis of data collected through open-ended questions by systematizing and organizing the respondents' statements. The thematic analysis was carried out in the software program ATLAS.ti. After a list of the most frequent thematic threads was compiled, an attempt to interpret their shared meaning was undertaken.

Participants and Ethical Considerations

The research covered 300 teachers: 150 early childhood education teachers (grades 1–3) and 150 working with grades 4–8. The teachers worked in schools located in urban areas (67%) as well as the countryside (33%). All teachers worked in schools in the Greater Poland (*Wielkopolska*) voivodeship. The research was conducted from September through November 2021.

The recruitment of teachers for the study was in line with three principles:

- voluntary participation in the study
- recruitment adequate to the objectives and methods of the study, in accordance with the inclusion and exclusion criteria
- selection of respondents that is free from discrimination.

In the context of conducting empirical research that involves a large sample of surveyed teachers, the basic conditions for reliability include anonymity, voluntary participation, and an appropriate selection of the research procedure.

Therefore, four criteria were taken into account:

1. Voluntary participation and confidentiality

The surveyed teachers were assured that they would not be identified in any way and that their participation in the study was absolutely voluntary; they were able to withdraw from it at any time, without

giving any reason and without any consequences. Additionally, they were informed that the results of the study would only be used for scientific purposes.

2. Sample selection

The selection of the sample for the study was purposeful. The research covered primary school teachers, due to the distinct differences in organizing education at a given stage.

3. Risk of harm

There was no risk of harm, thanks to the content of the research questions and the participants' anonymity. Also, the selection of the research method and procedure did not pose a potential threat to the interests or infringe the personal rights of the respondents or their families.

4. Relevance of the study

The chosen research design and method addressed particular research objectives and questions. Therefore, the conclusions of the research were correlated with the questions and the results were important for the theory and practice of educating teachers and gifted students. Moreover, the proprietary tools enriched the strategy of examining teachers' experiences, while the results themselves may constitute a reliable foundation for constructing educational programs to support teachers who work with cognitively gifted students.

Results

The study of the experience of teachers working with cognitively gifted students consisted of analyzing the respondents' answers to multiple-choice questions concerning various issues, which allowed for an in-depth description of the main variable. The preferred ways of recognizing students' talents and of monitoring and assessing their development,

the methods and forms of working with cognitively gifted students, and the difficulties experienced by teachers were investigated. The presentation and analysis of empirical data first concerns the entire sample, and then teachers of grades 1–3 and of grades 4–8 separately, in order to emphasize the similarities and differences in their experience.

1. Primary school teachers' methods of recognizing students' cognitive abilities as well as monitoring and assessing their development

When asked about their preferred ways of recognizing the cognitive abilities of their students, the vast majority (96%) of the respondents indicated observing students' functioning during lessons and during extracurricular activities (57%). Significantly fewer respondents (48%) indicated the grades earned by students, students' success in competitions (46%), conversations with parents (40%), and other teachers and school employees (37%). The fewest respondents (12%) chose the results of school achievement tests and of specialized intelligence tests (10%).

When comparing the results from the teachers of grades 1–3 with those of teachers of grades 4–8, significant differences can be noted: 92% of the surveyed teachers of early childhood education identify students' cognitive abilities by observing them during didactic classes and 70% do so by talking to their parents, while only 10% of the respondents teaching grades 4–8 rely on conversations with students' parents. The methods that were chosen significantly more often among teachers of grades 4–8 (80% each) were the marking scale and success in inter-school and national competitions. The differences in the two groups' preferences are illustrated in **Table 1.**

Table 1. Percentage distribution, by group, of the responses to the question "How do you recognize the cognitive abilities of students?"

Methods	Teachers of grades 1–3 (%)	Teachers of grades 4–8 (%)
Talking with parents	70	10
Talking with teachers and other school employees	20	54
Success in inter-school and national competitions	12	80
Observation during lessons	92	100
Observation during extracurricular activities	40	74
Students'	16	80
School achievement tests	4	20
Specialized intelligence tests	4	6
Other	0	0

The data obtained from the surveys show that the preferred method of monitoring and assessing the development of students' cognitive skills is observation during school activities (95%). A large number of teachers (60%) also indicated school documents, such as a school diary, students' notebooks, a portfolio, or a tutor's file. One third (33%) of the respondents preferred regular meetings with individual students. Only 7% of the respondents mentioned documents from external institutions. The results show that in this aspect of the study, there were no significant differences between teachers of grades 1–3 and teachers of grades 4–8.

As for the frequency of assessing the progress of cognitively gifted students, 37% of the respondents assess their students once a year and 31% do so every six months. Only 11% of the respondents declared that they assess students every week; 15% revealed doing so once a month; 2% of the respondents admitted never making such an assessment. The distribution of responses from the two groups shows that 50% of teachers of grades 4–8 assess their students every six months and 48% do so once a year, while teachers of the lower grades indicated that they mostly assess cognitively gifted students once a month (30%) and once a year

(26%). There was a statistically significant difference in the responses to this question (p=0.005).

The analysis of teachers' answers to the open-ended question revealed that they have difficulties assessing gifted students, especially against the background of the class. They are unable to construct evaluation criteria adequate to gifted students' potential and they have major difficulties constructing tools to identify their individual resources.

2. Teachers' preferred methods and forms of working with cognitively gifted students

According to the respondents' answers, the primary school teachers most often use verbal and transmission methods that consolidate cognitive passivity in their work with cognitively gifted students. The most frequently selected methods were talk (37%), discussion (19%), and description, short stories, and mini-lectures. (17%). As many as 60% of the respondents declared that they had never used a storytelling method and 38% never use drama or theatrical performances. Also, such methods as experimentation, the project method, didactic games, or outdoor methods were not very popular among the surveyed teachers. Completing worksheets, exercises, and working with texts and instructions were the dominant methods; such methods not only do not create conditions for creative activities, but they also limit independence and involvement, which are factors in the development of students' abilities.

The comparative analysis of the answers from grades 1-3 and grades 4-8 shows that it reflects the distribution of data of all respondents. Both groups of respondents claimed to prefer transmission methods based on the teacher's verbal activity and the students' cognitive passivity. Statistically significant differences were found in the frequency of using drama/class performances (p=0.007), didactic games (p=0.005), and outdoor activities (p=0.004), since teachers in grades 4–8 use these methods much less often in their work with gifted students. They very often use instructions, stories, and mini-lectures. The details are illustrated in **Table 2.**

Table 2. Percentage distribution, by group, of the responses to the question "How often do you use the following methods in working with cognitively gifted students?"

Method	A	B	A	B	A	B	A	B	A	B
	1	1	2	2	3	3	4	4	5	5
Drama/class performance	16	60	14	20	26	20	40	0	4	0
Debate/discussion	0	0	6	0	28	0	66	62	0	38
Talk	2	0	2	0	6	8	60	48	30	44
Didactic games	0	2	4	24	58	74	34	0	8	0
Presentations/student's papers	6	0	22	0	72	18	0	76	0	6
Project method	2	0	16	40	60	44	18	16	4	0
Storyline	40	80	24	20	20	0	14	0	2	0
Outdoor activities	0	10	38	80	50	10	6	0	6	0
Descriptions, teacher's stories, mini-lecture	0	0	14	0	28	0	44	80	14	20
Exhibitions	0	34	58	66	26	0	14	0	2	0
Experiments	0	2	44	52	40	32	10	14	6	0
Text work	0	0	6	0	16	10	78	74	0	16
Completing worksheets/exercises	2	0	4	0	4	8	90	72	0	20
Field exercises	0	8	12	92	66	0	20	0	2	0
Instruction	0	2	2	6	24	18	68	68	4	8

A – teachers of grades 1–3; B – teachers of grades 4–8

Scale: 1 – never; 2 – very rarely; 3 – rarely; 4 – often; 5 – very often

About half (45%) of the respondents preferred a group form of working with cognitively gifted students based on cooperation, while 43% preferred frontal teaching. Individually working with cognitively gifted students was indicated by only 10% of the respondents, while 2% of them prioritized group work based on competition.

In the analysis of the differences in the preferred forms of working with gifted students, it can be seen that the early childhood education

teachers tend to prefer group work based on cooperation, whereas the teachers of grades 4–8 prefer a frontal form. There was a statistically significant difference between the groups (p=0.049).

When it comes to specific forms of working with cognitively gifted students, the respondents declared that they most often use enrichment (83%), grouping (80%), and individual teaching in and outside of the classroom (77%), which is surprising because in another question the individual form was selected by only 10% of the respondents. It is worth pointing out the forms of working with gifted students which were not selected by a significant number of the surveyed teachers: research camps (96%), a scholarship system (94%), and consultations with a psychological and pedagogical counselling center (85%). A comparative analysis of the responses of the two study groups did not show any significant differences in this area of research. The respondents were also asked about the degree to which the given forms of support for cognitively gifted students affect their educational achievements. The vast majority (87%) of the respondents indicated that in their experience motivating and encouraging students to make an effort and to self-educate greatly influences their achievements. The experience of 78% of the respondents was that influence is exerted especially by forms of work that stimulate students to undertake useful self-service or require a lot of independence; however, 77% of the respondents stated that forms of work like extracurricular or specialized activities and developing specific skills are most likely to help gifted students achieve. Moreover, 63% of the respondents indicated that in their experience additional tasks that are specially aimed at cognitively gifted students greatly influence their educational achievements and over 50% of them indicated that when gifted students start school earlier, they are certain to be successful.

It is also worth noting here that the majority of the surveyed teachers do not fully appreciate, and therefore do not use, outside support to stimulate the development of cognitively gifted students. In fact, 95% solely meet with school pedagogues, while only 28% benefit from the support of a psychologist and less than 12% base their work with gifted students on the recommendations of psychological and pedagogical

counselling centers. Likewise, less than 30% of the respondents consult with experts and 65% have never taken advantage of scholarships or projects for gifted students.

However, over 70% of the respondents believe that cooperation with parents is a valuable way to support gifted students' educational development. Therefore, they mainly referred to open lessons and class meetings with the participation of both parents and students. On the other hand, few teachers (12%) value meetings organized at students' homes. It should be noted that there were no significant differences in the responses of teachers from the two study groups. The only important difference concerned meetings at students' homes, as this form of stimulating the development of gifted students was only used by the early childhood education teachers. According to the responses from the teachers of grades 4–8, they do not see parents as partners in the process of supporting gifted students' development. They stated that parents do not have adequate knowledge on this subject and expect from the school and that most of them do not see their children's potential and are therefore unable to provide appropriate extracurricular forms of support.

3. Difficulties experienced by teachers working with cognitively gifted students and ways to overcome them

The range of experience of the surveyed teachers acquired from working with gifted students will definitely be complemented by the difficulties they face in their daily work.

As the data show, the vast majority (80%) of the respondents admitted to experiencing difficulties from working with a cognitively gifted student. Moreover, almost 50% of them experience difficulty almost every day, with the teachers of grades 4–8 reporting such experiences significantly more (67% to 33%). The respondents were also asked about the sources of these difficulties. As the data show, 90.5% of those who experience difficulties working with gifted students indicated too little time during school activities and 73.8% indicated the process of assessing a gifted student against other students. More than half of the respondents stated that the sources of these difficulties lie in the troublesome

behavior of the gifted student (distracting other students or failing to re-
spect class norms) and the limited support from the parents and external
institutions. Almost a quarter of the respondents admitted that the diffi-
culties are caused by their insufficient competency for working with cog-
nitively gifted students. Some respondents (9.5%) stated that the
difficulty is caused by the passivity of the authorities in the local govern-
ments that finance education and by the complicated procedures of ap-
plying for specific solutions and forms of support. The experiences of the
respondents, illustrated in **Table 3**, show that the reasons lie mainly in
the organization of education.

**Table 3. Detailed distribution of the respondents' answers to the question
"What aspects of working with a cognitively gifted student
give you difficulty?"**

Sources of difficulty	Percent of answers
Assessing a gifted student against other students	73.8
Motivating a gifted student in the teaching process	17
Individual work with a gifted student during lessons	49
Troublesome behavior of a gifted student	54
High expectations from a gifted student's parents	26
Arranging a work plan with a gifted student	30
Lack of finances	9
Complicated procedures for applying for specific solutions	8
Passivity of the authorities and local governments that finance the school	9.5
Limited time in class	90.5
Insufficient competency for working with a gifted student	24.2
Lack of support from external institutions and the child's parents	54

The comparative analysis of the experience of teachers in the two
study groups shows that significant differences relate to the difficulties re-
sulting from the need to individualize work and to plan the work with

a cognitively gifted student. Decidedly more teachers of grades 4–8 experience this kind of difficulty. The respondents were also asked how they cope with these difficulties. The results show that over 78% consult other teachers about their problems. Over 54% organize additional activities for students. The methods least frequently used by the respondents were tutoring and self-improvement (5% each). Detailed data are presented in **Table 4**.

Table 4. Detailed distribution of the respondents' answers to the question "How do you overcome the difficulties you experience while working with a cognitively gifted student?"

Ways to overcome difficulties	Percent of answers
Consulting with other teachers	78
Tutoring	5
Looking for sponsors	7
Consulting with psychological/pedagogical centers	17
Introducing extra-curricular activities	54
Establishing clear rules in the classroom	41
Diversifying and posing intellectual challenges	13
Individualizing work with gifted students	9
Involving experts	7
Improving one's own competency for working with gifted students	5
Others	0

These data show that teachers use standard solutions available in every school. They are less likely to choose ways which involve outsiders (experts) or ones that focus on the gifted student only.

The comparative analysis of the experiences of the two groups of teachers revealed a statistically significant difference (p=0.006). Early childhood education teachers more often declared that they individualize work for cognitively gifted students. The teachers' answers to the open

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question revealed the needs of the surveyed teachers in this respect. The vast majority indicated a lack of academic preparation for working with gifted students. Academic education, in both master's degree programs and postgraduate studies, is largely focused on students with various types of dysfunctions. Teachers would expect forms of support for working with gifted students by organizing various workshops.

Discussion and Conclusion

The neglect of gifted students' development is still a disturbing fact in Polish schools. The term "a student with special educational needs," in school practice and in teachers' opinion, is mostly identified with a difficult or dysfunctional student and less with one who works more efficiently or has greater cognitive, social, artistic, and emotional abilities. The lack of a clear distinction between the needs of these two groups has a detrimental and inhibitory effect on cognitively gifted students. In schools, there are definitely more programs and specialists to support students with learning disabilities than gifted students. In educational training, significantly less emphasis is placed on issues specific to working with gifted students (Koszyk, 2015). This bias is also confirmed by the results of this study.

First of all, the results show that teachers rarely adapt classes to the needs of gifted students . They prefer frontal forms of work and a unified methodology of organizing classes in which the gifted students are predominantly passive and demotivated. Extremely rarely, or not at all, do they use special forms of diagnosing and supporting gifted students, though they are aware of their own limited competence for working with this type of student.

Greater interest and recognition of gifted students' special educational needs on the part of the school would probably allow teachers, tutors, and parents to select the proper methods, means, and content of didactic and educational interactions, satisfying the students' needs and thus creating optimal conditions for intellectual and personality development.

The lack of professional support leads to a general discouragement in gifted students when it comes to gaining new knowledge, enriching their skills, and developing their abilities; this in turn leads to a lack of achievement (Dyrda, 2000, 2007; Limont & Cieślikowska, 2005).

The common and leading principles used in educational work with cognitively gifted students are (1) faster, (2) more, and (3) more difficult. These principles should give way to the fundamental principle of individualization, which results from a conviction about the students' individual needs, the course of their development, and thus the need to search for individual solutions and teaching strategies. Therefore, the development of proprietary curricula or lesson plans is the basic task of every teacher. Work tools define a specific space for the student's activity in the process of their educational growth. Support for a gifted student is based on maximizing their potential by creating a rich school environment that is optimal for active learning. Individualizing learning also means that standardized strategies for testing and assessing student's achievements should be abandoned. Each student requires a different approach in this area, which is related to the brain's reactivity to specific stimuli and their strength. Individualizing assessment means individualizing assessment tools, which – depending on the student's needs and preferences – are to create natural opportunities for learning and evaluating the student's work, as well as their involvement in solving problems and creating projects that genuinely absorb them. Cognitive processes are the main tool that a student uses in the learning process in relation with other people (Maruszewski, 2002). Their quality and the degree of their development determine their course. Emotions are an important element that influences cognitive processes, and sometimes are even a prerequisite for their activation. Paying attention to this issue may prove important in the search for conditions for a gifted student's functioning. Negative emotions block processes in the brain and reduce the effectiveness of learning (Boleyn-Fitzgerald, 2010; Herzyk & Krukow, 2011). Therefore, recognizing the atmosphere of social relations in which a cognitively gifted student participates is extremely important for their cognitive functioning and for constructing appropriate forms of educational

activity. Such methods of constructing space for a cognitively gifted student's multifaceted functioning, as shown by the research, require the teacher to make non-standard efforts, adopt a new orientation, and gain new competencies. An innovative approach to educating gifted students which favors their active adaptation is primarily future oriented and holistic and it requires professional preparation from the teacher. Meanwhile, the academic preparation of future teachers results in theoretical, superficial, and non-internalized knowledge, which is of little use in school practice (Michalak, 2013).

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Types of Relationships Between the Family of a Gifted Child and the School and Other Environments That Support the Child's Development

Abstract

The purpose of this article is to describe and clarify the relationships that are found between families of talented children and schools, institutions, and other organizations engaged in the development of children's potential. The developmental concepts of talents prevalent in the current discourse emphasize their dynamic and interactive nature, meaning that the development of children's abilities is processual and proceeds in the course of intricate, time-dependent interactions between internal and external factors. A significant role is played by the influence from close social circles. From this viewpoint, positive relationships between the family and school or other social environments may help children's capabilities to flourish.

The article draws on data originating from individual, in-depth interviews conducted with 18 families raising children with special academic, artistic, or athletic talents. The analysis identified three types of relationships between families and schools, institutions, and other organizations supporting the development of gifted children: cooperation, conflict, and natural development of a child's talent. However, there were evident differences depending on the type of talent shown by the child, the stage in the education

system they were in, and the specific profile of the school, educational institution, or organization conducting a given type of education.

Armed with knowledge on the relationships between family and school and other social environments, it is possible to both understand and mold them in accordance with the expectations of all parties and the needs of the gifted child.

Keywords: relationships of family with school and social environments, gifted child's family, development of abilities

Introduction

The developmental and dynamic nature of giftedness was brought to light by scholars back in the 1980s (e.g., Feldman, 1986; Tannenbaum, 1983). This concept has been sustained and elaborated on in the following decades (e.g., Gagné, 2005; Mönks & Katzko, 2005; Piirto, 1999; Subotnik et al., 2011, 2015; Ziegler, 2005), eventually becoming the approach toward children's and adolescents' special talents that currently prevails. According to this notion, giftedness should be considered differently at each stage of life. In childhood, a gift is seen as potential to pursue successful activities in a specific area, whereas in adulthood it transforms into a talent that manifests in some exceptional achievements. Subotnik, Olszewski-Kubilius, and Worrell (2011) maintain that

giftedness can be viewed as developmental, in that in the beginning stages, potential is the key variable; in later stages, achievement is the measure of giftedness; and in fully developed talents, eminence is the basis on which this label is granted. (p. 7)

A child's potential does not guarantee that the child will have outstanding and innovative achievements in adulthood, because the potential needs to be nurtured and developed in order to transform into a mature talent. The authors of developmental concepts and models of capabilities have undertaken to describe the gradual transformation

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of a child's predisposition into mature talent. Gagné (2016, p. 127) mentions four stages in the development of talent: novice, advanced, proficient, and expert. In turn, when describing the process of transformation of a child's talent, Subotnik et al. (2015, p. 12) point to potential in the early stage, followed by competence, achievement, and excellence.

The developmental concepts emphasize yet another aspect of the nature of giftedness, one that is significant for this article. The crystallization and development of children's abilities occur in the course of complex and time-dependent interactions between internal factors (personality, mental and cognitive processes, and general, specific, and creative abilities) as well as external factors (first and foremost, the influence of close social circles, such as family, school, and peers, as well as sociocultural, economic, legal, and political conditions), each of which play a specific role (e.g., Gagné, 2005; Mönks & Katzko, 2005; Piirto, 1999; Renzulli, 2005; Subotnik et al., 2011, 2019; Ziegler, 2005). Among these factors, and in their synergistic impact, it is possible to distinguish variables with a positive or negative effect on the development of a child's abilities. It has not been determined conclusively which factor is the most important one, but the developmental concepts of giftedness attribute a special role to the closest social circles. The dynamic interaction between both the individual developmental needs of a gifted child and the family and school/other environments and coherent relationships among different circles are important. From this perspective, when the actions taken by parents, teachers, and other professionals are coherent, their positive influences on diagnosing children's potential and supporting their development are enhanced, leading to results which might not have been expected if such influences had come from separate sources.

Much has been written about the relationships between family and school. Scholars analyze the forms and scope of cooperation between parents and teachers; they provide evidence of the benefits derived from teachers' and parents' collaboration, investigate the requirements necessary to ensure parents' participation in everyday school life, and make efforts to construct models of cooperation of the two social environments (e.g., Anderson & Minke, 2007; Epstein et al., 2002; Goodall & Montgomery,

2014; Hoover-Dempsey, 2005; Hornby, 2011; Janke, 2002; Lulek, 2008; Lulek & Reczek-Zymróz, 2014; Łobocki, 2007; Mendel, 2000, 2007; Mikler--Chwastek, 2020; Porter, 2008).

One of the viewpoints from which relationships between family and school or other social environments can be analyzed is by considering the joint activities of family and school for the sake of developing the child's potential giftedness. The current knowledge on processes of transforming a child's potential gift into mature talent clearly shows that parents and teachers, as well as other professionals, need to collaborate in order to support the development of children's individual abilities in their education. In Poland, this concept has so far been addressed only marginally in studies on the education of gifted students (e.g., Giza, 2006; Dyrda, 2012; Łukasiewicz-Wieleba, 2018). These investigations substantiate the conclusion that the parents of talented children should be more engaged in the work of teachers and other special education experts. The question of cooperation between family and school/other social environments in support of the development of talented children and adolescents has been explored to a greater extent by researchers in other countries (e.g., Bloom, 1985; Colangelo, 2002; Hornby, 2011; Penney & Wilgosh, 2000; Porter, 2008; Salyers, 2014; Silverman, 2013; Stephens, 1999; Strip & Hirsch, 2001; Radaszewski-Byrne, 2001; Rotigel, 2003). These authors describe highly diverse behavior of parents when dealing with the school – from adaptative behavior to indifference. While scholars indicate benefits from collaboration between parents and teachers, they underline common worries among parents and parents' readiness to build positive relationships and to participate in the everyday activities of schools, institutions, and other organizations addressed to talented children.

While the call for collaboration seems justified, in practice, the achievement of this goal is fraught with many complexities. An endeavor has been made in this article to describe the types of relationships between families with talented children and the schools, institutions, and other organizations engaged in the development of children's potential.

Methodological Assumptions

The results presented in this paper originate from a study conducted in 2018, where the objective was to reconstruct the experiences of families who discovered and developed the potential of their talented sons and daughters and to identify the meanings they assigned to these experiences. At the stage of developing the research concept, two research questions were defined: How do processes of discovering a child's capabilities progress? How do families organize the daily processes of transforming their children's talents? Subsequent research problems emerged by applying a circular research model (Flick, 2010; Urbaniak-Zając, 2009). One of these was a question about the relationships which develop between families and schools, institutions, and other organizations when diagnosing and working with a talented child's potential abilities.

In total, 18 families with at least one gifted child participated in the study. The sampling of participants was purposive and employed the maximum variation rule (Flick, 2010). The fundamental criteria for inclusion in the study were the child's achievements (most often high or very high academic achievements, high rankings in local, national, or international academic, artistic, or sports competitions, and the potential for high achievements, especially by the youngest children). Other criteria differentiating the research sample were the type of special talents and the stage of their development. The children of the participating families showed their talents in one of three areas: academic knowledge (in the humanities, sciences, or foreign languages), artistic skills (musical instruments, singing, rhythmics, fine arts, or dance), or sports (swimming, tennis, volleyball, short track, kick boxing, or acrobatic gymnastics); age (early school age, early and late adolescence), and place of residence (town or countryside). The children represented different stages in the development of their talents: they included novices, apprentices, practitioners, and experts (Uszyńska-Jarmoc & Kunat, 2018). While constructing the research sample, the age of talented children was also considered. Initially, it was assumed that the research would cover only families with children of early school age (6–10 years old) and early adolescence (11–16 years

old). Eventually, families with older adolescents (15–20 years old) were also included, as 14 out of the 18 families were raising more than one child and the participants in their retrospective interviews recalled family experiences of discovering and developing the talents of their older children as well. Another factor taken into account when constructing the research sample was the place of residence (large, medium-sized, or small town or village). However, families living in small towns and villages were strongly opposed to taking part in the research and many refused to participate in it.

The research employed the technique of individual in-depth interviews with only modest structuring (Maison, 2022; Miński, 2017). The interviews were based on a list of topics related to the diagnosis and development of a child's talents. Open questions were asked during each interview so as to guide the respondents. However, the interviewees were free to raise any related topics which they considered significant. Next, these points were discussed in greater detail.

The decision to conduct most interviews with just one parent, though the family served as the research unit, requires clarification. The justification was the interpretative research paradigm in which the research was embedded. Based on the theory of symbolic interactionism (Hałas, 2012), it was assumed that families of gifted children – within intra- and extra-family interactions – negotiate the image of the talents revealed by their children and the possibilities of their further development. The processes of inter-family interpretations have been confirmed by studies dedicated to family narrations, which imply that members of a family create a coherent description of the world that is negotiated by all members of the family (Cierpka, 2013). Thus, a decision was made to conduct an interview with only one parent in 14 out of 18 of the interviewed families. The appropriateness of this choice was confirmed by the preliminary analysis of the first interviews conducted with both mother and father, in which the two parents presented very similar narratives. It should be added that many families agreed to participate in the study on the condition that the interview would be conducted with only one of the parents. Eventually, 22 interviews were carried out, including 17 with mothers and five with

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fathers. All interviews were recorded. The shortest interview lasted 35 minutes, and the longest one went on for 2.5 hours.

The research participants had higher and secondary education (16 and six, respectively). There were 12 teachers (including four academic teachers), three managers, one government official, one professional soldier, one sports coach, one tailor's shop employee, one warehouse employee, one shop assistant, and one housewife. The interviewees and their families lived in urban areas (four families in large towns, four in medium-sized towns, and two in small towns) and in rural areas (six families in suburban villages and two in the countryside). Most of the families were two-parent families, while two were single-parent families. The financial standing of the families, apart from one (single mother), was stable.

The analytical procedure consisted of multi-criterial data processing. The raw research material (transcripts of the interviews written in a simplified Gail Jefferson transcription system) was preliminarily encoded using both etic codes, derived from the literature on the subject, and emic code, derived from the data (Glinka & Czakon, 2021). The strategy of encoding event after event enabled us to capture the sequence of events and the context in which they occurred (Gibbs, 2010). The rich empirical material meant that it was difficult to use any other encoding approach. Next, thematic encoding was performed, in which a template of the meanings and replies given in the interviews was sought. The following step was the construction of a network of mutual links between the subjects (Glinka & Czakon, 2021). Constructing analytical categories and mapping the relationships between them made it possible to identify the most important subject areas.

Research Results

It needs to be underscored here that the preliminary encoding of raw empirical data was done using etic codes created according to the family–school interaction model developed by Colangelo and Dettmann (Colangelo, 2002), which was elaborated on for the needs of counselling

families with talented children. The second-level encoding (by subject) did not add new codes (resulting from the data) that were significant for the description. This model presents the following interactions: cooperation, acceptance of natural development, conflict, and interference. Two of the types of interaction are based on family and school environments engaging in collaboration, while the other two are based on conflict (Colangelo, 2002). Three of these relationships were identified in the experiences of the participants: cooperation, conflict, and natural development. Clear distinctions surfaced depending on the type of talent shown by the child and the stage of education, but also on the specific type of school, educational institution, or other organization providing special education.

Relationships between families of children with academic talents and their preschool and primary school (grades 1–3, integrated early school education) . The analysis of the research data led to the identification of two types of relationships between families with academically talented children and the preschool and primary school that they attended.

Cooperation. One type of relationship can be understood as cooperation. It is where families are informed about the talents demonstrated by their child. This information is transmitted to the family relatively early, at preschool age. In some cases, parents were informed even in the first few weeks of their child's education in a preschool ("As soon as she went to preschool, her teachers immediately noticed her. We were informed immediately" [1/1/K]; "Here, right from the start, one of the teachers told us that a child like this is one in a million" [XII/15/K]). The diagnosis of children's talents made by school experts helps families to verify their own evaluation of the child's predispositions, which they may not have noticed or acknowledged properly:

> The teacher, already in the four-year-olds, signaled that (.) our child has a mathematical talent::: and sings beautifully. [...] I know how my child sings. Obviously, I like it but it is not the kind of singing that::::, that (.) you can single out the child. [...] But the teacher said he has an extraordinary sense of rhythm:::, that he is very musical. [...] This was not so evident for me. (IV/6/K)

The relationship of cooperation also entails informing parents about ways to tailor working with a child during educational activities. These include activities of a formal nature, such as providing education according to an individual syllabus which is adjusted to the student's special educational needs, dictated by the child's talents and interests. In compliance with the provisions of the education law, its implementation depends on the consent of the child's parents. However, this form of support of a talented child is rarely used in practice.

> The teacher said that she would try to adjust the program for him. And this was probably the time when she was working for her professional advancement, [so] my son was a research subject. […] So, she suggested preparing a syllabus for him and said she would teach him accordingly, and I agreed. (VI/9/K)

In general, the work with an academically talented child in preschool and the first three years of primary school is informal. It assumes the form of additional or more difficult tasks. Families are not informed about such work on an ongoing basis, but learn about them by chance or from their children:

> It was at the beginning of the school year, and the preschoolers were taking the oath. The children would recite poems. All of them together. But at the end of this show, Marysia sang a song. And many children could not even speak well at all. And the teacher had not told us beforehand that she would sing. (1/1/K)

> The children weren't sleeping, but were lying still in beds. They had an hour of such calmness. The daughter said that <u>the teacher would give her a book and she would read to the children.</u> (1/1/K)

It is worth noting the support provided to families of academically talented children given in moments of temporary difficulties. Didactic difficulties are diagnosed by teachers during their ongoing work with

pupils, but families are engaged in the corrective measures carried out ("He refused to write, so the teacher told him to draw those borders, different frames, and patterns so that he could practice his handwriting" [X/13/K]; "The teacher noticed that she had difficulty pronouncing words. I started practicing with him, starting from simple words, the way the teacher recommended" [XII/15/K]). Families, on their own initiative, turn to preschool and school specialists when encountering problems bringing up their children. Parents are particularly concerned about the socio-emotional development of talented children. They may fail to understand the pattern and specific nature of this development among gifted children.

> And it is her sensitivity that gives us sleepless nights. She experiences everything so strongly. I have even been (.) at school to discuss the issue. And there, I was recommended a certain psychologist, so then we consulted her in a clinic. (II/4/K)

The relationships classified as cooperation also include giving advice to families on the further education of a child with academic talents. This, however, most often occurs in preschools. The most popular solution is to send the child to primary school earlier ("When he was in preschool, we were asked to send him to school" [VI/9/K]). Not all families decide to do so, but for many, the opinion of their child's teachers was essential in making that decision ("I had trust in the teachers, and they said, 'Don't let her go to school yet; we feel she isn't emotionally ready for that.' So I didn't let her" [XVII/21/K]).

Natural development. At the stage of preschool education and early school education, it was possible to identify another type of relationship between the families of academically gifted children and educational institutions. It pertains to the mutual acceptance of the natural development of talents and relies on the assumption that talents can develop without any special educational support. Families did not express any expectations that the preschool or school would treat their children differently; they did not question the passive attitude of teachers. They

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followed the usual curriculum in working with their children. However, it is worth highlighting that the approval of the teachers' work in preschool and primary school was mostly a consequence of the parents' being unaware of the special talents that their son or daughter had ("As for the talents, honestly, I didn't notice them" [II/3M]) or being uncertain about the children's predispositions ("It turns out that she is a talented girl. I knew that she was wise, but I probably didn't realize that she was so outstanding among her classmates" [XVIII/22/K]).

For some families, a preliminary diagnosis of their child's strengths during preschool and primary school education was not an objective evaluation: "<u>All these children really have identical certificates.</u> There is this phrase: such talents, such talents. Let's see what happens later, when Polish or mathematics lessons begin. Then we'll see if the child is talented or not" (II/4/K).

However, the families encouraged their children to work at home, at school, and outside of school, but considered them more like a form of play ("Why don't you go there, let's try this" [XVIII/22/K]; "They attended different extracurricular activities, rhythmics, art classes. The point was for them to be with other children, to jump and sing, to dance, and paint […] So, they were learning in such a natural, <u>playful</u> way" [III/5/K]).

It is worth emphasizing here that all the families participating in the study stimulated the multidimensional development of their children in different ways. Among the activities at home were games played together, reading, listening to audiobooks, telling fairy tales, singing, dancing, drawing, and listening to various kinds of music. Over time, the scope of activities was expanded, including after-school classes held by specialist educators (Stańczak, 2019).

Relationships between families of children with academic talents and their primary school (grades 4-8, teaching by subject) or secondary school (4-year general secondary schools). The type of interaction between families of children with academic talents and the child's school changes drastically when the child moves on to later stages of education.

Conflict. At that point, a relationship of conflict emerges, caused by the dissatisfaction of the family with the education provided by the school.

General primary and secondary schools mostly offer participation in school clubs or in competitions for talented pupils. This, however, does not satisfy parents' expectations, who would rather see more customized educational pathways for their children. The families expressed several complaints regarding school clubs, mostly concerning the timetables ("The children take a school bus at 3 p.m., so nobody stayed at school for extracurricular classes" [III/5/K]; "The teachers have other duties to attend to, so they scheduled these activities when it was convenient for them" [IV/6/K]), or regarding the content and methods used during these activities ("This year she attended a German language club. I asked her what they did and she told me, 'We listen to music.' It's hopeless" [1/1/K]). The parents had equally negative evaluations of the preparation of pupils for competitions. Many teachers would only inform their students that they could participate ("The teacher told them, 'You, you, and you – you are to take part'" [1/1/K]) or would provide them with materials for learning ("This year, all the teacher did was to give her a worksheet with exercises. And she solved 60 exercises all by herself" [XII/15/K]; "He revised for these competitions on his own" [X/13/K]).

The negative attitude of families toward the school's actions usually prompts them to look for opportunities to develop their children's talents outside of school ("I just read in a newspaper that there was going to be a spelling contest" [1/1/K]; "We submitted her work outside of school" [1/1K]) or to support their development by buying inspiring educational materials ("We always buy her some additional resources" [XII/15/K]).

Relationships between families of children with artistic and sports talents with the schools, institutions, and other special education organizations. The analysis of the research data reveals completely different relationships between the family environment and school/other environments of children who excel in arts or sports. Whether a child was in an early or advanced stage of developing their talent, the dominant type of relationships between parents and teachers/educators was cooperation. The artistic talents of the participating children were developed in art schools (primary and secondary music schools or ballet school), after-school educational institutions, and cultural organizations, as well as by

private tutors. In turn, sports abilities were developed in state sports schools, sports classes at school, sports clubs, and sports organizations (Stańczak, 2019).

Cooperation. For relationships based on cooperation, a characteristic trait was the active participation of the families in the process of developing artistic and sports talents, which gradually became more tailored to the child. Many families are aware of the importance of their engagement in the relationship with schools, educational institutions, and other organizations engaged in gifted education ("The parent–teacher cooperation is important, and this is manifested here. The teacher is happy and so are we" [IX/12/K]; "At first, it was only hard work and, in my opinion, it is only the parents' work. And a good coach, if you find one" [VII/10/K]; "This calls for great sacrifice on the part of the children, but also on our part, because it is time-consuming, so to speak. It requires many sacrifices. But I believe it will pay off for them in the future" [IV/7/M]).

The role of families goes far beyond organization – such as efficient transport between school and the special education institution/organization ("This one needs a ride and that one needs a ride. This one needs the guitar brought to him, this one needs to be picked up. And then we wait until another finishes classes" [IV/7/M]; "Sometimes, I have to bring some food to the music school" [XVI/20/K]) or financial help, for example, buying the right accessories which the experts recommend ("As the child develops, we need to buy a better musical instrument" [IV/7/M]; "And all those clothes must be bought in a ballet shop" [V/8/K]; "His sport costs us a lot, these clothes and skates" [XIII/16/K]) or paying fees for camps or workshops that are crucial for the development of the child's talent ("It's the cost of the workshop plus travel there, staying overnight and food" [XIII/16/K]). Families also partly fund the children's participation in competitions, tournaments, shows, etc.: "All these competitions (.) take place in other towns (.) and so you need to drive the child there or, if he travels with the teacher, you have to provide funds to pay for everything" (IV/6/K).

One of the greatest challenges that schools/institutions/organizations providing special education pose to families with children with artistic or sports talents is motivating the son or daughter to practice regularly.

Families employ different tactics; one solution is to accompany the child and ensure that they accurately perform the task assigned by the expert ("I sit down and check the work according to the teacher's guidelines" [IX/12/K]); another one is to perform laborious exercises together with the child ("I used to sit with her and we practiced" [II/4/K]). Moreover, families explain to the child how important it is to be responsible ("I was always telling him <u>I didn't want to remind him every day. I wanted him to do it of his own will and to remember about it</u>" [V/8/K]).

> THIS IS WHAT YOU WANTED; it was your decision. You made this decision two years ago, so now it has been two years of hard training, YOUR training. This has been YOUR effort. Do you – let me say – do you want to waste it? If you want to waste it, I won't stop you. (XIII/16/K)

Another way to motivate the child is by family members attending concerts, shows, sports events, competitions, tournaments, etc. ("I have always gone to all competitions" [XIII/16/K]; "Sometimes he goes with the coach and sometimes we go with him" [VII/10/K]).

Another task of parents is to ensure that the child does not engage in any activities which carry a high risk of injury ("For example, he was an avid roller-skater, but now roller-skates are not allowed" [V/8/K]). Families conscientiously adhere to the recommendations to avoid risky activities, sometimes even foregoing their favorite leisure activities ("My husband was told by the choreographer that hiking in the mountains was out of the question – and we loved going to the mountains so much" [V/8/K]). In addition, there is a need to adhere to special diets, which is particularly important for children with special sports talents.

For the relationship of cooperation, families of children with artistic and sports talents need to be in constant contact with the school, institution, or other organization ("We talk a lot with the teacher" [IX/12/K]).

It should be emphasized here that the families of children with artistic and sports talents expressed positive opinions about the proposals for developing their children's talents ("He is very well guided" [IX/12/K];

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"She already has a path laid out – all the preparations for the show for this year" [XV/19/K]). They appreciate the professionalism and personality of the educators working with their children ("Our child's teacher is highly professional, but at the same time warm and very dedicated" [IX/12/K]; "These women who run the club are developing themselves as coaches, and the kids are developing" [XV/19/K]). They have full trust in them and comply with the requirements ("We trusted this woman and were not disappointed; and she is never disappointed by us because we act as she wants" [IX/12/K]).

Discussion of the Results

The results indicate three types of relationships between the families of talented children and their schools, educational institutions, and other organizations dedicated to developing their talents. To some extent, this outcome mirrors the model of interactions between families of gifted children and schools developed by Colangelo and Dettmann (Colangelo, 2002; Limont, 2013). They distinguished the relationships of cooperation, conflict, and natural development of a child. However, we did not identify in the testimonies of families the fourth type of interaction described in the model: interference. It involves an active attitude of the school in supporting the development of a student's talents and a passive approach from the parents, who worry about the consequences of special educational support for the natural development of their child and their peer relations (Colangelo, 2002; Limont, 2013).

This study revealed a variety of types of relationships depending on the type of talent a child demonstrates, the stage of the child's education, and the particular profile of the school, institutions, and organizations providing the education. Academic talents are mostly developed in general schools. It was observed that the relationships between the families and the schools at the preschool and early primary school stages were characterized by cooperation or acceptance of the natural development of a child's talents. However, at later stages of education, they clearly

shifted toward conflict relationships. In turn, artistic and sports talents are developed in schools, institutions, and other organizations providing special education. There, the relationships with families take the form of cooperation.

The discrepancy between the results of this study and the cited model of Colangelo and Dettmann concerns the types of relationships and their image. Differences can be identified within the relationships categorized as cooperation and conflict. A cooperation relationship runs a different course in families raising academically gifted children than in families who have children with special artistic or sports abilities. Cooperation presupposes the leading role of the school in identifying and developing students' talents, but this does not mean complete passivity of the families (Colangelo, 2002; Limont, 2013). However, the relationships described by the analysis of the interviews in this study had a subordinate role to the preschool or primary school. There was no space for a mutual exchange of information about the child and the child's needs and possible educational paths or any mutual support in the pursuit of shared activities. The families were delegated the role of recipient of the school's actions (informing families of the type of talents that their children possess, the selected formal ways of working with them, and the opportunities for further education, as well as offering the families help in solving educational difficulties) or the responsibility of implementing the teachers' recommendations (e.g., the families were engaged in ongoing corrective measures). The families were deprived of any chance to influence these activities.

Such tendencies have been confirmed by other authors (e.g., Anderson & Minke, 2007; Goodall & Montgomery, 2014; Hornby, 2011; Lulek, 2008; Mikler-Chwastek, 2020). In educational practice, the traditional model of parental involvement, where the ideas and expectations of school are implemented, is still firmly entrenched. A different image of collaboration emerges from the experiences of families of children with artistic and sports talents, where a much higher degree of shared efforts is achieved. Families and the schools, institutions, and other special education organizations mutually support each other's endeavors. Families

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are not treated as mere recipients or contractors; instead they are actively involved in the process of developing children's capacities and are delegated important roles, such as creating conditions that favor the development of the child, organizing regular practice, or motivating the child.

Certain differences also appear in the relationships of conflict. These were identified in the experiences reported by families of children with academic talents. Conflicts arise when the active attitude of the families and the passive one of the school clash. Conflict interactions typically generate three types of parental behavior. The first one involves the constant struggle with school, in the second one families take over the initiative and search for educational opportunities to develop their children's talents, and the third one involves constantly criticizing the school and blaming it for any possible problem with the child, eventually withdrawing from any direct contact with the school (Colangelo, 2002; Limont, 2013). This study indicates that the source of conflict between families and primary schools (years 4 to 8) and secondary schools was the dissatisfaction of families with the range of education offered to gifted children (mere participation in school clubs and competitions), the poor quality of education (unattractive teaching style or inadequate teacher involvement), and the fact that the needs of school children are neglected when extracurricular activities are organized. Weaknesses of the support offered to talented school children in Polish schools have also been pointed out by other scholars (e.g., Giza, 2006; Dyrda, 2012; Łukasiewicz-Wieleba, 2018).

Conclusions

The development of children's talents is processual in nature and depends on intricate and time-dependent interactions between many factors. From this perspective, positive relationships between family and social environments both in school and outside of school – assuming the form of collaboration – can contribute to the children's potential flourishing. Parents and teachers or other professionals need each other

to accomplish the tasks they face in the process of developing the individual talents of children (Penney & Wilgosh, 2000). They can support each other by sharing ideas, motivating each other to carry out tasks, creating the educational program together, and sharing the responsibility.

This study brings to light the shortcomings of general education schools in terms of cooperating with parents for the sake of developing children's talents, especially those situated in the field of academic abilities. It is therefore necessary to take measures in order to educate parents and teachers about the role of family in identifying and developing the talents of girls and boys. Considering the current position of parents in school, the initiative to build positive relationships between school and home rests primarily with teachers.

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Childhood and Youth of Adrienne von Speyr (1902–1967): A Case Study of Giftedness

Abstract

The aim of this paper is to explore the unique giftedness of the Swiss physician and mystic Adrienne von Speyr (1902–1967) during her childhood and youth. The following research issues are addressed: 1) the research method and biographical sources on von Speyr, 2) a holistic portrait of her, 3) her early years, 4) the three-ring conception of giftedness as a fitting theoretical framework, and 5) an exploration of Adrienne's case using Renzulli's three-ring concept. Case study based on a content analysis of biographical sources was the adopted research method. The context of the research is interest in Adrienne von Speyr as a woman endowed with unique qualities and a unique mission in the Church. This general interest inspired the research into her childhood and youth, when some of these qualities were already present. The argumentation process involved analyzing sources and citing content relevant to the theoretical framework. The research confirms von Speyr's giftedness in her childhood and youth and delineates its characteristics. We can conclude that her early talents and gifts are in themselves worthy of interest and that they may inspire further research on her life and work in general.

Keywords: Adrienne von Speyr, giftedness, childhood, youth, the three-ring conception of giftedness, Renzulli

Introduction

Adrienne von Speyr was an accomplished Swiss physician and a Christian mystic. After meeting Hans Urs von Balthasar, she converted to Catholicism at the age of 38. She later founded Saint John's Community, which, at the time of its foundation, was a new form of Catholic life. She published 60 books. In 1985, a symposium dedicated to von Speyr and her mission was organized in Rome with the support of Pope John Paul II, who was personally interested in her theology and who delivered a speech to the symposium's participants (von Balthasar et al., 1986, pp. 12, 181–182). Another, more recent Vatican Symposium entitled "Adrienne von Speyr: A Woman at the Heart of the Twentieth Century" was held in 2017 (Servais, 2021; Woźniak, 2017).

Today, Casa Balthasar in Rome is the center of formation and academic research inspired by the work of Adrienne von Speyr, Hans Urs von Balthasar, and Henri de Lubac. It was founded and is directed by Father Jacques Servais SJ, who himself had been deeply affected by Adrienne von Speyr's writings (Servais, 2022).

In keeping with the leading theme of this issue, I focus on delineating Adrienne von Speyr's special profile of giftedness in childhood and youth, as it emerges principally from her biography *My Early Years*, depicting her life from her birth until the age of 26 years, when she passed her medical state exams and became a physician. However, I start by providing a general portrait of von Speyr to explain the interest in her in the first place.

The method selected for this study is a content analysis of the existing biographical texts from the perspective of the three-ring conception of giftedness. The texts were either written by von Speyr at the behest of von Balthasar or were obtained as a result of the specific interviews von Balthasar conducted with her. From this vantage point, the paper is a biographical case study which aspires to profile Adrienne's giftedness. As an example of life story research, it is specific rather than general, idiographic rather than nomothetic, hermeneutic rather than positivist, and qualitative rather than quantitative (Goodley et al., 2004).

The primary sources regarding von Speyr's childhood and youth were produced in her mature adulthood, after she converted to Catholicism in 1940 under the influence of von Balthasar, who became her confessor and spiritual director. He insisted that she write a memoir covering her early years. Adrienne actually wrote a partial autobiography between 1945 and the early 1950s, called *My Early Years* (von Speyr, 1995), which encompassed her childhood and young adulthood up to the age of 24 (1902–1926).

The second basic primary source is von Speyr's second partial autobiography, *Geheimnis der Jugend* [The Mystery of Youth] (Speyr, 1966). This autobiography itself was written in 1947 and covers the period until 1940. The memoir in question is unique in terms of the method in which the interviews were conducted. Hans Urs von Balthasar, as von Speyr's confessor, ordered her under obedience to return to the various stages of her earlier life, such as childhood and adolescence; he thus managed to receive a firsthand, immediate report of her past experiences. In this way, he also became a companion of her youthful Protestant years. The most striking discovery which this method produced was the fact that as a child Adrienne communicated daily with an angel, which she had not recalled when writing her conventional autobiography (*My Early Years*). Thanks to von Speyr's more immediate contact with the earlier periods, the accounts obtained through these interviews are, in some aspects at least, far more detailed than her autobiography.

Another primary source is von Balthasar's *First Glance at Adrienne von Speyr* (1986), where, in Part I – in the chapters from "Early Youth" through "Study of Medicine" – he summarizes von Speyr's memoirs pertaining to her childhood and youth. Part II of the very same volume contains "Statements of Adrienne von Speyr About Herself," valuable additional autobiographical material that is arranged thematically rather than chronologically (von Balthasar, 1986).

As for secondary sources, most texts on Adrienne von Speyr begin with a brief biographical section (Sutton, 2014; Żyła, 2021). There are also some biographies of her available (e.g., Bagnoud, 2018).

1. General Portrait of Adrienne von Speyr and Her Early Years

1.1. von Speyr's Character and Mission

Hans Urs von Balthasar, the most privileged witness of von Speyr's external and internal life, who collaborated with her for 20 years and shared a house with her for 15 years, highlights three dominant features of her personality. He claims that Adrienne's joyousness, cheerfulness, and outstanding sense of humor meant that she loved surprises and adventure. She had a vivacious temperament, a great interest in everything, and unceasing enthusiasm. Her second feature was her courage: She did not fear other people and was ready to confront them when necessary. In her relationship with God, she offered herself to Him courageously, without fear or reservations, even if it meant suffering Christ's passion and descent to hell. Thirdly, she always remained a child, full of memories from her early life. In dealing with God and her confessor, she was invariably sincere and trusting, though when she was responsible for others she sometimes needed to be firm or even manly (von Balthasar, 1986, Part I, "Life, Mission and Work …," "I. The Life, Her Character," paras. 2–4).

A crucial aspect of Adrienne's personality and mission was her mystical graces. They included contact with the saints – first of all Mary, then Saint Ignatius Loyola, John Apostle, little Therese, John Mary Vianney and others – who provided her with a sense of direction. She was also "transported" to various places, where her imperceptible presence was needed. Some of her patients were miraculously cured due to her intercession. The other side of the coin was her connection with Christ's suffering, which included visible stigmata. This phenomenon occurred regularly on Good Friday and Holy Saturday (von Balthasar, 1986, Part I, "Life, Mission and Work …," "The Life, The New Graces," paras. 1–4). Apart from her mystical sufferings, von Speyr suffered greatly from various natural illnesses throughout her entire life: tuberculosis, heart attack, diabetes, arthritis, and blindness. She also often did penance for others, which was sometimes excessive and had to be mitigated by her spiritual director.

Adrienne was able to integrate her rich mystical world with her intense professional activity. Her work as a doctor was at its peak in the 1930s

(lasting until 1954) and was enormously fruitful. As far as her family life is concerned, Adrienne was married twice, first to Emil Dürr (1927–1934) and then to Werner Kaegi (1936–1967), who outlived her. During her first marriage, she suffered three miscarriages and had no children of her own, but she became a mother to Emil Dürr's two sons.

Her main mission, however, was to found (together with von Balthasar) Saint John's Community, a secular institute based on evangelical counsels, which she called her "Child" (von Balthasar, 1994, "B. Our Common …," "1: Adrienne's Early View …," para. 3). The institute came into being in 1945 and is comprised of three branches: one for priests and two for laypeople engaged in secular professions – with separate branches for men and women. The Community has two patrons: Mary and John the Apostle, whose mutual relationship is at the core of its spirituality (von Balthasar et al., 1986). As von Balthasar (1994) put it, "the community … was meant to be guided into this primordial cell of the Church, the unity of Mary and John" ("B. Our Common …," "1: Adrienne's Themes," para. 2).

Adrienne dictated her 60 books to Hans Urs, who took the dictation in shorthand before transcribing the books and seeing to their publication in Johannes Verlag, a publishing house created specifically for this purpose. The majority of Adrienne's oeuvre is formed by biblical commentaries. The 12 volumes of the more obviously charismatic works were titled *Nachlasswerke* [Posthumous Works]; access to them is still partly restricted. To provide an overview of the thematic scope of her books, von Balthasar singles out eleven fundamental themes in them: 1) obedience, 2) incarnation, 3) confession, 4) childhood, 5) theology of mysticism, 6) apocalypse, 7) prayer, 8) primary numbers, and three that form the heart of the mission: 9) passions, 10) descent into hell, and 11) the doctrine of the Trinity (von Balthasar, 2008). All in all, Adrienne's work has a breathtaking range and depth.

1.2. von Speyr's Childhood and Youth

In response to von Balthasar's query (1986) about the greatest mysteries in her life, Adrienne first mentions "the great mystery of childhood and youth" ("Statements … About Herself," "The Three Great Graces …," para. 1). In *Handmaid of the Lord*, von Speyr (2017) states that "childhood

is always a preparatory gathering up of the self for the decisive engagement that will come later" ("The Light of Assent," para. 2). To fit the journal's thematic line, this paper focuses on Adrienne's childhood and youth. Drawing chiefly on her *My Early Years*, von Balthasar's *First Glance . . .* (1986), and the chronological table provided by Magdalena Żyła (2017), I present a succinct account of Adrienne's childhood and youth.

Adrienne von Speyr was born on September 20, 1902 in La Chaux-de-Fonds in the Swiss Jura Mountains. Her father, Theodor von Speyr, was an ophthalmologist; her mother, Laure Girard, came from a family of watchmakers and jewelers. Adrienne's father sometimes took her to the hospital with him so that she could visit sick children. She had an older sister, Helen (born 1901), and two younger brothers, Wilhelm (born 1905) and Theodor (born 1913). She also spent a great deal of time with her grandmother in her villa, "The Lindens," until the grandmother's death on Christmas Day in 1913. Adrienne usually spent her vacations at the Waldau, a mental hospital near Bern, where her uncle, Professor Wilhelm von Speyr, was director and had an apartment. He allowed her, from her earliest years, to have contact with the patients in the asylum, seeing that she had a calming effect on them.

As for her institutional education, she started her preschool education in 1908 in Mademoiselle Robert's private school in La Chaux-de-Fonds. In 1910, she enrolled in the public primary school in La Chaux-de-Fonds, along with her sister Helen. She sometimes substituted for her teacher, Mademoiselle Hammel, who suffered from asthma. Since she decided very early on that she wanted to become a physician, after graduating from primary school in 1914, she went to the *Progymnasium* (secondary school) in La Chaux-de-Fonds, where she continued to be at the top of her class. However, two years later (in 1916), Adrienne's mother forced her to move to the advanced girl's school in La Chaux-de-Fonds, claiming that she was not fit for the profession of physician. It was actually very rare at that time for women to become medical doctors. In spite of this setback, Adrienne studied Greek at night in order to keep abreast with the material covered in the *Gymnasium*. When her father discovered that fact, he allowed her to return to the *Gymnasium*, starting in the spring of 1917.

Unfortunately, Theodor von Speyr died in February 1918. After her husband's death, Adrienne's mother dismissed the housemaid, meaning that Adrienne had to do all the housekeeping in addition to taking commercial courses in the business school – while also continuing with her *Gymnasium* studies. It turned out to be too great a burden and caused her health to break down: She developed tuberculosis in both lungs. In the summer of 1918, Adrienne was placed in a sanatorium in Langenbruck. Her doctor told her she would not live to the following spring. Having spent three months in Langenbruck, in October 1918 Adrienne was transferred to Leysin, a famous, modern sanatorium in the Alps, where her treatment was financed and supervised remotely by her cousin, Charlotte Oliver, a medical doctor herself. There she gradually recovered until she could leave the place in July 1920. Due to her poor health, a medical career seemed beyond her reach at that point. Consequently, in September 1920 she moved to Saint-Loup Hospital, which was run by deaconesses, to study nursing. In December 1920, she suffered another collapse and underwent treatment at the Waldau until August 1921, supervised by her uncle Wilhelm. This finally cured her of tuberculosis.

In the meantime, her family moved to Basel, which meant a change from a French-speaking area to a German-speaking one. In August 1921, Adrienne – who barely spoke German – started the girls' *Gymnasium* in Basel. After she graduated in 1923, she started studying medicine against her mother's will. Her uncle refused to pay her tuition, so she had to teach up to 20 lessons per week to pay for her studies. In 1927, she married Professor Emil Dürr, a widower with two sons. In 1928, she passed her government board certification exams, and finally began her own medical practice in Basel in 1931.

2. The Question of Adrienne's Giftedness

2.1. The Three-Ring Conception of Giftedness
The literature on giftedness research is copious and constantly growing. However, we can single out some popular theoretical models of giftedness, such as Howard Gardner's (1983) theory of multiple intelligences,

Francoys Gagné's (1985) differentiated model of giftedness and talent, Robert J. Sternberg's pentagonal implicit theory of giftedness (Sternberg & Zhang, 1995), his later theory of successful intelligence (Sternberg, 2011), and Joseph Renzulli's three-ring conception of giftedness (Renzulli, 1978, 2010, 2011; Renzulli & Reis, 1997, 2014, 2018), which has become extremely popular and widely used among both theorists and practitioners in the field. In comparison with other theories, Renzulli's model is less technical and more humanistic. He does not identify giftedness with high IQ scores, instead taking it as a broader concept and preferring to speak of gifted behavior rather than gifted individuals. The starting point of his conception is the following definition and its accompanying graphic illustration:

> Gifted behavior consists of behaviors that reflect an interaction among three basic clusters of human traits – above-average ability, high levels of task commitments, and high levels of creativity. Individuals capable of developing this composite set of gifted behaviors are those possessing or capable of developing this composite set of traits and applying them to any potential valuable area of human performance. (Renzulli & Reis, 1997, p. 8)

Figure 1. Three-Ring Conception of Giftedness
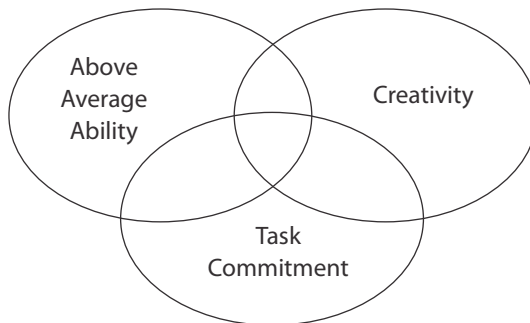
According to Renzulli (1978), research shows that no single cluster of traits is sufficient to ensure giftedness; what is necessary for creative or productive performance is the interaction between the three clusters

depicted in Figure 1: above-average ability, task commitment, and cre-
ativity. Renzulli also highlights the equal status of each respective clus-
ter of traits.

To make the three rings more concrete, let us also cite Renzulli's tax-
onomy of behaviors:

Taxonomy of Behavioral Manifestations of Giftedness According
to Renzulli's Three-Ring Definition of Gifted Behaviors:

Above-average ability, General
    High levels of abstract thought
    Adaptation to novel situations
    Rapid and accurate retrieval of information
Above-average ability, Specific
    Applying general abilities to a specific area of knowledge
    Capacity to sort relevant from irrelevant information
    Capacity to acquire and use advanced knowledge and strate-
    gies while pursuing a problem
Task commitment
    Capacity for high levels of interest/enthusiasm
    Hard work and determination in a particular area
    Self-confidence and drive to achieve
    Ability to identify significant problems within an area of study
    Setting high standards for one's work
Creativity
    Fluency, flexibility, and originality of thought
    Openness to new experiences and ideas
    Curiosity
    Willingness to take risks
    Sensitivity to aesthetics (Renzulli, 2002, p. 70)

In this model, above-average ability, which includes both general
and specific ability, refers to the top 15% to 20% of performance in vari-
ous areas of human endeavor. Task commitment signifies energy focused

on a particular problem or performance area. Creativity represents a talent for generating interesting and practical ideas (Renzulli, 2002, p. 72).

I decided to use Renzulli's three-ring model of giftedness to explore von Speyr's case. The research questions were 1) Can giftedness be attributed to Adrienne? and 2) If so, what is the particular profile of Adrienne's giftedness? First, we need to establish whether Adrienne as a child and as a young person displayed the three kinds of traits. As we know, the interplay of these three qualities produces giftedness. We will seek evidence of these traits in the (auto)biographical sources mentioned in the Introduction.

2.2. Above-Average Ability

Let us begin with Adrienne's above-average ability. Her autobiography, *My Early Years*, provides abundant evidence to corroborate the hypothesis that she possessed it. The opening sentences of the chapter entitled "Primary School" is a fascinating read: "School never brought me anything but joy. I do not believe I was ever bored there; I loved the lessons as much as recess; it all enchanted me, I went from discovery to discovery" (von Speyr, 1995, Part I, "Primary School," para. 1). As we can see, Adrienne was very enthusiastic about school and had an open, inquiring mind. She already knew how to read and write when she started, so she directed her thirst for knowledge towards her schoolmates; she had to know everything about their likes and dislikes, as well as about their siblings. She helped her asthmatic teacher by reading aloud to the class, giving dictations, and correcting the slates (von Speyr, 1995, Part I, "Primary School," para. 7). However, in describing her last two years of primary school, Adrienne claims that the curriculum was too easy for her and she started to get bored (von Speyr, 1995, Part I, "The Last Two Years …," para. 1).

The next step of Adrienne's education was the *Progymnasium*, starting in 1914. This was a two-year preparatory program that led to the *Gymnasium*, which ended in the *Matura* exam needed to enter medical studies. The school was very formal; most of the students were boys. Every subject was taught by a different teacher. Here again, we can read about Adrienne's enthusiastic reaction to her first day in a new school:

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"That morning, I went from discovery to discovery, I mean, from delight to delight. It seemed to me that I was starting a whole new life" (von Speyr, 1995, Part I, "The *Progymnasium*," para. 2). Due to Adrienne's illness, she started school two weeks later than the other students. With the help of her classmate Charles Wolf, by the end of the first week Adrienne already had top marks in both German and Latin. She writes: "I considered everything to be fabulously interesting. I had a real joy, almost a fever for learning. I also began to read a lot, and again it was Charles who helped me in my choice of reading" (von Speyr, 1995, Part I, "The *Progymnasium*," para. 3).

Adrienne's friendship with her classmates, Charles Wolf and Charles-Henri Barbier, proved to be very inspiring: they kept discussing ideas and were always at the top of their class. Adrienne is even more specific here, explaining that Charles-Henri was always third, while she and Charles alternated as first and second (von Speyr, 1995, Part I, "The *Progymnasium*," paras. 8–9). Her favorite subjects were Latin, French, and mathematics.

When Adrienne resumed studying in the Basel girls' secondary school after her serious health troubles (including tuberculosis), she was a year older than her classmates and she lavished them with maternal affection. She was struck with the difference between the *Gymnasium* in La Chaux-de-Fonds, where students were treated like adults, and the girls' school, which was based on strict discipline and whose students had no opportunity to demonstrate their maturity to their teachers. Adrienne also found a lack of cohesion in the curriculum. Since her English classes were badly taught, she asked a teacher friend of the family to tutor her and studied very hard for three weeks. The six-week probation period concluded successfully. Then Adrienne signed up for piano lessons with a famous director, Munch, committing herself to practicing three hours a day. She also missed philosophy and religion classes, which would help her overcome the overall disconnectedness between the various subjects. She tried to read some philosophy on her own, but to little effect. However, she attended a lecture on Plato which impressed her and she later discussed it with the speaker, Heinrich Barth. As a result, they became friends (von Speyr, 1995, Part II, "The Basel Girls' Secondary School …," para. 8.)

I believe that these examples form a compelling case for von Speyr's above-average ability. The *Progymnasium*'s system of ranking the students on a weekly basis and the fact that Adrienne consistently placed first or second can be treated as the equivalent of an IQ test which regularly placed Adrienne in the top 4% (since there were 51 students in her class). The fact that she readily substituted for her teacher, with joy instead of stress, also confirms that she surpassed her peers in ability. She was able to catch up with the backlog caused by her severe and prolonged illnesses and she was able to simultaneously study and work.

2.3. Task Commitment

Adrienne had a very clear purpose from a very early age: She was determined to become a doctor. As a child, she pretended to be a surgeon with her dolls. At the age of 12, after graduating from primary school, Adrienne's future professional career required concrete educational decisions. The ordinary path for girls, one that Adrienne's mother envisaged for her as well, was to go to the secondary school for girls and become a teacher. However, in order to become a doctor – an almost exclusively male profession at the time – Adrienne had to attend *Gymnasium* (starting from *Progymnasium*), which was essentially only for boys. This was already an act of courage and a very serious commitment on her part. Fortunately, her father, a doctor himself, understood and supported her desire. He even invited a medical student to give Adrienne an opportunity to talk with and learn from, which proved a momentous experience for Adrienne, as she understood that medicine is living science, that is to say living in God (von Speyr, 1995, Part I, "The Last Two Years …," paras. 27–29, 34).

Following through on this initial decision required great commitment, considering all the adversity she faced on her way. Consequently, task commitment is the quality in which Adrienne probably excelled the most. In 1916, at the end of the *Progymnasium*, her mother succeeded in manipulating her to move to the advanced girls' school instead of continuing with the *Gymnasium*. However, her father promised her that he would move her back to the *Gymnasium* if she felt unhappy (von Speyr, 1995, Part I, "The Second Year …," last para.).

The quality of teaching at the girls' school was much poorer, so Adrienne was terribly bored there. However, after consulting with the school director, her father decided to leave Adrienne there for a year on a trial basis and on account of her health problems. At Christmastime in 1916, she bought a Greek grammar book and started studying Greek and Latin at night to keep up with her *Gymnasium* classmates. When her father discovered this, his decision came quickly: Adrienne would return to the *Gymnasium* starting from the next semester (February 1917).

Adrienne's return to the *Gymnasium* was triumphant: She was now the only girl to survive up to that point. However, not everything was so glorious:

> I had to begin to work seriously, for the year spent with the girls had taught me no mathematics, no Greek, no Latin, no literature. I had indeed theoretically caught up on Greek in a way; however, I had missed the drills, and for the first time I knew at close hand what hard work means: but the boys really helped me. (von Speyr, 1995, Part I, "The Fourth Year …," para. 1)

The Greek teacher, Detling, helped her by devoting her some extra time after each lesson. Monsieur Rossel, the French and Latin teacher, was the best Adrienne had ever had, which motivated her and her classmates to work hard. They read a lot of classics at school and wrote fairly good compositions on abstract subjects.

This happy time was soon marred by the death of Adrienne's father, which not only meant losing an understanding soul, but also undermined her family's financial security. Adrienne was forced by her mother to do all the housekeeping in addition to studying, as well as taking business courses to be able to make a living.

> I always got up before 4:00 A.M.; when the lights in the post office were lit at four, I was cleaning the dining room, in which I slept; the next room was a sort of living room;
> Mama and the baby slept next to the courtyard. In the evenings, I did homework until very late; besides French, German, Greek,

and Latin, I now had English, Italian, and Hebrew; and a lot of mathematics (von Speyr, 1995, Part I, "Tuberculosis …," para. 1)

Adrienne did not give up her *Gymnasium* in spite of this excessive workload, but as we already know from Section 2, it eventually ended with a serious case of tuberculosis, which was at first treated in Langenbruck, and then in the alpine sanatorium in Leysin. Here is her short account of the education she got there:

I spent ten months at the Chalet Espérance; they figured among the loveliest months of my youth. As a rule, every morning from eight until noon, I went to the Vermont clinic, where I followed a sort of *Gymnasium* course with Max and Mé-Li Bouët. Our instructor, an Alsatian named Monsieur Graf, taught us all the subjects, from Greek to mathematics, going through philosophy, geography, history, Latin, and I don't know what else; he was very conscientious and always very well prepared. I was a dreadful student, because the fever very often kept me from going out in the mornings. (von Speyr, 1995, Part I, "Back in Leysin," para. 4)

At the end of the spring, her cousin Charlotte, a medical doctor, visited Adrienne and examined her thoroughly. Charlotte concluded that she was not well enough to continue with the plan of becoming a doctor. Therefore, Adrienne decided to become a nurse, keeping as close to her original intention as possible. This was one of the toughest moments in her youth, in which her plans seemed to have been thwarted. She responded in the most tenacious and resilient way possible under the circumstances: by engaging all the physical strength she still had to help the patients.

In September 1920, she arrived at Saint-Loup Hospital, where she was meant to study nursing. It was a religious institution, run by deaconesses. Adrienne was there as a volunteer, but the order of the day for her was the same as for the novices – and it was absolutely exhausting.

She fell ill again and again, and soon left the place altogether. So it seemed that she would not be a nurse, either. It took another eight months, from December 1920 until August 1921, to recover from her illness at the Waldau. Then she was ready to resume her plan of becoming a Christian doctor.

Her family moved to Basel, where her father's family had lived. Adrienne enrolled there in the girls' secondary school, although she spoke little German. Due to her prolonged illness, she had serious gaps in her knowledge, but she was provisionally accepted. The rector was impressed by her courage and by the fact that she had come to the school all by herself (von Speyr, 1995, Part II, "The Basel Girls' Secondary School …," para. 4).

Adrienne loved music, languages, mathematics, and history, taught by Rector Barth. However, as the final exams were nearing, she understood that she had to give up music to focus on medicine. This readiness to give up valuable but distracting activities in order to focus on the principal task is also a clear sign of a high level of task commitment.

After unsuccessful attempts to elicit her uncle's support for her medical studies, she nevertheless registered at the university of Basel and asked her friend – Georgine Gerhard, a secretary at the school – to find her students for private lessons. This demonstrates her resilience and creativity in problem-solving. Her aunt Jeanne put it aptly: "I think you are tenacious enough to succeed" (von Speyr, 1995, Part II, "The Beginning of Medical School …," para. 14).

Adrienne was very disciplined in her self-study, which took up most of her time in the course of medical studies. She imposed on herself a fixed schedule. In the morning, she went to the library and started with a physiology textbook:

> I read without a break, line for line, page by page; made supplementary drawings, calculated calories, and composed chemical equations. After finishing the physiology text, I moved on to Corning, with its splendid and illuminating pictures and concise, very clear text. In the afternoons I regularly worked two hours at home with my microscope and also went to the anatomy

demonstration room, where skeletons and portions of skeletons were available for students to study. (von Speyr, 1995, Part II, "The Second *Prope* Nears …," para. 2)

In spite of her efforts, she noticed that she would retain little of what she studied in the morning, as she was overtired from tutoring. This discouraged her, but she continued, not knowing any better solution. It was only when she went to the holiday chalet "Naz" in the vicinity of Klosters and revised anatomy, topography of the brain and the nervous system, and embryology that she found the material cohesive, logical, and easy to retain. So she observed aptly that studying in nature, "under the firs" is the best way to learn. In spite of the overwhelming amount of information she had to absorb, she finally passed her exams in September, although her grades were not impressive. To sum up, Adrienne's task commitment was demonstrated by her disciplined study despite opposition from her mother, the lack of support from her uncle, and her own poor health.

2.4. Creativity

The third "ring" in Renzulli's conception of giftedness is creativity. It is demonstrated by fluency, flexibility, originality of thought, openness to new experiences and ideas, curiosity, willingness to take risks, and sensitivity to aesthetics (Renzulli, 2002, p. 70). We can add a rich imagination to the list. Let us now look for these traits in Adrienne's life.

In early childhood, creativity is best measured by the games the child plays. Adrienne was not very fond of family games with her mother and her father; she preferred playing with her dolls or reading. Her grandmother's house and garden, called Les Tilleuls [The Lindens], was a paradise for Adrienne. There she played hide-and-seek with other children, but was also able to enjoy silence, watching the snowflakes fall. Adrienne played a lot with her siblings: She and her sister Helen played with dolls, when her younger brother Willy had to act as the father of their dolls. The elder sisters competed for the privilege of having him as a husband by giving him erasers, sharpened pencils, or pictures. Then, Adrienne withdrew from these competitions and went on to simply play with her dolls.

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She cared especially for her older, damaged dolls, which she tended, bandaged, and operated on. She was a surgeon, so she needed an anesthesiologist, and Willy voluntarily acted as one (von Speyr, 1995, Part I, "Les Tilleuls," paras. 1–3; "Willy," para. 1). Later, she would perform "operations" on her cousins instead of on her dolls, with the help of her elder sister (von Speyr, 1995, Part I, "Bellevue," para. 8).

She compares herself to her sister, recognizing that her own life was somehow richer (more gifted) than her sister's:

My life had a kind of richness and hers, a kind of poverty (to express this in the words of grownups). It was as though less were given to Helen. When we were playing with the cow or the horse, for instance, or even with two little stones or blades of grass, I was always completely occupied, never bored. I would braid a crown, for example, from the grass: it was the crown of my God. Or the winner would get the crown when we played "war" with the little stones clashing against each other in battle. Or the blades of grass would become the food for the Lord's sheep. And you had to consider into how many parts to divide it so that all of them would receive something. Or you made soup for everybody out of it. This is how it was. But Helen was invariably finished with the game and needed something more, something new. She was helpless. Everything had to be explained to her: "No, a stone really isn't a king," she would say. (von Balthasar, 1986, Part II: "Statements … About Herself," 7, para. 1)

This sense of richness is a sign of Adrienne's deeper, more sustained imagination, greater creativity, and ability to conjure up an imaginary, fanciful world. One surprising case of Adrienne's creativity was a talk on the Jesuits and the value of truth and mental reservation, which she delivered as a nine-year-old to some older schoolmates in her primary school. It is surprising because she did not have any books on saints or any materials on Catholic theology (von Speyr, 1995, Part I, "Year 1911," para. 10). As von Balthasar explains in an endnote:

> When Adrienne wrote this autobiography, she no longer had a vivid recollection of her meeting with Saint Ignatius at Christmas in 1908 (an account of which has been inserted above). It was only at the time she wrote her second autobiography – since she was transported, by virtue of obedience, to the days of her youth – that she recalled this meeting and put it in writing, as reproduced here. For the same reason, the present autobiography contains no mention of the little girl's encounters with the angel. (von Speyr, 1995, Part I, "Year 1911," para. 10, endnote 1)

In other words, this mysterious event is explained by the knowledge Adrienne acquired in her mystical contact with Saint Ignatius or with her angel.

Another event in the religious domain took place at the beginning of her secondary school, when she wrote an essay entitled "Les Préjugés" [Prejudices]. It included criticism of the way religion lessons were taught, particularly the lack of discussion of other religions, which narrowed the students' purview (von Balthasar, 1986, Part I, "Life, Mission and Work …," "I. The Life, Early Youth," para. 4). We can call it creative because it was not inspired by any social influence she experienced.

There are more examples of Adrienne's creativity expressed in talking with her peers. While she was staying in the alpine sanatorium in Leysin, she was invited by the girl patients from the convalescent home "Esperance" to give weekly lectures and bring some life into their monotonous daily routine. Adrienne accepted this invitation with pleasure and went there six or eight times. Some of her talks were titled "Obedience and Freedom," "Truth and Its Degrees," "The Right to Think," "Dostoyevski," and "*Raison d'etre*." Apart from the girls, her listeners also included some workers, young nurses, and students (von Speyr, 1995, Part I, "Leysin …," para. 5).

Renzulli mentions flexibility as a trait that belongs to the creativity cluster. The best example of this quality in Adrienne was her decision to become a nurse when becoming a doctor seemed out of her reach (von Speyr, 1995, Part I, "Back in Leysin," para. 13). As we already know, there was another twist of fate in Adrienne's life and it turned out that she was

able to start her medical studies after all. Adrienne's ability to find a source of income when her uncle refused to cover her university fees also bears witness to her creativity. She got the idea to ask her friend, Georgine Gerhard, a secretary at the school, to find her students for private lessons. This successful idea provided her with 15 to 20 lessons each week (von Speyr, 1995, Part II, "The Beginning of Medical School …," para. 14). Adrienne's memoirs contain more similar examples, but those cited above provide enough evidence of her creativity.

Conclusion

The above analysis of biographical sources on Adrienne von Speyr's childhood and youth demonstrates that she was characterized by above-average abilities, task commitment, and creativity. Therefore, she can be credited with giftedness according to Renzulli's model. However, the model itself does not explain what was the driving force behind her commitment to become a doctor or why she became a sought-after and respected doctor in the end.

Adrienne herself claims that she was moved by the helplessness of others: her father's ophthalmic patients, those who limped or used a cane, or psychiatric patients in her uncle's clinic. She had great role models in her father, her uncle, and De Quervain – all three medical doctors – who instilled in her a love for the sick (von Balthasar, 1986, Part II, "Statements … About Herself," 7).

Her motivation also had a strong religious foundation: She wanted to devote herself to God and to people by taking on their suffering. Moreover, she understood her determination to become a doctor as an act of obedience to God (von Balthasar, 1994, "I, Report," "A. The Ways of Access," "1. Adrienne's Path …," para. 3). As we can see, the unique profile of Adrienne's giftedness is shaped by her human compassion and its underlying religious motivation. She became a compassionate doctor, focused entirely on the good of her patients. This compassion was obviously deepened by her own experience of natural and mystical suffering.

Giftedness is an important concept in contemporary pedagogical research. The historical case study we offer here is a modest contribution to the field. Many aspects of Adrienne's richly endowed personality remain relevant despite the passage of a century. At the same time, we need to keep in mind that the concept of "giftedness" is far from encompassing the richness of Adrienne von Speyr's personality. Therefore, it is definitely worth undertaking further research into the life and works of this fascinating woman in order to paint a richer, more holistic portrait of her – one that would not be reduced to only the dimension of her talent or to only her childhood and youth.

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A Literature Review on Teaching Ethical Creativity in Primary Education

Abstract

As the world emerges from the COVID-19 pandemic and continues to struggle with armed conflicts, creative and ethical solutions to the controversial issues of recent years are needed globally. While creativity is necessary, it must also be ethically sound. Today, discussing creativity in relation to its ethical dimensions has also been emphasized in the perspective of sustainable development, but research on the teaching and learning of ethical creativity remains limited. Therefore, the aim of this paper is twofold: 1) to describe how primary schools engage students on ethical creativity and 2) to suggest a didactic model for ethical creativity based on the teaching strategies found in a literature review. Internationally, creativity and ethics have been addressed in curricula and studied within the field of education. However, research on the ethical dimensions of creativity (ethical creativity) is limited. Based on a literature review, five teaching strategies for engaging primary school students on ethical creativity have been identified. The common features among the five teaching strategies relate to the use of 1) digital tools/media, 2) art and literature, 3) real problems and dilemmas, and 4) enquiry-based learning. A three-step teaching model is suggested for teaching ethical creativity.

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The implications of the paper relate to enhancing ethical creativity among our children, who are both future citizens and leaders in various professions in the global society.

Keywords: ethical creativity, teaching, primary education, literature review

Introduction

In the last decade, researchers have begun discussing creativity in relation to its ethical dimensions (Moran et al., 2014) and sustainable development (Bryden & Gezelius, 2017; Cheng, 2019; Franck & Osbeck, 2017). However, research on the teaching and learning of ethical creativity remains limited. As we have seen in recent years, now that the world emerges from the COVID-19 pandemic and continues to struggle with armed conflicts, creative and ethical solutions to controversial issues are needed, both nationally and internationally. While creativity is necessary, it must also be ethically sound; thus, we use the term "ethical creativity" in this paper to awaken stakeholders' awareness of sustainability issues. Being based on a literature review, the aim of the paper is twofold: 1) to describe how primary schools engage students in ethical creativity and 2) to suggest a didactic model for ethical creativity based on the teaching strategies reviewed in the literature.

Is Creativity Always Positive?

According to Sandri (2013), creativity, innovation, and divergent thinking are important skills that are expected to move society forward by providing alternative ways of thinking about and dealing with existing problems. Cropley (2014) claims that "creativity is crucial for the economic, social and personal welfare of society" and that "technologically advanced societies have now reached the stage where mere ability to store knowledge and make logical connections and draw obvious, correct conclusions can easily be done by information technology" (p. 250). In our paper, we are interested in shedding light on the importance of creativity and how much education has done to enhance children's creative thinking.

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We argue that education should prioritize didactic models centered on creativity in addition to transferring established knowledge to children.

That said, Masschelein and Simons (2013) believe it is problematic that a "belief in tradition and transfer [in a school context] has been replaced by a belief in the creative power of the individual and in the uniqueness of the learner" (p. 92). A consequence of this is the learner becoming restricted to their own life-world and experiences, having insufficient traditional knowledge to lift them up. Cropley (2010) takes the critique one step further, arguing that writings on creativity have mainly focused on the positive aspects, consequently ignoring the "dark side," whether that be the fruits of creativity that deliberately hurt people or the unintended consequences of well-intentioned acts. Niepel et al. (2015) and Sahlin (2001) point out that creativity is generated from breaking rules, which may lead to unethical outcomes. The important question here is how we can prevent unethical outcomes of creativity. According to Cropley and Cropley (2013), a teacher who wants to train students to be creative needs to develop a deep understanding of what this means in order to deal with it effectively; this comes with a high price tag. Consequently, it is an oversimplification to say that schools should shift their pedagogy to foster creativity without considering the associated ethical questions.

The Challenges of Engaging Ethical Creativity in School Education

Schools are responsible for transmitting knowledge, values, attitudes, and skills to our future citizens (Skolverket, 2019). In modern society, creativity is considered an important skill in the workplace, but little is known about how to teach for creativity. It is therefore important to look at teachers' strategies for addressing creativity and their underlying assumptions. For example, the literature asks whether creativity is domain-general or domain-specific (Deliège & Richelle, 2006), whether there are differences between creativity and productivity (Sahlin, 2001), and what the relationship between creativity and ethics is (Cropley, 2010). The literature speaks to the importance of teachers being adequately trained to support the development of creativity (Cropley & Cropley, 2013), but provides few examples of how they should be prepared to do this.

While research on creativity has a long history, especially in psychology and cognitive science, it has been studied primarily through experiments and case studies by prominent figures in art and science (Csíkszentmihályi, 2013). Although its role in psychological development and pedagogy has been known for almost a century (Phye, 1992; Vygotskij, 1995), only in recent decades has creativity been recognized in the primary education curricula of Sweden (Skolverket, 2019) and other countries (Cheng, 2010). It has also been highlighted as one of the key competences in initiative and entrepreneurship (Gordon et al., 2009) and as one of the so-called 21st-century skills, together with innovation (Teräs et al., 2020).

The word creativity has several meanings, the most established definition in the literature being the ability to create something new and valuable (Runco & Jaeger, 2012). However, it is important to acknowledge that opinions about what to judge as creative – or less creative – could vary between contexts. Someone in one context may perceive something as creative, while another person in an expert context could consider the same thing to be not creative (Boden, 2004). It is also possible to study creativity from the perspective of the four Ps: person, process, product, and press (social context; Cropley, 2014). Since the phenomenon of creativity is studied from different perspectives, it is understandable that there is no single definition in the literature (Ismayilova & Bolander Laksov, 2022). This could also explain why there is a lack of consensus about the meaning of creativity when comparing the use of the word in curriculum documents between different countries (Patston et al., 2021).

Since our interest in this paper is the ethical aspect of creativity, it is possible to depart from the standard definition and to emphasize the word *valuable*. Ethics are value-laden and it is common to talk about ethical *values*. The fruits of creativity can be assessed in relation to ethical values as well as social, political, economic, or aesthetic values (Jørgensen & Bozeman, 2007). In the Swedish school system, pupils should develop both creativity and ethical values (Skolverket, 2019), but creativity is not connected to the question of ethics in the curriculum and these are treated as two separate things; it is up to the teacher to connect them.

Through the literature review presented in this paper, we try to fill a gap by looking at publications that address teaching strategies for combining creativity and ethics for students' development.

Methodology

We used the scoping method (Arksey & O'Malley, 2005) in our literature review to map the relevant articles about teaching for ethical creativity in primary education. The Education Resources Information Center (ERIC) database was searched on December 14, 2021 for keywords in two categories: ethical creativity AND primary school or elementary school OR primary education OR elementary education.

Peer-reviewed, English-language, academic journals were used as the inclusion criteria, returning forty-three articles. A thematic analysis was conducted to compare similarities and differences across the five major themes that emerged from the articles. This shifting between analyzing the parts from the perspective of the whole and analyzing the whole from the perspectives of the parts is similar to doing a puzzle and is described as such in the literature on hermeneutics (Gadamer et al., 2004). The aim is to find patterns in the material and then to organize these patterns in a meaningful way so as to draw conclusions.

Results

Although it was the keyword in our literature search, we found few empirical studies that focused on ethical creativity. Of those articles we did find, most discuss the ethical aspects of creativity from a philosophical point of view without providing concrete examples of teaching. It is also apparent that researchers discuss ethical questions from different standpoints, for example, how to teach students about ethics, ethical issues arising from working with particular teaching methods, and questions about teacher ethics.

However, several teaching strategies were identified: 1) multimedia engagement with digital imagery and audio/video tools (Ormiston et al., 2017), 2) art-related teaching and learning via theatre (Musacchio et al., 2015), 3) reading fiction as a way to initiate discussions about ethical questions and dilemmas (Serriere et al., 2017), 4) tackling real-world problems outside the classroom (Beghetto, 2017), preferably with enquiry-based learning, and 5) rule exploration through the invention of new physical games, which promotes ethical discussions about how game rules may include or exclude students (Butler, 2013). In addition to these didactic models, there were numerous articles discussing obstacles to working with creativity from an ethical point of view.

(1) Multimedia Engagement with Digital Imagery and Audio/Video Tools

Here, students are tasked with designing something new through actively experimenting with tools and physical materials or their digital equivalents. Ashbrook (2020) gives examples of how younger children work with idea generation and problem-solving processes to design new things with the help of craft tools and materials such cardboard. O'Donell (2018) emphasizes that experimenting with and exploring natural materials helps to develop a child's sensibility. Alternatively, Ormiston et al. (2017) discuss ways to work with digital tools and multimedia. This includes working with digital photos, videos, and audio and how to arrange the media into a presentable form. The training includes basic exercises, such as how to manage computer keyboards, touchscreens, and other control units, how to solve technical problems, how to take photos and record audio and video, how to arrange media into engaging products, and how to share materials on digital platforms such as learning management systems and the Internet. This also involves questions about how to behave on digital platforms, digital integrity, and copyright issues. According to Hobbs and O'Donnelly (2011), activities such as composing multimedia products with texts, pictures, and music develop digital literacy. In this case, the student becomes a producer of multimedia instead of a mere consumer. Students thus develop a deeper understanding of how

multimedia content is made, which can be used to critically examine others' products and to discuss ethical questions about digital citizenship. This theme focuses on teaching strategies where students create products with the help of physical or digital tools and materials.

(2) Art-Related Teaching and Learning Via Theatre

This teaching strategy centers on using aesthetical expressions to engage students. Musacchio et al. (2015) describe a project where children in primary and secondary school are invited to see a play about the interior of the earth which merges science, entertainment, and ethical issues. The theatre was set up in collaboration between a theatre company and a research institute. One of the project's tasks was to stimulate children's curiosity by focusing on the emotional aspects of learning. The researchers argue that instead of starting from concepts, which is more common in natural science subjects, theatre is a good way to start the learning process from emotions. The didactic model can be summarized in the following way: Children are supposed to be engaged in a story with characters with whom they empathize and through whom they will learn scientific facts. The children's curiosity and imagination are stimulated, which is important in problem-finding and problem-solving processes. According to Bland (2016), imagination is closely related to creativity, because it signifies the "spark" of a creative process. Disaffected students who have lost interest in schoolwork may benefit from the use of a didactic model that focuses on imagination to engage them. Silverman (1995) also emphasizes that didactics focusing on imagination and insight rather than acquisition is a suitable way to engage gifted students.

(3) Reading Fiction to Initiate Discussions About Ethical Questions and Dilemmas

This is a strategy discussed by Serriere et al. (2017), where the teacher reads a novel to the students and they discuss ethical questions arising from the text. It is important that the teacher enables a conducive environment for a discussion, where different perspectives can take shape. The challenge is to pose questions that open the discussion up rather

than ending it too early with premature conclusions. If the question already presents the right answers, which have been decided in advance, the dialogue will not explore possible options and it will not be a creative exploration. Johnson (2013) presents a variant of the exercise in which the class reads a fictional book and builds a scene with physical materials in a terrarium. In this way, the story takes on a physical shape.

(4) Tackling Real-World Problems Via Enquiry-Based Learning

According to Beghetto (2017), one way to teach ethical creativity is to base a didactic model on solving real-world problems using legacy projects, where students collaborate with partners outside of the classroom to identify problems to solve, for example, in the local community. One important stage in such a process is identifying the problem and the stakes involved in not solving the problem. After the project is finished, questions arise about how to solve the problem in a sustainable way. This means that task design is open-ended, with an ill-structured task rather than the well-structured tasks often found in student's textbooks. Ill-structured tasks are generally harder to work with and require more creative solutions than well-structured tasks (Hong, 1998). Another similar didactic idea is to work with enquiry-based problem-solving within organizations (Moore, 2007).

(5) Rule Exploration Through the Invention of New Physical Games

In this model, students are given the task of creating new physical games (Butler, 2013). During the inventive phase, they are also encouraged to discuss the underlying rules of the game. This is an opportunity to discuss ethical questions, such as how teams are constructed, how participants are chosen and for what roles, and whether everyone can participate in the game. These questions affect whether students are included – or in some cases, excluded – from the game. According to Butler, the rules of all games and sports used in physical education also express underlying values. Games from the past might therefore rest on historical ethical values. However, when the students invent new games, it starts a process of reflecting on how rules are made up and what their

ethical consequences might be. Reflections about how rules express values can later be transferred to reflections on other activities in society. If pupils learn how to negotiate rules in physical education, they are better equipped to negotiate rules in the real world.

Challenges to Working With Creativity From an Ethical Point of View

Two major obstacles appear when teachers want to use teaching strategies that focus on creativity. The first issue is related to teacher competence. Cheng (2010) suggests that teachers may struggle to step out of their ordinary teacher role, with established teaching materials and standardized tests. Their willingness to change their teaching can be further impeded if they lose control of the class while trying out a new exercise. Butler (2013) agrees that a creative classroom always teeters on the edge of instability and that the teacher must be involved and ready to support the students if the situation calls for it so as to not lose control. This supports Cropley and Cropley's (2013) view that teacher needs to be competent enough to guide the creative process. If the teacher fails to guide the process, there could be negative outcomes for the students. This requires teacher training and therefore the involvement of teacher training programs.

However, it is also possible to discuss obstacles that are related to the overarching values of a society and how these are transmitted in the school system. Lee and Misco (2016) discuss how ideas about creativity and self-expression are situated within the moral framework of a society – for example, Confucian morals versus Kantian morals, which present different views about the question of responsibility. Cheng (2010) discusses the difference between a testing culture focused on preparing students for exams and a creativity culture focused on preparing students to solve problems, which cannot be tested with regular exams. Actors within the educational system – such as administrators, teachers, and students – develop expectations of the system and plan strategies based on these morals and it can be hard for a single teacher to change these views. For example, if a teacher focuses on teaching creativity and the students in their class consequently lag behind schedule and get

low scores on standardized exams, it is harder for the teacher to intro-duce creative teaching strategies: the teacher will likely be criticized by both students and parents. Cheng (2010) also discusses the situation where students who are steeped in a testing culture mindset might find it difficult to engage in more loosely defined tasks. In such an environ-ment, it is even more important that the teacher is adequately educated about how to teach for ethical creativity.

Conclusions and Discussion

In this review study, we identified five teaching strategies for en-gaging primary school students in ethical creativity and four common features among these strategies, namely, the use of digital tools/media, art and literature, real problems and dilemmas, and enquiry-based learn-ing. These common features align with teaching and learning strategies based on socio-scientific issues (SSI), for example, the three-step model (Figure 1) and the SEE–SEP model (Figure 2) developed within the SSI context (Chang Rundgren & Rundgren, 2010). The three-step model, which was developed in an EU FP7 project – PROFIELS (2010–2014; Rundgren & Chang Rundgren, 2018) – and which aimed to promote en-quiry-based science education, includes contextualization (introducing SSI), de-contextualization (conducting scientific or socio-scientific en-quiry), and re-contextualization (making decisions and argumentation). The four common features mentioned above can be embedded in the first step to provide a context for enquiry-based learning as a whole. The SEE–SEP model (Chang Rundgren, 2011) covers the subject areas of sci-ence, economics, ethics/morality, social culture, environment, and policy (named SEE–SEP, accordingly) and includes individuals' knowledge, val-ues, and experiences (Chang Rundgren & Rundgren, 2010). The aspects of creativity and ethics embraced in the SEE–SEP model are used in the second step, de-contextualization, to find methods for the in-con-text solution-seeking and decision-making in the final step, re-contex-tualization.

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Figure 1. The three-step model

Contextualisation
(SSI)

1 lesson

De-contextualisation
(Scientific/socioscientific enquiry)

1–2 lessons

Re-contextualisation
(Desision-making & Argumentation)

1 lesson
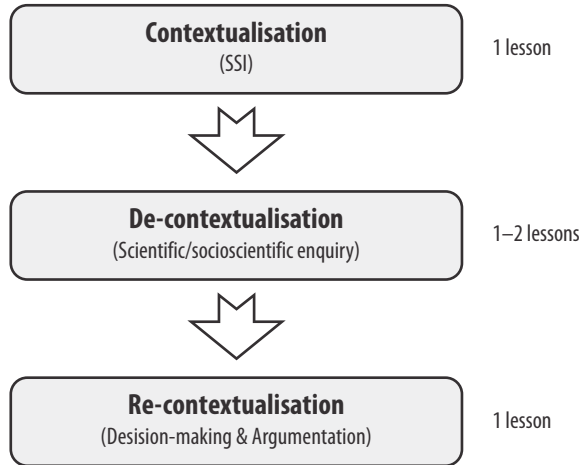
Figure 2. The SEE–SEP model (Chang Rundgren & Rundgren, 2010, p. 11)

Economy (E)   Science (S)

Environment (E)   **SSIs**   Ethics/Morality (E)

Sociology/Culture (S)   Policy (P)

Knowledge

Value   Personal experience
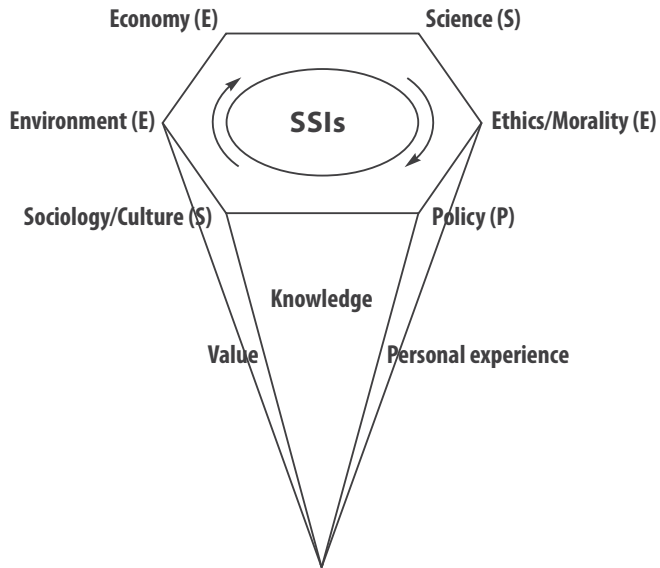
Combining the SEE–SEP and three-step models makes it possible to address ethical aspects of creativity during the enquiry process by explicitly including discussions with students about ethical dilemmas. This then supports ethical creativity in the classroom in line with the curriculum (Skolverket, 2019). One can argue that practicing creativity is necessary from an ethical point of view in order to develop a democratic citizen who can take part in everyday life, or that it is justifiable because it awakens the interest of more students or encourages them to be more active and thus contributes to a more inclusive classroom – all of which is in line with SSI-based teaching and learning (Chang Rundgren & Rundgren, 2010).

While the importance of ethical creativity is recognized in the literature, empirical studies on ethical creativity in school education remain limited. We argue for the development of more teaching strategies for ethical creativity in school via digital tools/media, art and literature, solving real problems and dilemmas, and enquiry-based learning. More imaginative strategies for ethical creativity teaching will be developed through teacher collaboration, so professional development for in- and pre-service teachers ought to be prioritized.

It would be interesting to know how different teaching strategies impact the development of students' ethical creativity. By using the concepts from Variation Theory (Lo & Marton, 2012), it is possible to say that the object of learning is ethical creativity and the means of variation are the different teaching strategies. The object of learning in this case is considered static, while there are multiple ways to vary it by combining ethical discussions with, for example, crafting and creating, reading or writing fiction, constructing games, or working with creative problem-solving. A range of creative activities can shed light on several aspects of ethical questions or indeed give rise to new ethical questions. Today, we are facing various challenges to sustainability globally, and teaching for ethical creativity can be regarded as one solution to this crucial problem.

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Learning Experiences of Teachers Attending Online Webinars

Abstract

The shift from actual seminars to the internet-mediated webinar format has changed how teachers access opportunities for continuous learning. Attending webinars has also become necessary as teachers look for alternative ways to further develop their knowledge. The purpose of this study was to explore the learning experiences of the teachers who attend webinars. This study used Meriam's case study research method; intensive, holistic description; and analysis of a bounded phenomenon, such as a program, institution, person, process, or social unit. The study was conducted in the elementary schools of Sultan Naga Dimaporo West District, Division of Lanao del Norte, Philippines for the 2020–2021 school year. It was found that most teachers participated in webinars about teaching strategies, content knowledge, the teaching profession, and general knowledge related to the pandemic. It was also revealed that these teachers are expected to gain relevant knowledge and skills applicable to "the new normal." The teachers

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shared their experiences in acquiring knowledge, skills, and emotional content in their actual participation in the webinars during the pandemic. The teacher's purpose of attending webinars is to gain understanding of the topic to improve the quality of teaching. Thus, the webinar presents an opportunity to expand teacher training programs amid the pandemic.

Keywords: learning experience; teacher participation; webinar

Introduction

The COVID-19 pandemic is a sign of the changing times and requires the educational system to undergo a significant revolution. The spread of COVID-19 implies that education may never be the same again. It has caused online learning to be rushed into full-production learning environments for K-12 education everywhere, especially in the Philippines. Teachers are making drastic changes to how they approach instruction within hybrid-learning, with innovation playing an enormous part (Iradel et al., 2021; Toquero & Talidong, 2020).

Webinars have replaced face-to-face seminars and other workshops. The term *webinar* refers to disseminating recorded or live content over the Internet (Bhargava et al., 2021). It permits individuals around the world to associate in a virtual classroom and to share information via the Internet. Notably, webinars can benefit teachers in education because they make events, including workshops, lectures, and training courses, accessible to clients in remote areas and to numerous learners in entirely different places (Idhalama et al., 2021). This way, webinars can be dynamic tools that support learning, teaching, and professional development.

Today, teachers from various educational institutions are also getting an opportunity to participate (Al-Shahrani, 2019). This role is satisfied by their exceptional cooperation in numerous seminars, workshops, and faculty improvement programs, which are conducted solely to upgrade their learning experiences (Boiarska-Khomenko et al., 2020). Webinars are a cost-effective way for schools to carry out teacher training, since they do not entail the costs of speakers' fees, equipment rental, food

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and refreshments for participants, and certificate printing. What spurs Filipino teachers to go to webinars? Many webinars are free. Through webinars, teachers can upgrade their earning while staying at home and can even receive a Certificate of Participation afterward.

The shift from face-to-face seminars to the online or internet-mediated format of webinars has also changed how teachers access opportunities for continuous learning. Considering that the new set-up of teaching and learning has also changed to a new modality for teachers, attending webinars has also become necessary as teachers look for alternative ways to acquire knowledge in the current situation of "the new normal." With the current situation that our teachers face, they are stagnant in aspects such as attending seminars and training. This study investigated teachers' learning experiences of attending webinars based on Kolb's experiential learning theory (Healey & Jenkins, 2000). It explored the different expectations of attending webinars and how the webinars enhanced their professional development as teachers.

Method

This study utilized the case study research method, focusing more on the case study model of Sharan Merriam (1998), which is particularistic, descriptive, and heuristic. It is particularistic because it focuses on a particular situation or phenomenon. The choice of the case study method with qualitative methods was based on two reasons. Firstly, the nature of the problem under investigation required an in-depth exploration of the phenomenon. Secondly, value is contextual and determined by the individual's experience, emotions, relationships, and learning, which affect value realization.

The study area was the West District of Sultan Naga Dimaporo (SND). The district has 14 complete elementary schools and five integrated schools. SND is a Class 5 municipality in the province of Lanao del Norte. The teachers in this district have joined a series of webinars given by the Department of Education.

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The study's participants were selected elementary teachers from the West District who have attended at least two webinars and teachers who earned at least two certificates from attending webinars. The participants were categorized according to their length of service in the Department of Education in order to collect accurate, in-depth data and to weight their learning experiences from webinars: three of the participants had 0 to 5 years of teaching service (Group 1), three had 6 to 10 years' service (Group 2), and three had more than 10 years (Group 3).

The researchers were the prime instruments in the research. They conducted in-depth interviews to gather the necessary data, aided by their interview protocol. The interview guide questions consisted of engaging, exploratory, and exit questions. The researchers observed ethical practices while doing the research and they secured the consent of the participants. They also preserved the confidentiality of the data and ensured the participants that they would not be harmed in the study.

The audio-recorded interviews were transcribed into field texts, from which themes were extracted. A simultaneous re-reading of each participant's meaningful reports facilitated the participants' essential ideas and experiences. The data analysis is based on Meriam's model, which consolidates, reduces, and interprets what the people have said and what the researcher has seen, read – and then makes meaning (Merriam, 1998). An inductive analysis was used from the data segment to categorize idea units into primary/secondary concepts or the sub-themes into macro-concepts or themes. The researchers adapted the audit trial technique to ensure the reliability of the data, as mentioned in Meriam's method. Following the six strategies for enhancing the validity of the data, the researchers adapted the strategy of peer examination to provide factual information and a strong validation of the data.

Results and Discussion

Teachers' Expectations of Attending Webinars

In terms of teachers' expectations about attending webinars, five themes emerged. These are the *acquisition of conceptual knowledge*, *acquisition of skills*, *accessibility of technological resources*, *trainer competence*, and *social interaction*. Each theme is described below, followed by the experience of each case relative to the theme.

Acquisition of Conceptual Knowledge. This theme implies gaining additional learning from attending webinars and supplementary skills from what has been learned already. Significant excerpts that demonstrate this phenomenon are as follows: "I expected to learn from the webinar because of the learners' need to deliver instruction and how to facilitate to make it quality" (T2); "I expected to gain knowledge and wisdom from the webinar. The webinar helps me to enhance my knowledge in a specific discipline" (T3).

For teachers who have been teaching for one to five years, one of their expectations from attending webinars was to learn from the speakers or trainers. In their expectations of webinars, these teachers hoped to learn general conceptual knowledge or knowledge that encompasses a broad range of concepts, especially those that generally interest them: "I expected to learn general knowledge and ideas which anchor to the objective of the seminars" (T4); "I learn Photoshop … and new educational trends which are significant in the new normal" (T5)

Teachers who have taught for six to ten years are expected to learn general and specific knowledge from their webinars. They hoped to understand a wide range of topics and gain expertise about specialized issues related to their work or hobbies: "I expected to be acquainted with or learn about particular topics" (T7); "I expect to know about learning in the new normal and different learning modalities" (T8); "I expect to learn or acquire something new and relevant to my field of specialization" (T9).

Teachers who have taught for more than ten years are expected to gain conceptual knowledge in specific and more specialized areas of

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learning. Teachers are also expected to learn new technical knowledge according to their areas of specialization. With the change in teaching and learning conditions, these teachers attended webinars expecting to learn specific concepts related to how students learn in this new context. One of the themes that emerged from the teacher's expectations of attending seminars is the acquisition of conceptual knowledge, as disclosed by the participants in all three study groups. From the experiences of teachers who have attended webinars, this theme represents the expectations they expressed regarding acquiring conceptual knowledge from the webinar. The participants were aware that the purpose of participating in webinars was to learn something and they expected to gain some ideas or understanding of general topics or more specific and specialized issues.

The Department of Education (DepEd) was perplexed by the current condition of the educational system, where face-to-face meetings are prohibited; they considered distance learning an effective way of delivering quality education (Department of Education, 2020). They organized seminars to help teachers develop strategies anchored to the learners' learning styles. Teachers are encouraged to attend the webinars initiated by DepEd in order to deliver quality education to learners.

The three study groups revealed apparent differences in their expectations of acquiring new conceptual knowledge from webinars. Jahangir et al. (2012) cited gaining knowledge and a deeper understanding of the topics they are interested in as one reason for the training participants to attend webinars. The webinars can give them additional information, which can aid them much more in their professional development to provide quality education to learners.

Acquisition of skills. The acquisition of skills implies obtaining competencies related to the purpose of the seminars and the skills required to train the teachers. Evidence of this interpretation from teachers in Group 1 includes the following statements: "I expect to learn new skills in lesson planning. Lesson planning is necessary for teaching the learners, and I have to learn further since I'm still a neophyte in this matter" (T1); "I wanted to learn teaching strategies that suit not only the learners' learning styles,

but also the current situation" (T2); "I expected to learn more skills which I needed to improve my way of teaching" (T3).

The teachers in Group 1 expected to learn new, additional skills in terms of designing their teaching approach. They also expected to learn skills in delivering lessons to their students or to acquire new, alternative skills so as to be able to adjust accordingly, depending on what ways would best fit into the current teaching situation.

Similar experiences were also found in Group 2, in these sample statements from the interview transcripts: "I wanted to learn new strategies I could use in distance learning. These new strategies helped me to teach my learners" (T4); "I want to learn appropriate interventions for students in the new normal and to [provide] them with skills according to their levels" (T6).

The teachers expected to acquire new skills in teaching that they could use as an alternative to the skills they already had in terms of approaches to teaching. The expectation of acquiring new skills in education became apparent when schools suspended the face-to-face mode of teaching and learning. With this change, students experienced new difficulties in learning that teachers needed to address, which is why these teachers expected to learn from webinars new strategies to address their students' learning difficulties. The teachers in Group 3 did not report anything about expectations of acquiring strategic knowledge.

The second theme that emerged from the participants' responses was their expectation of acquiring from webinars new skills and strategies that they could use in their teaching during the pandemic. Groups 1 and 2 disclosed that they expected to learn new skills and techniques to deliver instructions that could be used in distance learning.

For the teachers who attended webinars, skill acquisition included developing teaching capacities or enhancing their abilities through calibration and retooling (Karalis, 2020; Rao, 2018). Skills are learned and improved by attending webinars. Teachers can improve their acquired skills through webinars and can develop new skills for their learners (Karalis, 2020; Tanucan & Uytico, 2021). Moreover, the teachers' skills are honed through webinars.

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Accessibility of technological resources. Accessibility to technological resources implies ease and comfort in utilizing electronic learning resources. Similar experiences of expectations for accessibility of technology resources were found in Groups 1 and 2, as described in the following significant statements from the teachers: "I expected to have a stable internet connection which I could use in the webinars for me to learn" (T3); "I expected to have a stable Internet connection because this would help me learn the webinars from the speakers" (T4); "I expect to have Internet access in attending the webinar. I expected gadgets to be available" (T5).

The expectation of the teachers in Groups 1 and 2 was to have accessible technological resources for them to have a stable Internet connection while attending webinars. For these teachers, a stable Internet connection was essential to their attendance in webinars so that their participation and engagement were smooth and continuous. Group 3 did not mention the accessibility of technological resources in webinars.

Training participants expect much in terms of the competence of the trainers. Some paid a considerable amount of money to learn new skills and held the competence of the trainers in high regard (Buxton & De Muth, 2012). Speakers for webinars possess expertise regarding the subject matter. Thus, participants can learn well in attending the webinar.

Trainer's competence. The trainer's competence involves the teachers' expectations regarding the speaker's knowledge of the topic of the webinars. It also denotes expertise in the subject matter, which enables the teachers to learn new skills. This theme emerged exclusively among Group 1, as described in their comments: "I expected to have an excellent speaker. The speaker should be able to use euphemisms and know the manner when she speaks with respect" (T2); "I expected a well-versed speaker of the webinars, who could serve the real purpose of the webinars" (T3).

The expectation for webinar trainers to be competent was apparent in the statements of the teachers in Group 1. Webinars speakers were expected to be proficient in communicating the target learning areas. Even if they talk excessively, at least they were expected to speak meaningfully. Trainers were also expected to be respectful and encouraging when

making comments, critiques, or responses to the participants' ideas. For the teachers in Groups 2 and 3, there were no comments about expectations related to webinar trainer's competence.

One of the themes that emerged from teachers' expectations in attending webinars is trainer competence. One of the essential elements of a webinar is facilitation, which is the primary responsibility of the speaker, lecturer, or trainer (Poce et al., 2021). Training participants expect a great deal of competence from the facilitators. Some paid a considerable sum of money to learn new skills and they held the competence of the trainers in high regard (Cornelius & Higgison, 2010).

Social Interaction. Social interaction refers to interacting with the other participants during webinars. This theme of social interaction was generated from different dimensions of the experience of teachers in Groups 1 and 3. "I should look good in front of the camera. I need to be beautiful and competitive in answering the tasks required." (T3).

In Group 1, the expectation for social interaction when attending webinars was more centered on the dimension of self-presentation. A teacher who is about to participate in the webinar will prepare to look presentable online. As an expectation of one's self-presentation, looking presentable online is about physical or facial appearance and a demeanor that may indicate competitiveness in terms of responding the tasks in the webinar.

In Group 2, no related statements were obtained from the teachers. However, teachers in Group 3 did make some comments on this topic: "I expect to be able to share my thoughts and ideas with the other participants" (T7); "I also expect to have the chance to meet significant individuals whom I can have meaningful virtual experiences with" (T9).

The last theme that emerged for this category was social interaction. Teachers in Groups 1 and 3 said that when they attend webinars, they also expect to be able to interact with other people. Some teachers looked forward to attending webinars in order to present themselves to other participants or communicate with them. Webinars are not only for professional development, but also for social engagement. Teachers joined because they could communicate with other teachers close to

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them. The presence of fellow teachers attending webinars encourages other teachers to participate in some webinars (Jahangir et al., 2012; Poce et al., 2021).

The teachers' expectation of acquiring conceptual knowledge is relevant to Kolb's e-learning theory on reflective observation. Teachers' expectation of the webinars they attend allows them to reflect on their previous experiences. Teachers expect to learn new and particular topics connected with the webinar's objectives. Teachers reflect, which provides them with their expectations in attending webinars.

Teachers' Significant Learning When Attending Webinars

Teachers have learned a great deal from the webinars on the many topics discussed in those they have attended. Three themes emerged from the interviews conducted with these teachers to represent the significant knowledge that teachers have obtained: *relevant instructional practices*, *current developments in the teaching profession*, and *the professional roles of teachers*. Each of these themes is described below, including the specific experiences of teachers in the three study groups.

Relevant instructional practices. This theme refers to the learnings of the teachers from the webinars regarding instructional practices. Below are brief excerpts from the participants' interviews.

One teacher in Group 1 said that "I learned that we do not need to make many performance tasks per learning area as long as we make one integrative performance task. We must see that we integrate the skills or competencies from the different learning areas in one integrative performance task" (T1).

In Group 1, one teacher learned about relevant instructional practices from webinars on instruction-related topics. For example, webinars that discussed different learning modalities helped the teacher learn various modalities of learning. The teacher should make instructional adjustments depending on what learning modalities were focused on. The teacher also knew that to make education relevant to the current situation, instructional adjustments should include careful lesson planning, integrative learning tasks, and effective lesson delivery.

In Group 2, the teachers' participation in webinars also gave them significant insight into relevant instructional practices. Some statements extracted from the participants' interviews are as follows: "The mode of delivery is beneficial, specifically for us as teachers, because these stages are useful during this pandemic" (T4); "Webinars are beneficial. One of the topics I attended a webinar on was a comprehensive guide to Photoshop basics for teachers" (T5).

The teachers in Group 2 learned content that is useful in teaching specific subjects during the current situation. They also learned the pedagogical knowledge needed to address students' current learning needs. Knowing what teaching approaches are effective in delivering the lesson, given the current teaching and learning situation, is one of the most significant benefits they obtained from webinars.

In Group 3, one teacher shared an experience of learning relevant instructional practices from webinars: "Learning about learning modalities during this pandemic is important – learning about the CLP through varied modalities and how to stop the spread of the coronavirus" (T7).

One of the themes of the knowledge teachers learned from webinars was instructional practices relevant to students' and teachers' needs in the situation brought about by the pandemic. Teachers learned the practical and timely application of different learning modalities, instructional strategies and approaches, and lesson preparation (Leonardo & Cha, 2021). While it can be fun to learn about anything, for these teachers, knowledge is relevant when it is valuable and effective in responding to the current challenges in education. Training courses and seminars enable teachers to learn new teaching practices. Amidst this pandemic, teachers must use appropriate methods according to the learners' learning styles and must develop instructions that are suitable for independent learning (Koshy, 2009).

Current developments in the teaching profession. Current developments in the teaching profession denote the progress and advances that aid teachers in delivering quality education. Specific experiences that the teachers in each study group disclosed are presented below.

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A teacher in Group 1 stated that "as a teacher, you need to grow and develop in some aspects… and the learning acquired from webinars should be implemented. I have learned that you must also be up-to-date nowadays, especially since education is dynamic" (T2).

For this teacher in Group 1, specific new trends and current developments in teaching and learning have been among the most significant lessons learned from webinars. Keeping themselves abreast of new developments in the teaching profession has encouraged teachers to continue learning as professionals and to put that learning into action.

The teachers in Group 2 learned new developments in the teaching profession from their webinars, as evidenced by the following excerpts from the interviews: "I gained knowledge without spending much money. I learned knowledge that I feel thankful for right now. I gained knowledge that I need in my profession" (T5); "I gained knowledge in using technology that I can apply to my profession as a teacher" (T6).

The teachers in Group 2 were aware that the recent results in their work were products of the constant change in education. The new knowledge they obtained from webinars was needed and applicable to their teaching practice. New knowledge was required to replace old and outdated knowledge, such as certain practices in classroom-based teaching that are no longer helpful during this pandemic, when schools have shifted to either online or modular distance learning.

Another subtheme of what teachers learned from attending webinars was about advancements in the teaching profession, as disclosed in Groups 1 and 2. Teachers acknowledged current developments and new trends in their work, and the webinars allowed them to learn about some of these developments. Teachers must keep themselves up-to-date with the current teaching and learning developments so that their professional practice never gets outdated.

Webinars can assist teachers in learning new things. They enable them to develop new instructional strategies and practices that suit the learning needs of the learners (Songül et al., 2018; Toquero & Talidong, 2020) and make teachers' work easier because learners' learning needs are addressed. Their prior instructional practices can be updated as they

become familiar with the new trends (Abaci et al., 2021; Poddar, 2020; Rodesiler, 2017).

Professional Roles of Teachers. This brief statement from one teacher captures the general sense of this learning experience: "Webinars made me realize that I could do more. It enables me to develop new skills" (T3).

It was found that this teacher in Group 1 learned to focus on their belief in their ability to do more and to learn more. It was important for this teacher to know to believe in themselves more than they used to. In the same way, it was also crucial for this teacher to believe in themselves to learn more. This teacher thought that this belief in their own capacity to do and learn more is among the professional roles of teachers: to take initiative and never stop improving.

In Group 2, knowledge about the professional roles of teachers was reported by one teacher, who explained that webinars had taught teachers to be more aware of their professional part in collaborating with other stakeholders, particularly the parents of their students. Their brief statement captures the general sense of this learning experience: "One of the topics that captures my heart is the role of teachers and parents in shaping young minds with the love of learning" (T6).

This teacher acknowledged that the current teaching and learning situation requires the collaborative effort of teachers and parents to give the students all possible opportunities to learn in their different subjects despite the absence of face-to-face classroom teaching.

In Group 3, it was found that the learning about the professional roles of teachers was focused on three aspects. These excerpts from the participants' interviews encapsulate this: "Especially during this time, where learning is so passive, as a teacher we should be armed with knowledge and uplift the learning of the learners during the pandemic" (T7); "I learned about the role of the teacher and the school in teaching learners and, along with the theme of Philippines' Department of Education that education must continue despite the threat of COVID-19" (T8).

The first aspect was the role of teachers in guiding the students, which included teaching them important lessons and motivating them

to continue learning despite the difficulties brought about by the current pandemic situation. Another aspect was the role of teachers to carry out the school's mission to provide good education despite the circumstances. The third aspect was the role of teachers as a source of strength in times of desperation, which includes patience and flexibility from them.

The third subtheme of what the teachers learned from attending webinars was the role of a teacher in their profession. While teachers' professional roles have already been clearly defined in the standards of their work, the interviews revealed that the webinars the teachers have attended reminded them of the essential professional functions of teachers. The more teachers attend webinars, the more they realize their significant role in education. This enables them to appreciate their full potential in transforming their learners into professionals (Koshy, 2010). Thus, they encourage their students to pursue more by attending webinars in order to learn their students' skills.

Current development in the teaching profession is one of the themes that emerged in line with Kolb's experiential learning theory, active experimentation. The participants shared that they learned the importance of being up-to-date nowadays, especially since education is dynamic; they believed that webinars help them acquire the knowledge they need in their profession. The participants expect to return to the field of teaching with new strategies to ensure quality education.

The theme that emerged on the professional roles of teachers was that of abstract conceptualization, where teachers learn new techniques and ideas which can be applied in their teaching profession (Kouteh, 2021). The teachers realized that a teacher should be armed with knowledge, uplift their learners' learning in these times of the pandemic, and develop new skills. The new techniques can enhance the teachers' knowledge and help them address their learners' needs during the pandemic.

Learning continuity under the new circumstances is a challenge. The usual operations in the school have been interrupted and hindered by the pandemic. Teachers' typical strategies, which are considered effective and efficient in delivering instructions, are hampered. Teachers need to develop a new set of learning methods and principles. Providing quality

education requires many seminars and training sessions or webinars to acquire new skills. The topics of webinars focus on developing skills in teaching strategies and in school management. The goal of webinars is to develop in teachers the necessary skills for "the new normal." In the webinars, teachers should strive to acquire new knowledge, enhance existing knowledge, and develop instructional practices for their learners and their professional growth (Hidayati et al., 2021).

Conclusion

The pandemic changed the ways teachers acquire relevant knowledge and skills; and improving professional practice was greatly affected. In light of the global crisis, webinar training can supplement teachers' competencies and skills and can enhance their strategies without face-to-face seminars and workshops, when social distancing and home quarantine are enforced. Thus, webinar technology presents opportunities to expand teacher training programs amid the pandemic. Professionals, especially teachers, are using virtual seminars thanks to webinar technology to develop teachers' theoretical knowledge and pedagogical skills and to expand their virtual strategies. The use of webinars can expand the online-based training for teachers and other professionals in potential future outbreaks.

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Assessment of the Polish Diaspora's Access to Education in the Toronto Metropolitan Area and Their Evaluation of the Level of Education in the Context of Quality of Life

Abstract

The main objective of the article is to depict access to education, both in terms of objective factors (quality of life) and subjective factors (standard of living), in the assessment of the Polish community living in the greater Toronto metropolitan area (GTA). The results of the research are presented on the basis of a questionnaire conducted among 583 Polish people living in the GTA. The results confirm that the Canadian Polish community evaluates highly the schools and other educational institutions operating within the study area. Another goal of the research was to investigate the possible influence of gender, income, or household size on the evaluation of access to education, which translates into a higher assessment of quality of life. In the study, the women and the respondents with higher income rated access to education more highly, while people in households with two to four people evaluated it the highest.

Keywords: Polish diaspora; Canada; Toronto; quality of life; education

Introduction

International migration will evolve in a manner similar to trade – increasing continuously. Almost all countries and regions deal with immigration and emigration, as these phenomena constitute an integral element in the life of contemporary society. Currently, more and more people – motivated by various factors – are deciding on a temporary or long-term change in their place of residence. Migrants consist of people leaving their country voluntarily, whose priority is to improve their economic situation or achieve professional advancement in the host country, as well as participants of international educational programs. Migration to a new country (irrespective of the cause) is challenging from a psychological and social point of view, since it brings about a number of changes, including in the field of education. Education has a key role to play, not only in providing opportunities for migrant children to reach their full potential, but also in forming a just, inclusive, and diverse society.

In 2016, 35,151,728 people lived in Canada, of which 1,106,585 were of Polish origin. This represents 3.9% of the total population. Ontario, the province in which the GTA is located, is the most populous of those with a Polish population. A total of 523,490 people lived in Ontario in 2016. The provinces of Nunavut and the Northwest Territories are home to the smallest number of people of Polish origin (Reczyńska, 2007).

The capital of the Polish diaspora in Canada is Toronto. The city has more than 83,000 people (32% of Poles in Canada) reporting sole Polish origin and the same number of people reporting their Polish origin as one of many. Since the 1940s, Toronto has attracted the largest number of Polish immigrants. Since the 1980s, the Polish community has been concentrated mainly in Mississauga and Brampton, so the research was conducted not only in Toronto, but it also covered the entire area of the GTA where people of Polish ancestry live (Reczyńska, 2020, pp. 234–236).

The Greater Toronto Area includes the regional municipalities of Peel, Halton, York, Durham and the City of Toronto itself. There are 259,715 people of Polish ancestry living in the GTA, representing 4% of the total population in the area. The largest number of Poles live in Mississauga,

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in the Peel Region, amounting to 43,350 people, or 6% of the total population in Mississauga. A significant number of people of Polish descent live in the York Region, in Vaughan: 18,265 people, or 5.96% of the total population in this city. The smallest number of Poles are found in two towns in the Durham Region. These are the town of Brock, which is home to 335 people of Polish ancestry, and the town of Scugog, which is home to 590 (Ziółkowska-Weiss, 2021). Figure 1 shows the study area and the percentage of Polish people in the GTA in relation to its total population in 2016.

Figure 1. Study area with the percentage of Polish people in the Greater Toronto Area in relation its total population
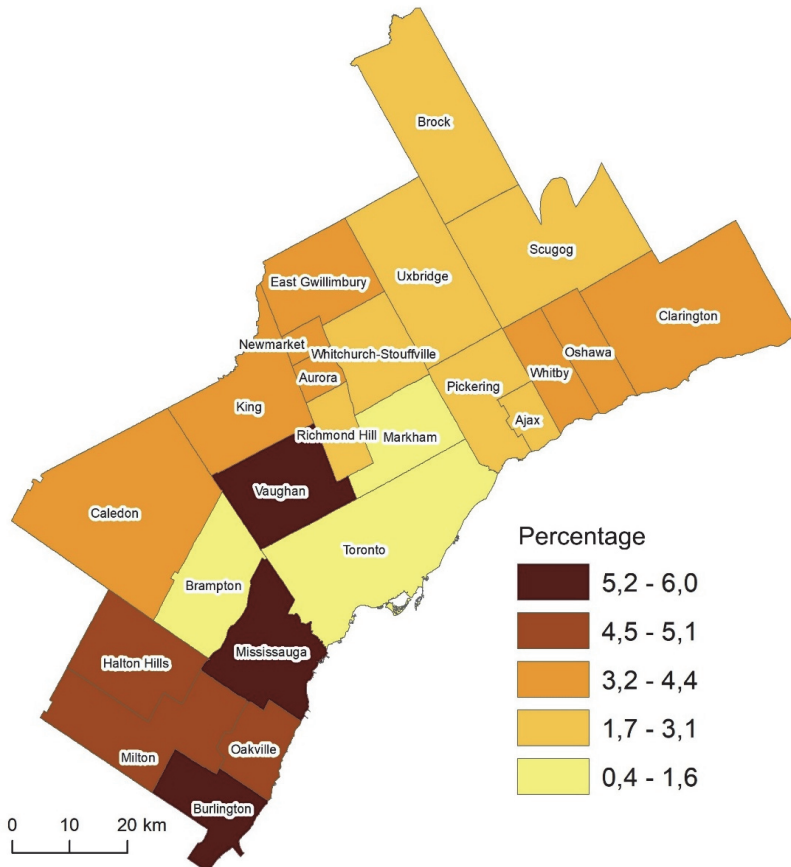
This high concentration of Polish diaspora in Toronto is the author's reason for filling the existing gap in the research on the Canadian Polish community in the GTA and thus investigate the manner in which the Polish people living in the GTA evaluate the access to education and assess the level of education in the context of the quality of life in this city. The main objective of the research is to present the relationship between gender and assessment of access to education in the GTA; household size and declared level of income are also analyzed in this context.

The research on quality of life follows different interpretations and points to various tools and methods for measuring it. In quality of life research, both descriptive and value-based understandings are used. The descriptive approach is the basis for distinguishing between objective and subjective quality of life. As noted in the various definitions, some aspects of quality of life have an objective dimension, but their assessment depends on a subjective value system and a feeling for the degree to which needs and aspirations have been satisfied.

According to one of the many definitions, quality of life consists of the following elements: wealth, understood as material goods in one's possession; health and well-being; security, in terms of health (threats to life), loss of property (crime or natural disasters), and financial (vital financial resources); the state of the natural environment; spiritual wealth, related to access to education and culture in a broad sense; and a sense of belonging to the local community, interpersonal relationships, and influence on decisions concerning individual and collective life. Each of these aspects of quality of life has an objective dimension, but the assessment of quality of life depends on the individual's subjective value system and feelings about the degree to which one's own needs and aspirations are satisfied (Kusterka, 2003).

By standard of living, Piasny (1993) understands the quality of the conditions of existence in terms of the degree to which the more important needs are satisfied and the facilities, comforts, and pleasures of life are available. In this view, it is synonymous with living conditions in the broadest sense, where the standard of living depends not only on the degree to which needs are satisfied, but also on the related expenditures, that is, on the

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amount of time spent at work, on the inconvenience of this work, the way in which leisure time is consumed, etc. In this socioeconomic perspective, the standard of living includes all the circumstances surrounding the material, cultural, and social conditions of a society: working conditions, wages or income, consumption, housing, availability of durable consumer goods, health and social care, and the state of education and culture (Piasny, 1993).

Education improves the quality of life of the citizens. Numerous studies in this area have depicted the relationship between education and life satisfaction (Blanchflower & Oswald, 2004; Frey & Stutzer, 2000; Headey et al., 2008; Powdthavee, 2008). Many scholars have found a positive and statistically significant relationship between education and self-rated life satisfaction (e.g., Blanchflower & Oswald, 2004; Easterlin, 2001; Ferrer-i-Carbonell, 2005). As noted by John V. Winters (2011), one of the most important determinants of the local level of human capital is the presence of colleges and universities in the area. Universities increase the local stock of human capital in at least two ways:

1) they increase accessibility to higher education for local residents (Alm & Winters, 2009; Card, 1995) and
2) they bring in students from outside the area seeking education, some of whom stay in the city after completing their education (Blackwell et al., 2002; Groen, 2004; Groen & White, 2004; Hickman, 2009).

Winters (2011) suggests that the migration of students to cities with high human capital results from the fact that they transfer to higher education where there are good universities, hoping to graduate from them and – consequently – find a good job that will allow them to assess their quality of life and standard of living highly. Therefore, colleges and universities influence the surrounding areas and their assessment of access to education and satisfaction from it; this is important in terms of assessing their quality of life and standard of living. John V. Winters (2011, p. 451) thinks that colleges and universities improve the quality of life in surrounding areas and that about 26% of this effect results from an increase in the local level of human capital.

Education not only influences individual income, but also allows individuals to make better decisions about health, marriage, and family life. For example, studies have confirmed that individuals with a higher level of education have, on average, better mental and physical health (Lleras-Muney, 2005; Powdthavee, 2010). More educated people face a higher risk of unemployment, but when they are unemployed, they do not remain so for very long (Kettunen, 1997). The above-mentioned aspects are important from the point of view of quality of life.

The Educational System in Canada

The educational system in Canada is decentralized: individual provinces are responsible for organizing, implementing, and financing primary, secondary, post-secondary, and vocational education. Each province has its own core curriculum, assessment methods, and minister of education. No ministry or department of education exists at the federal level. The functioning body is the Council of Ministers of Education (CMEC). Canadian schools are divided into public, Catholic, and private schools, while the age at which students start and finish compulsory education varies between provinces and territories (ranging from 5 to 18 years of age). Within the study area, in the province of Ontario, the schooling obligation is applicable from the age of 6 to 18.

The educational system in Canada is divided into several stages, starting with kindergarten (pre-school), for which the tuition fees are CAD 5,000 to 16,000), and elementary school (primary school), which covers grades 1–6. In Ontario, primary school includes two years of kindergarten: junior and senior kindergarten. Math, Science and Technology, Health and Physical Education, Music, Art, English, French, a Second Foreign Language, History, Reading, and Social Studies constitute the main subjects at school. Afterwards, comes high school, which is divided into two stages: junior high school and high school. The first stage includes grades 7 and 8, where students learn Physics, Chemistry, Biology, Psychology, Sociology, Anthropology, Business, and World Religions. The second stage

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prepares students for higher education and lasts an additional two years. Higher education in Canada is governed by the provincial government. Aspects such as tuition fees, the language of instruction, and the organization of studies and the enrolment procedure vary from territory to territory. The educational system in Canada at the academic level is divided into three degrees: bachelor's, master's, and doctoral studies. The cost of a university education is from CAD 15,000 to 55,000 per year.

Materials and Methods

The study was conducted during 2017, 2018, and 2019. In 2017, a pilot study was conducted, whereas the actual research in Canada was carried out in two stages. The first stage of the field study took place from August 16, 2018 to September 18, 2018, while the second stage lasted from September 10, 2019 to September 19, 2019.

One form of quantitative studies is the diagnostic survey method, which uses questionnaires. This method was used in this research. The primary empirical base was the results of a survey conducted among the Polish community living in the GTA. The empirical part of the research took the form of a diagnostic survey, conducted using a representative method among the GTA Polish population. A total of 612 respondents took part in the survey, while 583 questionnaires were included in the analysis. The survey was conducted among individuals who were at least 15 years old. There were two language versions of the questionnaire, Polish and English; it consisted of 17 questions and 15 questions on personal information. In quantitative surveys, answers are most often in the form of "give," with respondents indicating one of the answers. Conducting the survey among people aged 15 and older (adolescents) ensured that the respondents understood the questions and that their answers were reliable.

The questions in the questionnaire were formulated so as to refer to the respondents' experiences in 2017 and 2019, as well as over the previous few years. This approach captured the average assessment of quality of life of the respondents. When analyzing quality of life, factors such

as gender, age, education, religion, occupation, financial situation, house-hold size, and regularized residence status were used. This allowed for the study group to be described in more detail and any relationships be-tween the aspects of interest to be identified.

The statistical method applied in the research was chi-squared tested, computer-processed statistical material (constituting a specific database) subjected to statistical analysis, enabling regularities in the study group to be detected (Sojka, 2003, p. 118).

The chi2 test of independence, which determines statistical signifi-cance of the relationship between two variables measured on a nominal scale (i.e., qualitative data), was applied in order to identify differences in particular research groups and in an attempt to answer the hypotheses es-tablished at the beginning. In the study, as in most studies in this field, it was assumed that a statistically significant result is one for which the "alpha" value is less than 0.05. Thus, it can be concluded that at the significance level alpha = 0.1 chi^2 alpha > chi^2; consequently, there are no grounds to reject the null hypothesis, and we can assume that there is no relation-ship between the tested characteristics (Sojka, 2003, pp. 123–125).

Results

The results presented in Table 1 confirm the respondents' overall sat-isfaction with their lives in the GTA, without taking into account the in-dividual factors that influence the quality of life assessment and the demographic characteristics of the respondents.

The first question concerned the individual's satisfaction with their own education, to which more than half of the respondents declared being very satisfied or satisfied with their education. Only 53 people out of 583 respondents declared that they were not satisfied with their edu-cation. Regarding the next question, 72 people were very satisfied and 145 people satisfied with the fact that they possess the relevant qualifi-cations to perform a profession, while only 36 people were very dissatis-fied. The Polish people living in the GTA were very satisfied (n=263) and

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Table 1. Overall satisfaction with education as rated
by the Polish community living in the Greater Toronto Area

Element of satisfying of the education the needs in the city	I am very satisfied	I am rather satisfied	I am moderately satisfied	I am dissatisfied	I am very dissatisfied	I have no opinion
• satisfaction with individual education	118	215	96	27	26	101
• satisfaction with having proper qualifications to perform a job	72	145	110	59	36	161
• access to education	263	160	80	15	20	45
• satisfaction with activities of schools and other educational institutions	77	203	74	72	48	109

satisfied (n=160) with the overall access to education in the metropolitan Toronto area. They were also highly satisfied with schools and other educational institutions (n=77 for "very satisfied" and n=203 for "satisfied"). Only 20 people were very dissatisfied with access to education; 48 people expressed dissatisfaction with the activities of these institutions.

The main objective of the research is to present the relationship between gender and assessment of access to education in the GTA, as well as the contribution of household size and declared income level to assessment of access to education. The hypotheses formulated for the research assumed that

– women rate access to education more highly,
– individuals in two- to four-person households rate access to education and training highest, and
– individuals with a higher declared monthly income rate access to education more highly.

One of the hypotheses posed by the author was that women living in the GTA would rate access to education more highly than men. The research was intended to find out whether gender influences the assessment

of access to education and whether it matters more to women than to men. In line with the dominant tendency of portraying the role of women as mothers and wives, a lot of attention is paid to their family situation. For many, it is a measure of success in life. In spite of the various role models, a traditional view of the role of a woman prevails, so that women still bear particular responsibility for the functioning of the family. An attitude of self-sacrifice for the good of the family and an her ability to combine family and professional duties are repeatedly shown (Polkowska, 2007, p. 138). Often, it is also a woman's responsibility to educate her children and help them with their studies in the early years of their education.

In terms of gender, it is usually emphasized that women are more likely than men to attach importance to a sense of security, stability, and good social relations at work, as well as their level of education, professional achievements, and professional qualifications. In a study by Czarnota-Bojarska and Łada (2004, p. 11), it was found that young people have similar career ambitions and hopes, but that gender is still a determinant of their social and professional role. Jezior (2005) reported that women were twice as likely as men to emphasize the importance of both their own and their children's education (Jezior, 2005, p. 23). Research conducted on the Polish community in the GTA confirmed the author's hypothesis that women attach a greater role to access to education and their education. Table 1 presents the statistical calculations for the findings related to this hypothesis.

At the significance level of alpha = 0.05, $\lambda 2$ alpha was less than $\lambda 2$. Thus, we can reject the null hypothesis and say that there is a correlation between gender and assessment of access to education. Consequently, the research hypothesis that women living in the GTA would rate access to education more highly than men is confirmed.

The second research hypothesis was that people living in households with two to four people would rate access to education and training the highest. Table 2 presents the statistical calculations for the findings related to this hypothesis.

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Table 1. Gender and access to education

Access to Education	Gender		Total
	Female	Man	
Very good	148	115	263
Good	89	71	160
Average	46	34	80
Bad	6	9	15
Very bad	2	18	20
No Opinion	11	34	45
Total	302	281	583
Degrees of Freedom	df = 6		
λ2	27.28		
λ2 alpha	15.07		

Table 2. Size of household and access to education

Access to Education	Size of Household			Total
	1 person	2–4 people	4+ people	
Very good	28	139	96	263
Good	31	69	60	160
Average	6	27	47	80
Bad	1	8	6	15
Very bad	2	13	5	20
No Opinion	18	6	21	45
Total	86	262	235	583
Degrees of Freedom	df = 10			
λ2	138.16			
λ2 alpha	28.39			

At the significance level of alpha = 0.05, λ2 alpha was less than λ2. We can therefore reject the null hypothesis and state that there was a correlation between the size of the respondents' household and their assessment of access to education. Consequently, the research hypothesis that people living in households with two to four people would highly rate access to education and training is confirmed.

The final hypothesis applies to the respondents' assessment of their financial situation and of access to education. The hypothesis states that assessment to education would increase along with a very high assessment of one's personal financial situation. Table 3 shows the statistical calculations for the findings relate to this hypothesis.

Table 3. Assessment of financial situation and access to education

Access to Education	Assessment of Financial Situation						Total
	Very good	Good	Average	Bad	Very bad	No Opinion	
Very good	82	56	44	21	29	31	263
Good	42	81	18	7	5	7	160
Average	17	26	12	5	5	15	80
Bad	0	2	6	2	2	3	15
Very bad	0	4	5	1	3	7	20
No Opinion	20	12	6	1	1	5	45
Total	161	181	91	37	45	68	583
Degree of Freedom	df = 22						
λ2	81.27						
λ2 alpha	28.43						

At the significance level alpha = 0.05 λ2 alpha < λ2, i.e. we reject the null hypothesis, therefore we can say that there is a correlation relationship between assessment of the material situation and access to education. Consequently, the research hypothesis assuming that assessment of access to education increases with a very high assessment of the personal material situation is true.

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Conclusion

According to the traditional human capital model, people invest in education in the hopes of securing greater wealth and lifelong consumption. Although evidence concerning a significant financial return from education is well documented in the literature on education, we still know little about how this effect may contribute to an individual's assessment of their overall quality of life.

One of the conclusions presented in the research hypotheses presenting the findings is the fact that women in the GTA rated access to education more highly than men. In their research in Australia, Powdthavee et al. (2015) noted that on average men gained slightly greater benefits from education than women and rated it more highly – partly because education is considerably more associated with a higher likelihood of employment for men. These findings do not match those of the present study. On the other hand, the authors also noted a significant correlation between wealth and both the assessment of the need for education and the evaluation of its availability. They proved that income has the largest estimated indirect effect of education on life satisfaction for both men and women.

From the results, it appears that people who rate their material situation very well assess access to education more highly than those in a worse financial situation. Income is naturally perceived as the main factor that mediates education in terms of an individual's well-being (Clark et al., 2008). According to economists, financial returns and financial situation constitute the main benefits people gain from investing in additional human capital (e.g., Harmon & Walker, 1995; Leigh & Ryan, 2008). It is emphasized that the rate of financial return from education is economically and statistically significant and has causal interpretations; for instance, education enables people to become more efficient and productive in the labor market, resulting in better earnings than less educated people.

There are also other, non-monetary effects of good education that may improve well-being, including social relations, attitudes towards work and job satisfaction, and even the ability to trust other people

(e.g., Oreopoulos & Salvanes, 2011). Numerous studies have confirmed that income and education have a positive and statistically significant relationship with life satisfaction (Clark et al., 2008; Oswald, 1997). Regarding the non-monetary benefits of education, Oreopoulos and Salvanes (2011) report that education is one of the most important predictors of health status, employability, and the likelihood of marriage as indicators of life satisfaction (Layard, 2005; Oswald, 1997).

Education not only makes individuals more attractive in the labor market, but also more attractive in other settings. Men and women with higher earning potential or prestige tend to be perceived as relatively more attractive in the competitive marriage market (LaFortune, 2013).

Household size also has a significant impact on the overall assessment of access to education and opportunities to participate in training courses (often paid), translating into general assessment of quality of life and standard of living.

Abundant evidence on the relationship between having children and life satisfaction suggests that parents are either less satisfied with their lives or report the same level of life satisfaction as non-parents (Clark et al., 2008; Di Tella et al., 2003; Powdthavee et al., 2015; Smith, 2003). It was confirmed that being a parent has a stronger negative impact on subjective well-being in the UK and USA than in Europe and Russia (Di Tella et al., 2003; Smith, 2003), as it contributes to higher costs of living for the family, which in turn necessitates a reduction in additional paid courses and paid education, for example. The present study demonstrates that people in two- to four-person households rated access to education more highly than those in households consisting of more than four people. This may indicate that the cost of living for a large family may contribute to a limited amount of money being spent on additional paid education.

In addition to the research hypotheses, some conclusions about the Canadian Polish community can be drawn on the basis of the study:

- They are definitely satisfied with their education, with one in five being moderately satisfied with their qualifications to perform their jobs and one in three having no opinion on the matter.

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- More than half of them are very satisfied or satisfied with access to education and the activity of schools and other educational institutions.
- One in three is moderately satisfied with their job, while one in five is dissatisfied.

This research has investigated how the Polish diaspora living in the GTA evaluate access to the school system and their education, which translates into their quality of life and standard of living. The research may contribute to researchers studying how satisfaction with education influences general life satisfaction in other parts of the world and among different study populations.

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New Challenges Faced by the Polish Institutions of Preschool and Early-School Education (ECEC) in the Context of the War in Ukraine

Abstract

The subject of this article is the preparation of Polish preschool and early-school education for working with the refugee children who have fallen victim to the war in Ukraine. The main aim of the research is to review and analyze the Polish and foreign literature on the subject of early childhood education and care (ECEC). As a result of the archive and library searches, it was ascertained that rather little research into the matter has been conducted in Poland (the reason for which is the absence of previous experience with minors being war refugees) and that there is a rich experience in the countries of the West, as confirmed by the extensive literature of the subject. This article indicates the principal directions of research and activities – the problem of war trauma as experienced by a child, supporting the families

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of refugee children, and providing ECEC teachers with the necessary competences for working with children refugees afflicted by war. This article constitutes a *sui generis* introduction to research on preparing Polish ECEC teachers for the challenges connected with the war in Ukraine and the presence of Ukrainian children refugees in the Polish institutions of education.

Keywords: nursery school, early-school education, minor war refugee

Introduction

The Russian aggression against Ukraine which commenced on February 24, 2022 triggered a wave of war refugees of an unprecedented scale and intensity. Within a single month, more than 4 million minors left Ukraine as war refugees, approximately 2.5 million of whom crossed the Polish border.

At the time of writing, there are no exact estimates regarding the number of these refugee children remaining in Poland or the number who are likely to arrive in the country. Nevertheless, such a large number of refugee children means that our country is facing challenges unlike any other it has struggled against before. The fact that the majority of refugees are children and young people means that one of the principal tasks facing the Polish authorities – apart from providing medical care and the means of subsistence – is to make education available to them. It is impossible to predict how much more time this armed conflict will last or how many refugee children will remain in Poland. The Polish educational system nevertheless must take into consideration the necessity of providing Ukrainian children with universal education. It is the task of this article to analyze the Polish and international state of affairs in terms of research into the education of minors as war refugees in the context of the readiness of the Polish preschool and early-school education system to receive and work with Ukrainian children.

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Research Problem

The research problem is the theoretical and practical preparation of the Polish institutions of the preschool and early-school education system for working with minor war refugees from Ukraine. The author determines the state of research into the problem in Poland as well as in foreign countries. In this article, the international term *early childhood education and care* (ECEC) is applied to refer to this level of preschool and primary school education.

Method and Material

This article applies the content analysis method, also referred to as the document analysis method. Scientific texts constitute the documents being researched (Łobocki 2009, p. 214). The subject matter of the research is publications relevant to the education of minor war refugees in preschool and early-school institutions. Earl Babbie defines research with the application of the content analysis as non-reactive research, in the course of which a researcher does not exert any influence on the research subject or on the analysis of the research problem. This method entails the analysis of records of human stories and experiences (Babbie, 2013, pp. 356–358).

Polish Research Into the Education of Minor War Refugees

Edyta Januszewska, in her monograph dedicated to Chechen children in Poland who were the victims of war, ascertained that "the hitherto research conducted in Poland has principally been relevant to refugee children and their problems, while it has failed to include the problems of children" (Januszewska, 2010, p. 9). The pioneering research into the experience of war suffered by children and young people in Poland is the work of Józef Ciembroniewicz (1877–1929), who in 1919 published a work

documenting the experiences of children afflicted by World War I (Ciem-broniewicz, 1919). With a broader scope, research into the war experiences of children continued after the end of World War II. The scientific output of Maria Kaczyńska (1946), K. Jedlewska (1947), Stefan Baley (1947), and Ludwik Bandura (2004) should be mentioned here. All these studies were mostly an analysis of the result of the war, paying particular attention to trauma, which later came to be named post-traumatic stress disorder (PTSD) by the American Psychological Association.

The research in question applied to Polish children, whereas children and young people who were minors as well as war refugees first arrived in Poland in the 1950s. From 1948 to 1960, 3,725 Greek and Macedonian children arrived in Poland (Januszewska, 2010, p. 88). Poland also provided shelter for approximately 2,000 Korean children, who in 1958 returned to North Korea (Januszewska, 2010, p. 91). No papers about their education or adaptation to the new environment have been written to date.

The most recent research regards the children of immigrants who arrived in our country after 1989. It should nevertheless be stated that the restricted scope of this research reflects the small scale of the phenomenon. This subject has been studied by the already-mentioned Edyta Januszewska and Urszula Markowska-Manista (2017), as well as Valentina Todorovska-Sokolovska (2009); Krystian Barzykowski, Halina Grzymała--Moszczyńska, Daniel Dzida, Joanna Grzymała-Moszczyńska, and Magdalena Kosno (2013); and Paweł Zieliński (2010), among others; there are also handbooks for teachers working with minor war refugees (*Inny w polskiej szkole*, 2010). As stated by Januszewska and Markowska-Manista (2017, p. 49), the majority of research into foreign school attendees has been local in nature, and principally relevant to Warsaw and the areas adjacent to it, where the majority of the populations of immigrants are concentrated. Nowhere but in the capital are there centers supporting these individuals in adapting to the new environment. In 2016, the Team for the Education of Foreign Children was established as a unit of the Office of Education of the Capital City of Warsaw; active non-governmental organizations there include the Foundation for Social Diversity

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and Rescue Foundation, the Polish Migration Forum, and the Helsinki Foundation for Human Rights (Januszewska & Markowska-Manista, 2017, pp. 43–44).

Research into children afflicted by war, for that very reason, has a long tradition in Poland; this tradition is principally connected with Polish children who were victims of the First and Second World Wars. The research has been principally psychological and has focused on war trauma. Only the most recent research, commencing in the 1990s, included the aspect of educating minor war refugees. Such research has principally been connected with the arrival in Poland of refugee children from Chechnya, then ravaged by war, though it pertained to only a small number of school attendees and was principally restricted to Warsaw. It is therefore possible to ascertain that the state of research, and of knowledge relevant to the needs of school attendees fleeing from war – and the profile of teachers' work with such pupils – is not satisfactory in our country. To a certain degree, it is compensated for by broad research into multicultural and intercultural education. In the current core curriculum for preschool education, among the 17 tasks of preschools set out in the Ordinance of the Ministry of National Education of 2017, the last two refer to the need to prepare preschool attendees to participate in the life of the multicultural world. The tasks in question are "organizing classes – in accordance with needs – making it possible for a child to become acquainted with the culture and language of a national or an ethnic minority, or with a regional language" and "creating educational situations conducive to fostering in a child an interest in a modern foreign language, and also interest in learning about other cultures" ("Ordinance," 2017, points 17 and 18).

Methodological proposals for completing these tasks in integrated education can be found. It is recommended to turn to Arkabus (2017) for an extensive list of selected literature on the subject and to Smoter and Smoter (2017); the latter article refers to the solutions currently being applied – or not applied, though recommended – in Polish education to make it possible for school attendees to perform well in a diverse world. The authors paid attention to best practices such as storytelling, encompassing the intercultural experiences of teachers and pupils into

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educational interactions, and using fables that are common to many cultures. The application of so-called Persona Dolls during classes is also interesting from a cognitive perspective (Smoter & Smoter, 2017).

In the context of completing the tasks of multicultural education as formulated by the Ministry of National Education and Sport, it is justified to become acquainted with the opinion of ECEC teachers on this very subject. Research amongst Silesian preschool teachers, as well as those employed in Białystok and Wrocław, has recently been conducted by Twardzik (2018, pp. 218–230). The majority of the surveyed teachers expressed the conviction that it was justifiable to introduce intercultural content into the curriculum of nursery school education. The respondents introduced the content in question and used such materials as Mały Europejczyk [Little Europeans], Ja i inni [Myself and others], Kolorowe dzieci [Colorful children], Projekt e-twinningowy – Pszczółka Maja dookoła świata [E-twinnnigs Project – Maya the Bee Travels around the World], and Bajki Świata [Tales of the World] (Twardzik, 2018, p. 223). The research demonstrated that the principal difficulty for a preschool education teacher introducing material within intercultural education is to find the balance between activities intended to develop both global and national culture in those under their care. The teachers in question seek the golden mean which would avoid both the trap of cosmopolitism and of nationalism.

Ready scenarios for intercultural classes are provided by handbooks on methodology and magazines supporting preschool teachers, such as *Wychowanie w Przedszkolu* and *Bliżej Przedszkola*. In the course of preparing and conducting these classes, the findings of researchers working on children's development, the profile of the teaching process at the first stage of education, and intercultural pedagogy are all taken under consideration. Emphasis is placed on such objectives as developing the personal identity of a child, making the child proud and respectful of their own culture, and developing an attitude of openness towards and interest in different cultures (Kałuba-Korczak, 2016, p. 5).

As mentioned above, research into multi- and intercultural education, to a certain degree, compensates for the lack of knowledge and

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ready solutions for supporting child refugees afflicted by war; nevertheless, the previous research does identify their specific needs, nor does it provide ECEC teachers with the appropriate competences. In this context, it seems justifiable to tap into research conducted in foreign countries and the solutions developed within.

Foreign Research Into the Education of Minor War Refugees

The phenomenon of war refugees is a common one in the contemporary world, and its negative impact is very frequently seen in young children. In accordance with the data on global demographics, between 2016 and 2018 alone, 32 million children were forced from their homes because of a war or other kind of armed conflict (Murray, 2019, p. 3); the children in question were principally from Syria, Afghanistan, Sudan, Somalia, and Myanmar.

The first forms of assistance of a receiving country are not aimed directly at children, but rather at parents. A great deal of research, for that very reason, addresses the question of how to help a family of refugee children function in their new environment and to regain balance in performing basic functions. It is emphasized that, even before families of refugee children become able to provide their children with psychosocial support, they have to see to their own basic needs. The families of refugee children are in need of assistance when it comes to food, accommodation, and clothing; only later will they require the services of interpreters and/or translators, financial assistance, language classes, help in finding a job and placing their children in school, and medical care (Betancourt et al., 2013; Pejic et al., 2017).

Educational needs, therefore, are of secondary importance; nevertheless, they are of principal significance from the point of view of the child. They are relevant as well to collaboration between preschool institutions and the parents of children refugee. For instance, the research of Johannes Lunneblad (2017) on the strategies of teachers in Sweden working with the parents of refugee children indicates two solutions: the first

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encompasses reflective and flexible methods of cultural support and reinforcement, whereas the other refers to imposing the standards of Swedish nursery school on parents. In turn, Cherie S. Lamb (2020) ascertained from research amongst the families of refugee children staying in Australia that the receiving country must undertake to assist them in maintaining their own identity by protecting the language of refugee children and providing teachers who are trained in multicultural education and the mechanisms of trauma and preventing and fighting discrimination. The families of refugee children will therefore be better equipped to exert a positive influence on their own children and to support them in overcoming the trauma connected with exile.

A great deal of research is focused on war trauma. Although there is published evidence of the influence of war and conflict on older children, there is no research relevant to younger children. One of the relevant challenges is the problem of including refugee children in research. In the course of collecting data relevant to their situation, it is crucial to establish contact with them, which is difficult because their verbal skills and cognitive development are not very advanced; another problem may be a language barrier (Laxton et al., 2021; Gaywood et al., 2020).

When children experience trauma, it has a negative influence during the so-called sensitive periods of physical and cognitive development. An early trauma causes a lack of balance in the system of reacting to stress, which is responsible for cognitive functions and physiological processes. A trauma experienced in early childhood hinders the development of the brain, principally in the areas responsible for cognitive functions and for regulating emotions and behavior, which exerts its influence on attention, learning, memory, reasoning, and problem-solving. Living in areas ravaged by war entails a great deal of extreme experiences, such as missing food and sleep, witnessing violence and death, having to look at dead bodies and injured people, and experiencing the difficulties of travelling by overcrowded means of transport (Murray, 2019).

Being relocated to a receiving country involves new stressors. Children refugees have to learn a new culture and a new language. They frequently experience social isolation and discrimination. Being a child

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refugee may encompass being separated from the members of one's own family. Even if the latter does not occur, the lack of permanent accommodation and financial difficulties are common. The stressful conditions of living in a country receiving refugee children frequently result in fear, anger, sadness, and a lack of prospects among refugee children. Minors deprived of care and fleeing a war or conflict zone encounter other stressful factors, such as being forced to work, being kidnapped and exploited by human traffickers and/or drug smugglers, prostitution, having their property stolen, prolonged stays in centers for asylum-seekers, and a permanent fear of being deported (Murray, 2019).

In the case of children struggling against war trauma, we observe sorrow, depression, fear, and brusqueness. Emotional states they experience include an elevated level of anxiety, changes in the reaction of agitation, intrusive thoughts, and avoidant behavior. As far as physical symptoms are concerned, these include stomach aches, headaches, leg cramps, breathing difficulties etc., which cannot be explained strictly by the medical aspect. For a great deal of refugee children afflicted by war, the principal source of depression and anxiety is loneliness and the lack of meaningful and pleasant activities in everyday life (Bhutta et al., 2016). In this context, the research conducted by Anne Wihstutz in German centers for refugee children is relevant. After observing families with children staying there, she arrived at the conclusion that refugee children need contact with other children, and that they initiate play that will satisfy their social needs. This is their remedy to overcome war trauma (Wihstutz, 2020). Thus, children from centers for refugee children ought to be able to access the education available in a given country – this is a method for avoiding social exclusion as well as overcoming war trauma. This fact has also been indicated by Ankie Vandekerckhove and Jeroen Aarssen (2020), who emphasized the indispensability of including refugee children in the systems of preschool education in receiving countries and providing them with the assistance of highly-qualified teaching personnel who are acquainted with their specific needs.

In the literature on the subject, we find references to the conception of Erik Erikson (1950), who concluded that proper development in infancy

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and early childhood is dependent on the intensity of contrastive feelings. He differentiated between three crucial pairs of binary emotions: trust–distrust, autonomy–shame/doubt, and initiative–guilt. With the application of this conception, Murray (2019) developed the profile of the personal development of a child depending on age and a single dominant emotion (see Table 1).

Table 1. Profile of the psychophysical development of refugee children according to the conception of Erik Erikson

Stage	Conflict	Important actions	Psychosocial outcomes	Educational outcomes
Infancy (0-18 months)	Trust vs. mistrust	Receive predictable and reliable care	Trust is determined by providing care – the situation of war means that mistrust dominates and the feeling of doubt increases	Trust exerts influence on the correct development of language, and means better developed social and educational competences
Early childhood (1.5-3 years)	Autonomy vs. shame and doubt	Assert independence (e.g. make decisions)	The development of autonomy matching the expectations and standards means that a child feels safe A lack of success triggers the loss of confidence and shame – low self-evaluation and low self-esteem	Shame and the loss of confidence decreases motivation
Preschool (3-5 years)	Initiative vs. guilt	Exploration initiative activities with others	When initiative dominates, it fosters the sense of purpose; when the feeling of guilt is stronger, childhood is permeated with the lack of interest and the lack of self-confidence	The loss of enthusiasm, the loss of self-confidence, and / or guilt prevents one from being willing to study and learn new things, to investigate
Early middle childhood years (6-8 years)	Industry vs. inferiority	Develop confidence and competence	Social success or the sense of maladjustment	A negative attitude to school and developing abilities required in the further course of life renders it difficult to become an accomplished individual

Source: (Murray, 2019, p. 6)

Another aspect of research connected with minor war refugees in ECEC institutions is the preparation of teachers. Researchers are convinced that education and teachers play a crucial role in situations of crisis and

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that teachers are good guides for the families of refugee children in the new social reality (Betancourt et al., 2013; Kovinthan, 2016). Simultaneously, it is pointed out that teachers frequently feel unprepared for supporting a child who has experienced difficult times in life, connected with war, terrorism, poverty, or natural disasters, for instance (Alisic, 2012; Reinke et al., 2011). In accordance with the research conducted by Sabri Dogan and Colette Dollarhide (2021), the need for additional training on working with the children of immigrants is also relevant to the employees of the school supervision system in the USA.

John Murray (2019) is another researcher who raised the problem of preparing preschool and early-school teachers for working with minors who are war refugees. He concentrates his attention on the need to provide teachers with knowledge on wartime immigration and to define the emotional, social, and educational needs of children prior to, during, and after experiencing a disaster. In his conclusion, he includes recommendations for ECEC teachers and centers that train them in supporting refugee families and children. In his opinion, is it important that preschool teachers understand why they ought to work on the psychosocial problems of refugee children, and why they ought to diagnose their needs. They should be acquainted with the nature of the psychosocial problems experienced by refugee children, because these problems influence the child's ability to concentrate and learn, as well as to interact with their classmates.

The scope of the required psychosocial support will differ depending on the individual situation of the child refugee and on their ability to cope with trauma. A great deal of resistant refugee children most likely recover after their principal psychosocial needs have been met. Other refugee children will require more specialist support from qualified professionals (Murray, 2019).

At the beginning of the 21st century, in England, France, Germany, Italy, and the United States, a project named "Children Crossing Borders" was implemented for the benefit of refugee children in ECEC institutions in these countries. One of the crucial findings was that the parents of refugee children expected their children to be permitted to enter ECEC

institutions; in addition, teachers were found to frequently face a dilemma of whether to react to the unacceptable cultural behaviors of parents and strictly follow their pedagogical beliefs and principles without facilitating the education of the refugee children. The research indicated that bicultural employees play the crucial role rather than cultural mediators and interpreters/translators; parents noted that such employees are a rarity in the institutions of early childhood care. Again, it was confirmed that teachers are not prepared to cope with the challenges connected with working with refuges who have only recently arrived in the receiving country (Tobin, 2020).

A methodical proposition for working with children who have experienced trauma was developed by Karen Capo, Lori Espinoza, Jordan Khadam-Hir, and Debra Paz (2019). As the starting point, the authors selected the conception of Greenman (2005), which indicates four pillars of the safety of a child: people, place, routine, and ritual. The first element of building an environment conducive to the well-being of a child is constituted by adults. Good contact with an adult is important in the life of a child and forms a solid foundation for proper psychosocial development. When faced with doubt and confusion, little children seek shelter in the arms of adults whom they trust, or they ask the adults for help in understanding the world surrounding them. Stability and support are provided, first and foremost, by parents, teachers, and other guardians. Teachers may support children by spending time with them. In nursery school, this goal is facilitated by playing, in the course of which children express their feelings through art or while experiencing the joy of creating something new out of dough, plasticine, or another material. Teachers convince children that their words and artifacts created through manual activity are important. Children come to believe that what they think, feel, and experience are important and that they should share these thoughts, feelings, and experiences with other people.

The second element is *place*. In the context of preschool education, this word refers to arranging the classroom space appropriately. Teachers are encouraged to plan plays, art, sensory experiences, and the classes connected with them so as to provide children with the possibility to express

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feelings and recreate experiences. It is recommended to establish cozy places with pillows/cushions, rocking chairs, dough to play with, and other materials which help children enjoy a temporary solitude and rest when needed. Not only do these silent zones satisfy the need to be separated from the group, but they also encourage the individual to regulate their emotions on their own. This ability is also developed through literature for children, broaching the subjects of separation and reunion or overcoming difficulties, for instance. It helps children become acquainted with their fears or anxiety and to overcome them.

The third category delineated by Greenman is *routine*. Restoring the regular and routine activities of everyday life is one of the most important forms of supporting children who have experienced the destruction of their former world. Children need parents – but also teachers – to provide them with a fixed and permanent framework of functioning, which makes it possible for them to regain trust in human beings and emotional stability and to become acquainted with the country to which they have fled. In a classroom, this means that teachers are aware of the significance of daily routine, which restores the stability of the disrupted life of the child. This routine may encompass determining routine greetings and help when the parents drop off their children, using expressions or songs that signal when a certain activity is about to be followed by another, moving to another room or leaving a building, following the rules which govern meals, and playing music or singing lullabies while children are resting, among others. Consolidating the routine of everyday life is also facilitated by displaying picture-based schedules, which render the world a predictable place (Capo et al., 2019, pp. 21–22).

The final element is constituted by *rituals*. The author explains the difference between this category and that of routine in the following manner: whereas routine is focused on the structure of time, a ritual determines the moment when this routine becomes important emotionally. Everyday school rites, such as hugging or shaking hands after entering a classroom or singing songs specially selected for the morning, assist in making personal contact more meaningful while simultaneously fostering a sense of community. One of the recommended rituals in preschool

education is to read fables and short stories at a fixed time. The teacher (which also applies to parents) ought to

> intentionally reserve specific times of the day to listen to chil-dren's stories, scribe their words, and provide time and space for young classmates to bring the stories to life through simple classroom dramatization. For children, storytelling and play are oftentimes intertwined; it is in watching the child at play that a teacher or parent glimpses the thinking of the child. Adults build and strengthen trusting relationships with children when they invite them to share the stories of their lives. In times of trauma, this is even more important. (Capo et al., 2019, p. 91)

One instance of implementing theory into practice is the program developed by the staff of Rice University in Houston, Texas. The premise behind its development was the traumatic experiences of children con-nected with Hurricane Harvey, which struck in 2005. The creators of the program concentrated on developing safe spaces in which children could share their experiences and fears of the past and current events and to work on them by means of telling stories. The following five traditional do-mains of activity in early childhood were taken into consideration: 1) dra-matic play center, 2) block center/tabletop building area, 3) books as teaching tools, 4) open-ended art and sensory experiences, and 5) sand and water (Capo et al., 2019).

Household items and traditional materials for education and play in early childhood were used, being selected so that the children would be encouraged to perform or to verbally share the experiences which they might have had in the course of the traumatic event or afterwards. Items such as rescue boats and helicopters, cleaning tools and building mate-rials, and characters from films, were selected so as to encourage the chil-dren to share their experiences of the disaster in an informal context. The suggested literature for children included books about emotions, the con-struction industry, water, rain and different aspects of nature. These were used to create a space for conversations about different stress-triggering

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or traumatic events that were not connected with the hurricane. Teachers should nevertheless be careful so as not to provide children with an excess of materials and to bear in mind that their presence and willingness to talk is, after all is said and done, more important than any particular items, agents, or activities.

To recapitulate, the creators of the program concluded that the training system of ECEC teachers ought to encompass expertise and skills that prepare preschool teachers for working with children struggling with trauma. This claim is relevant to both the developmental psychology of a child and the particular techniques of supporting children after experiencing trauma. These contents, both in theoretical and practical aspects, may be provided as well by courses on child development, social/emotional learning, play, executive functioning, and literature for children (Capo et al., 2019).

Conclusions

The Polish ECEC system seems to be unprepared for working with minors who are also war refugees from Ukraine. Polish experiences with the education of refugee children, including those afflicted by war, are limited. In attempting to change this state of affairs and prepare the ECEC institutions for working with children from Ukraine, it is certainly recommended to tap into the theory of education (multicultural and intercultural), which is well developed in Poland; first and foremost, what is required is expertise and experience from foreign countries. This leads to the conclusion that refugee children from areas ravaged by war are at a substantial risk of psychosocial problems, which can afflict them for a long time. The teachers of preschool and early-school education may play a crucial role in assisting refugee children and their families, in diagnosing their psychosocial needs, and in applying the appropriate courses of action. The literature review leads to the conclusion that teachers ought to better understand the results of war and conflict for refugee children and that they ought to provide assistance for children. It is recommended

to complement the curriculum of teacher training programs with new content or to initiate special courses that will prepare teachers for working with school attendees who are child refugees. The courses or degree programs in question should encompass a more profound knowledge of the social/emotional development of young children and the significance of family, school, and social relationships, while taking into consideration the situation of child refugees – as well as war refugees, being a specific type – the processes of integration, equality and diversity, and the problems of early childhood. Internships should also be prepared for school attendees that would provide them with appropriate practical abilities and competences for working in a multicultural environment.

In summary, the priorities for supporting Ukrainian child refugees should concentrate on 1) meeting the principal needs of the families of refugee children, since this is indispensable if the child is to regain emotional balance as soon as possible, 2) developing a friendly environment for children in ECEC institutions in Poland, and 3) preparing the ECEC teaching staff for professional psychosocial intervention to assist child refugees and their families.

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Values in Ethics Teaching in Grades 3 to 6 of Finnish Basic Education

*'Look beneath the surface; let not the several qualities of a thing
nor its worth escape thee.'*
– Marcus Aurelius

'Only loss teaches us about the value of things.'
– Arthur Schopenhauer

*'In the twenty-first century, our personal data is probably the most
valuable resource most humans still have to offer, and we are giving it to
the tech giants in exchange for email services and funny cat videos.'*
– Yuval Harari

Abstract

The article begins with a review and analysis of the literature on educational reform in Finland, with particular reference to values education and secular ethics. The analysis of the curriculum began with a review of the literature on secular ethics in Finnish basic education. The next stage was to analyse the curriculum along with the curricular guidelines and support for primary schools in grades 3–6, especially with regard to what is applicable to all schools in Finland; this involved a review of the literature on educational reform in Finland,

values in teaching and secular ethics. The article addresses a key issue in curriculum policy: ethics education in grades 3–6. The article explores what is embodied in this policy, especially the objectives of the subject of ethics. The problem method and critical discourse analysis were applied to the study of documents concerning educational reform and the study of discourses in political rhetoric. The problem method is based on an educational phenomenon related to time and society, so it was necessary to contrast the different views presented in contemporary Finnish education and to examine various consistent factors. Education here is thus an interaction between the various sets of teachers' values and the ongoing construction of students' values. This method of primary education encourages appropriate conditions for lifelong learning for each student. Suggested lessons may include discussions with students about values so that students perceive the variance in values and are able to think about them in a constructive and critical manner.

Educational reform in Finland: An introduction

The article begins with a review and analysis of the literature on educational reform in Finland, with particular reference to values education and secular ethics. The following section then examines the National Core Curriculum for Basic Education 2014 – which currently defines the Finnish curriculum – in order to identify how issues of secular ethics are addressed, especially with regard to the material that applies to all schools in Finland. The analysis of the curriculum thus begins with a review of the literature on educational reform in Finland, values in teaching and secular ethics – with the addition of curricular guidelines and the support offered to primary schools covering the content areas for grades 3 to 6.

The citizens of Finland are proud of their lifelong learning, which supports the rapidly changing knowledge and skills required of employees in the 21st century. 'Finland's successful performance in the [Organisation

for Economic Co-operation and Development] OECD's [Programme for International Student Assessment] PISA has contributed to its iconic status and position of an educational leader in the world' (Suwalska, 2017, p. 69). This has been accomplished thanks to a series of educational reforms initiated in 1963 and supported by the renewed Government Decree of 2012, which set the main goals for pre-primary and primary education and adjusted the allocation of teaching hours in primary education. Consequently, the Finnish National Agency of Education (FNAE) prepared and launched a reform of the national core curriculum in the autumn of 2012. Headmasters, teachers and representatives from various ministries, Finnish teachers' unions, labour unions, parent groups, various ethnic groups, local education authorities and researchers throughout the country thus worked together to design a process of reform that would develop the core curriculum. As part of this, values from Western classical and new humanism were incorporated into each subject and activity in schools (Finnish National Board of Education, 2004, p. 12).

The process used in this reform was open and transparent throughout, involving many individuals yet asking them to work collaboratively. The process affected all three main tiers of education administration – the national, municipal and individual school levels – and groups from each thus participated in and influenced the planning and direction of the process, contributing to the achievement of the goals. Students, parents, researchers, teachers, educators and various civil and social organisations also participated, which generated a high level of 'commitment to the local and school-based curriculum work by the municipal authorities, principals and teachers [… and] their sincere striving to reach the goals of the reform is evident' (Halinen et al., 2013, p. 77).

During the reform process, the municipal authorities and the other groups mentioned above discussed and elaborated on the central issues of the reform, deliberating about the basic values of education in the light of school culture while taking into account the need to ensure participation and improvement among the students. Some schools even encouraged their students to read drafts of the core curriculum in order to assess the text and offer feedback. This feedback was sent to the FNAE, while

some municipalities also coordinated helpful discussions with students. For instance, the Helsinki City Education Department encouraged 550 students representing all of the schools in Helsinki to participate in an exercise and 'define what the most important factors were in helping them to learn and to enjoy themselves at school' (Niemi, 2014a, p. 77). The results were potentially surprising, yet they helped the working group to achieve a better perception of the importance of school culture: One key outcome was that students attached the greatest value to factors such as 'friendship, respect, friendliness, trust, equality and a peaceful working atmosphere' (Niemi, 2014a, p. 77).

Educational reform in Finland

The main pillar of the third period of change in Finland was 'enhancing the efficiency of structures and administration' (Sahlberg, 2015, p. 58), based on Finland's success in the PISA comparison from 2001, where the country was identified as the highest-performing nation among all OECD countries in the domains of literacy (546), mathematics (536) and science (548) (Clausnitzer, 2019, p. 1).

Many researchers and official foreign delegations at that time were thus interested in identifying the causes of the 'Finnish miracle' in education. The structural reforms that have changed the length of compulsory education and the administration of higher education and have contributed to more flexible systems of education are certainly part of this, and since 2000 the contemporary system has also improved special education, encouraged multiculturalism and smoothed the administrative path between primary and lower-secondary schools. Finnish students thus present the least variation in educational performance between schools among comparable countries (Välijärvi, 2007, p. 6); also, they are not overloaded with excessive homework or forced to spend time with private teachers or in extra classes. The PISA tests thus suggest that the main pillars of student success are the provision of equal educational opportunities and equity in education. In addition, subsequent analyses of PISA data in Finland have

indicated that factors such as place of residence are significant in terms of both learning and future career paths (Välijärvi, 2007, p. 6).

The FNAE presented the new national core curriculum in autumn 2012, based on the work of the advisory group, which allowed the agency to design the reforms efficiently. That group involved workers from various ministries, teachers, teacher union representatives and parents, and the full reform lasted from 2012 to the end of 2014. In 2014, Finland established the FINEEC, an independent government agency that is responsible for the evaluation of education in Finland. The FINEEC also assesses and conducts quality assurance in Finnish schools at all levels, based on Finland's resistance to the Global Education Reform Movement. As a result, the key principles of the reform are inclusive education and the promotion of extensive cross-subject learning. The questions asked in Finland during this reform therefore included 'What knowledge, skills, attitudes and values will today's students need to thrive and shape their world?' and 'How can instructional systems develop these knowledge, skills, attitudes and values effectively?' [sic] (OECD, 2019, p. 23).

As implemented, the reform was also closely related to the New Skills Agenda for Europe, introduced by the European Commission, which incorporated priorities drawn from the Commission's work programme from 2016. The Agenda for Europe suggested several areas for improvement: 'basic competences, visibility and comparability of competences [and] labour market and skills intelligence to facilitate effective career decisions in the fields of education, training and employment' (New Skills Agenda for Europe, p. 1).

Research questions and methodology

In order to examine ethics education from a Finnish perspective, the following research questions were formulated:

1) What values are included in the ethics curriculum in Finland in grades 3 to 6?

2) What role, if any, does the national curriculum play in the global suc-
   cess of Finnish education in the 21st century?

The main body of the related study thus needed to include an analy-
sis of the National Core Curriculum for Basic Education 2014 in Finland,
especially those parts of the curriculum that are applicable to all schools
in Finland. The analysis of the curriculum therefore began with a review of
the literature on educational reform in Finland, with a focus on the pre-
sentation of values in teaching and the impact of secular ethics. The next
part examined the curriculum more specifically, identifying how issues of
secular ethics are addressed. The curricular guidelines and documents out-
lining support for primary schools from grades 3 to 6 were thus consulted
at this stage. Primary sources were given preference over secondary
sources in this research, as needed in different situations at different times.
The validity and reliability of the selected documents were thus taken into
consideration, along with their credibility and accuracy. Attempts were
made to select representative documents based on their intended and
perceived contexts. This necessary winnowing was applied to a range of
materials accessed at the library of the University of Helsinki in order to
make selections for the final analysis, which thus emphasised in each case
'the constructive mechanisms contained in the arguments, ideas or con-
cepts' (Rapley, 2007, p. 194).

The problem method, along with critical discourse analysis, was ap-
plied to the study of documents concerning educational reform and the
study of discourses in political rhetoric. This included the collection of data
for specific areas of political activities and 'macro-themes of discourse'
(Wodak & Krzyżanowski, 2008, p. 156). The problem method is based on an
educational phenomenon related to time and society, so it was necessary
to contrast the different views presented in the contemporary Finnish ed-
ucation and to examine various consistent factors. Discourse analysis was
then applied; as this methodology uses contextual meaning, the analysis
can both deal with overt linguistic meaning and examine relevant con-
ventions and codes that are significant in the society under investigation,
and are thus embodied in its culture and history (Hammersley, 2013).

MISCELLANEOUS ARTICLES

Creative, Gifted, Talented, and Prodigious Learners Across Contexts: School, Family, and Society/Community

Values education and values in education

The term 'values education' encompasses and is often perceived 'as having a particular emphasis on education in civic and moral values' (Halstead & Taylor, 2000 p. 169). The term is thus linked with several others in contemporary use, including multiple concepts related to spiritual, moral, social and cultural development, character education (Lickona, 1991), virtue in education (Carr & Steutel, 1999) and the development of personal attitudes and skills (Halstead & Taylor, 2000).

The National Core Curriculum for Basic Education (Finnish National Agency of Education, 2016, p. 15) affirms that each child is unique and valuable. In this light, this uniqueness is emphasised, along with the child's right to improve their skills as a human being and as a part of a democratic society. In terms of education, values such as solidarity, justice and regulative values related to order, behaviour, work design, development of self-discipline, autonomy and empathy at work may therefore be employed. Defining a value requires a judgement based on what is good and what is bad; this must not be simply a personal preference based on taste, but rather a common-sense maxim based on additional ordered ideas about a person's relationship to the environment. Teachers and students will have their own sets of values, which must be viewed collaboratively in education. Teachers who work in schools should thus strive to determine the values of their students as part of the efficient functioning of the school as a learning organisation. Teachers thus require open-mindedness and a respectful attitude towards various religions and worldviews so that constructive school cooperation and interaction can flourish. In terms of Finnish basic education, values have deepdimensions that can help design a school's mission (Finnish National Agency of Education, 2016, p. 19). Values, as seen from this perspective, thus include the constructs that form them: In the process of acquiring them, people distinguish between that which is good and that which is bad, and teachers and students must be aware of the basis of their sets of values so that they can collaborate with each other in an individual school context.

According to Lickona (1991), values education contributes to the re-inforcement of values in education; Lickona thus mentions the transfer of values in education, which results from the development of the curriculum and the moral climate in school. Berkowitz (1996) further states that people do not need many values to develop morality within their judgments and actions, requiring only certain central values such as the primacy of justice and human well-being. Such central values, however, according to McLaren (1994a) and Purpel (1989), may also be defined in terms of equality and the right to diversity and self-determination.

McLaren (1994a) and Purpel (1989) both seek links between values, which further stimulates the study of values. McLaren (1994b) thus not only analyses the 'critical thinking' movement from a critical pedagogical perspective, but also differentiates three main tendencies within it: Logical analysis is the first, while the ideological position of the thinker – based on critical thinking's aim of profoundly analysing the relevant context – is the second.

McLaren's (1994a) third tendency within 'critical thinking', one that reveals reasoning as a socio-political practice, references the politics of social justice. It is thus possible to conduct a similar analysis when examining 'value-forming education', in which values can be analysed within their context whenever skills are used in the course of values-based communication. Moreover, 'value-forming education' itself can be accorded the status of a socio-political practice, as the duty of teachers is to introduce values into their teaching practice.

Kennedy et al. (1991) distinguish many skills that students need in order to master critical thinking, such as 'identifying assumptions, clarifying, focusing, maintaining relevance to the topic, understanding logic [and] judging sources'. This suggests that moral development contributes to the development of various skills related to thinking and reflection, which are thus based on the development of values. Seen in this light, values can act as constructs, as when people use them they make choices, exercise reason and consider how to solve problems related to what to believe.

Values in ethics teaching in grades 3 to 6 based on content areas C1 to C4

So far, the analysis suggests that the main task of values education at this level of primary education is to promote students' ability to live a good life.

Table 1. Values in ethics teaching in 2004 and 2014

2004
• The values of basic education are human rights, equality, democracy, the preservation of biodiversity, the viability of the environment and the acceptance of multiculturalism. • Basic education promotes community, responsibility and respect for individual rights and freedoms. • Basic education increases regional and personal equality. • Education takes into account different learners' needs and promotes gender equality, empowering girls and boys to claim equal rights and responsibilities in society and in their work and family lives.
2014
The preparation of the national core curriculum is based on the following underlying values across each school as a learning community, in addition to its individual values: • the uniqueness of every pupil and their right to a good education • an acknowledgement of common humanity, individual knowledge and ability and the importance of equality and democracy • cultural diversity, recognised as a source of richness • the need to develop sustainable ways of living.

Table 2. Distribution of teaching hours for basic education

1999	Grades 1-2-3-4-5-6: 8 lessons	Grades 7-8-9: 3 lessons	Total: 11 lessons
2005	Grades 1-2-3-4-5: 6 lessons	Grades 6-7-8-9: 5 lessons	Total: 11 lessons
NCC 2014	Grade 1-2: 2 lessons Grades 3-4-5-6: 5 lessons	Grades 7-8-9: 3 lessons	Total: 10 lessons

In the teaching of ethics, students are perceived as actors who shape, reshape and create 'their culture and experience and produce meanings in shared activities and in interactions with the surrounding world' (Finnish National Agency of Education, 2016, p. 272). As a result, students acquire the ability to focus on their own thinking and actions in ethics lessons,

which is crucial in order to match the students' ways of thinking, experiences and learning with the methods of teaching. According to the National Core Curriculum for Basic Education 2014, the instruction offered in ethics lessons guides students towards independence, open-mindedness, responsibility and participation in a democratic Finnish society. To ensure that these instructions are followed, the National Core Curriculum 2014 suggests reinforcing students' general knowledge and understanding of worldviews and cultures. Moreover, it seems reasonable to develop students' ethical and critical thinking; this is perceived as a self-correcting task that involves a search for the reasons behind particular situations.

Ethics also involves a reflective, open-minded attitude on the part of students and teachers alike. From this perspective, ethics as a subject supports the transversal competences that are acquired at this level of education, i.e. 'cultural competence, thinking and learning, interaction and expression skills, taking care of oneself and others, managing daily life as well as participation, involvement and responsibility' (Finnish National Agency of Education, 2016, p. 272). I believe that, seen in this light, the ability to reflect on values is necessary for maintaining a critical distance to values and involves various approaches and judgments. According to Kennedy (1991) and Paul (1992), 'critical thinking' is aimed at learning logical reasoning and the ability to develop and justify one's own opinion.

Ethics teaching in grades 3–6 includes key content areas related to the objectives of ethics presented above. Thus, content areas are used to form students' learning units at this level of education. The pupils' experiences, 'ideas and thoughts are taken into account in the selection of contents and in their more detailed discussion' (Finnish National Agency of Education, 2016, p. 273). Content area C1 involves reflections on a good life, in which students practise meeting other people and valuing other viewpoints. Students study freedom and responsibility, taking into consideration freedom of religion, worldview and freedom of thought. In this area, students are taught to recognise different concepts of values and social norms as well as ways to reflect on a good life and happiness. Viewed from this perspective, content area C2 – different ways of life – reveals students' own identities in terms of different values and from different points

of view. The main aim is to familiarise students with the Finnish cultural background and minority cultures and to reflect on the process of teaching and the meanings of equality, acceptance, understanding, knowing and believing (Finnish National Agency of Education, 2016, p. 273). In accordance with the previous issue, content area C3 – foundations of communal life – presents the meanings of 'agreements, promises, rights, duties, equality, peace and democracy, both in different everyday situations and environments in the pupils' lives and in a wider sense' (Finnish National Agency of Education, 2016, p. 273). Consequently, pupils become familiarised with the rights of children and wait for the grades for the assessment of tasks related to particular contexts and plans.

Another contribution to values development in ethics lessons is made by content area C4: nature and a sustainable future. During lessons, pupils become acquainted with various conceptions of time and different forms of expression in the contemporary world, as reflected in the pupils' influence on lives, knowledge and interrelated conceptions. Students become familiar with different conceptions of nature and its future in the context of sustainable development. In order to achieve the objectives of ethics, working methods and learning environments which support a psychological and social learning environment are used in grades 3–6.

As a result of this analysis of values, it seems reasonable to assume that the objectives of ethics in grades 3–6 support pupils' well-being, school learning and continual development, taking into consideration school opportunities and the construction of pupils' worldviews and identities. The development of thinking skills, argumentation and the application of knowledge are all assessed. At this level, students still need support for life interactions and thinking skills.

Conclusion

The key element of this study was an analysis of the Finnish National Core Curriculum, principally those parts involving secular ethics, as established by the Ministry of Education, which emphasises the right of each

child to a good education. A variety of conclusions can be drawn from examining the Finnish core curriculum, but it is clear that at this level of education schools must test the way students perceive multiculturalism and equality in the world. In the context of ethical thinking, they must assess whether their students are capable of recognising ethical dimensions and developing ethical thinking.

The implications of these findings are significant in terms of the development of value-forming education, which is seen to be a basic part of the teaching practice of Finnish teachers, who – within the framework of their specialist subjects – offer their own judgments of the values supported by education. Education here is thus an interaction between the various sets of teachers' values and the ongoing construction of students' values. This method of primary education encourages appropriate conditions for lifelong learning for each student. Finnish schools clearly support students in building their own systems of values, and students' holistic well-being in basic education is developed based on a cooperation between the values promoted in schools and in their homes.

Taking all of the research into consideration, I conclude that teachers need to use a variety of teaching methods in the service of taking an individual approach to each pupil. Finally, the exploration of the sources and features that are essential for learning seems to be the most significant aim of students' feedback on this subject. Different methods are taken into account in the assessment, both written and oral ones, as are the knowledge and skills taught through school activities, which reinforce the teaching process and contribute to superior preparation for life.

However, the teacher is not only a player, but to some extent a referee in the game that is education, and teachers working in schools generally aim to determine the values of the students as part of the functioning of the school as a learning organisation. In order to accomplish this, students need not only individual support but also encouragement to study by themselves. Suggested lessons may thus include discussions with students about values so that students perceive the variance in values and are able to think about them in a constructive and critical manner.

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Education Through Nature (and With Nature) as the Source of a Child's Resilience: The Educational and Healing Context of a Forest

Abstract

The objective of the article is to present the healing and educational properties of a forest in the context of the digital and consumerist reality of the 21st century and to discuss education for resilience as a specific kind of mental strength, inner power, and ability to cope with obstacles by using one's own resources and reaching for social support. The research question was formulated as follows: What is the role of education through nature (and with nature) – an important element of which is a forest – in developing and reinforcing resilience in children? The choice of subject is justified by the social and cultural changes, which force a person to face new challenges and expectations. The dynamics of those changes leaves the modern person little time to think about, try to understand, and give meaning to the new conditions of life. Resilience may be a construct that facilitates adaptation to the changing and fragile reality and it may be developed and reinforced through contact with nature, that is, in a forest. In terms of its methodological aspects, the article includes research of a theoretical nature. The author has carried out a synthetic and analytical review of selected books, as well as an analysis of the existing data related to the issue in question.

Keywords: resilience*,* forest, education through nature, functions of forest, social and cultural changes

Introduction

Each era has its individual rhythm and atmosphere which determine the conditions for humans' existence. Compared to previous decades, the present day – marked by the experience of the COVID-19 pandemic and the Russian military invasion of Ukraine – seems to be uncertain, fragile, and impossible to control. Social and cultural changes have always taken place, but today they are especially radical, unpredictable, and complex, resulting in new events and social problems. Those changes leave the modern person little time to think and keep up with them, as a result of which it is hard to understand and give meaning to the unstable conditions of existence. Also, new expectations, requirements, and challenges appear with regard to the education of the younger generations. We need to prepare them for what cannot be predicted, which involves developing the ability to adapt and adjust – which is necessary in the "society of risk" (Błasiak & Dybowska, 2021, p. 59).

Therefore, an increasing number of people are interested in mental resilience and the proper development of the youngest members of society, tools which are needed to support children's functioning in the "inhospitable reality" marked by various kinds of risk. The notion of *resilience*[1] is becoming more and more popular in the social sciences. It is perceived in the categories of specific resilience and adjustment to living among different obstacles and challenges, understood as a kind of art of living in the changing conditions of the modern world (Konaszewski, 2020). That is why the possibility of implementing this construct in education is explored in both pedagogical theory and practice.

Also, social and cultural changes result in the fact that the contemporary "narrative of life" is largely shaped by accelerated globalization,

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[1] In Polish scholarly publications, we can find the original term "resilience" or its Polish version, "rezyliencja," to describe the same phenomenon.

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omnipresent consumerism and individualism (a dominance of the culture of I), and the development of new technologies. The phenomenon of abusing new electronic media is also widespread, which leads to media exhaustion or digital addiction among children and youths. One of the ways in which we can tear young people away from virtual reality is to encourage them to have contact with nature, which may help them maintain a mental, physical, and spiritual balance and to avoid digital fatigue (Błasiak & Wilkosz, 2020). To this end, we can focus our attention on pedagogical concepts such as *outdoor education*, *adventure education*, the pedagogy of experiences (*Erlebnispädagogik*) (Bąk et al., 2014; Beightol et al., 2012; Brendtro & Strother, 2007; Michl, 2011; Neill & Dias, 2001; Palamer-Kabacińska & Leśny, 2012), or forest or ecological education (Cichy, 2003; Tuszyńska, 2006). These ideas are based on action-oriented learning and experiences in the natural environment, so that a student can feel like a part of nature and not someone who is separated or alienated from it. "A person should not be *alien* in the world of nature, just like nature should not be a hostile threat to them" (Gola, 2016, p. 57).

The objective of this article is to present the health and educational values of a forest in the context of living in the virtual and consumer reality of the 21st century and to describe education for resilience as a kind of mental resilience, inner power, and ability to cope with obstacles by using one's own resources and social support. The research question was formulated as follows: What is the role of education through nature (and with nature) – an important element of which is a forest – in shaping and reinforcing resilience in children? The reason for discussing this issue is the fact that a modern child's experience includes too little nature and physical activity and too many strong, unilateral impulses (mainly visual and auditory) from the "artificial world" of the media. Digital civilization overemphasizes the importance of instilling in children cognitive and intellectual competences, ignoring aspects of physical, social, and emotional development, which are important factors of our ability to adapt. That is why children are exposed to the risk of various disorders in development and individual functioning (Błasiak & Wilkosz, 2020).

During the day, children spend most of their time in small rooms, both at home and at school or kindergarten, which limits their freedom to move and be active. Their main experience includes passivity, consumption, and a lack of movement, independence, and creativity. Also, they do not have much real interpersonal contact because there is not enough space to move and act. Contemporary children have been described as "children from the box" (Louv, 2014, p. 53) because they mainly spend time sitting in chairs, in front of computers, at school desks, or in other places where they must remain passive. When taken outdoors, they are still placed in the "boxes" of strollers, to be pushed around by their parents. Nowadays, children's activity is very limited.

That is why it is very important to make people aware of the need to interact with nature and to make use of its benefits (Fuller et al., 2013), as well as the need to live according to nature and its rhythm and to protect our climate (Tuszyńska, 2006). J. A. Komeński (1956) also emphasized the need to seek contact with nature in education. He stressed that "we have to teach people within the broadest possible boundaries; our wisdom should not be taken only from books, but from the sky, earth, and oak and beech trees" (p. 3). A child faced with the challenges of nature takes action, crosses boundaries, overcomes obstacles, takes up challenges, makes decisions, takes risks, follows their chosen path, and finds creative solutions, supporting the development of their personality. Such educational activities refer to studying within the category of resilience. In this way, students are supported in the process of understanding themselves and others, increasing their faith in themselves, explaining the surrounding reality, and taking up challenges and effectively overcoming obstacles. This, in turn, leads to a stronger sense of agency and trust in their own powers and abilities, higher responsibility, self-awareness, and self-esteem, and a positive attitude toward the world, which makes them feel brave enough to overcome obstacles (Brendtro & Strother, 2007). A child has the opportunity to discover their interests and limits, to recognize the strength of their will, and to overcome their weaknesses. Also, in a natural educational environment, there is no pressure from competing with others or being assessed. Instead, a child can enjoy being in

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a group with other students, which facilitates their cooperation and team-work. They can meet face-to-face and talk, open up to one another, build mutual trust, support, and care for one another, and take responsibility for others; this shapes attitudes in children and helps them accept and internalize specific values.

In terms of methodology, the article falls within the scope of theo-retical research. The author has carried out a synthetic and analytical review of selected books, as well as an analysis of existing data related to the issue. The descriptions included in the article represent one way of interpreting the phenomenon, but they do not constitute the only and decisive solution.

Resilience – A person's inner protection against uncertainty and changeability

The complexities of postmodernism prompt us to reflect on people's ability to adjust to living in an increasingly difficult and uncertain world in order to maintain a balance in development and functioning, as well as general well-being. In this context, in the social sciences, humanities, and medicine, the concept of resilience has appeared. In health psychol-ogy, crisis intervention, and positive psychology, the term has been used for more than 50 years (Sikorska, 2017, p. 75). The term *resilience* comes from Latin: *resiliere* means bounce, rebound, return to the beginning, or regain balance. As indicated by Iwona Sikorska (2017, pp. 75–76), the word *resilience* is understood as personal flexibility, flexibility of the ego, elasticity, mental strength, and resistance. According to her, resilience is a phenomenon that explains the return to health after experiencing a threat or injury; it is an ability to deal with difficult situations and to get out of trouble with no or little harm. That is why resilience is under-stood as flexibility, mental elasticity, inner strength, or a self-righting tendency.

According to Karol Konaszewski (2020), the term *resilience*, along with its various derivatives, has a long and varied semantic history.

The author claims that, in the past, resilience was perceived as an individual's stable feature, property and adaptability , which made it possible for the individual to maintain positive development under strong, long-lasting stress (Block & Block, 1980; Ogińska-Bulik & Juczyński, 2011; Rutter, 1985; Uchnast, 1997). Today, it is more frequently perceived as a process that makes it possible for a person to function in an increasingly complex world (Borucka & Ostaszewski, 2008) and as a result that depends on many individual and environmental factors influencing one another (Masten et al., 1990). The common elements of these definitions are the two terms of *adversities* (misery or failure) and *positive adaptation* (adjustment), the latter of which must be adequate to the former, taking into account appreciated values and the rigor of the criteria that are applied (Konaszewski, 2020, pp. 21–30).

Resilience enables an openness to the complex and often contradictory reality, as well as to a person's orientation and independent functioning in the fluidity of social processes and the challenges of life. According to Konaszewski (2020, p. 267), the research related to resilience in the development of life increasingly confirms the importance of resilience in education and prevention, the objective of which is to form and promote personality resources and to develop an ability to cope with problems and to grow in a healthy manner. Resilience seems to protect a person against the results of negative events in everyday life, and to develop a person's ability to cope with possible threats. Resilience may be developed through experience gained in a natural environment, for instance, in a forest. Nature, due to its value and attractiveness, is a perfect place in which socioemotional and adjustment competences can be developed. It is also an excellent environment for reducing numerous disorders (e.g. aggressive behavior). Moreover, nature is a great metaphor which provides language with which to describe various experiences.

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Semantic context of the relationship between a person and nature

For centuries, people have been functioning in direct contact with nature. However, along with the progress of civilization, such contact has weakened. Similar changes have taken place within the scope of a person's physical activity. The reasons for taking up such activity have changed. Today, the main motivation to move is an aesthetic/hedonistic reason, supported by plastic surgery and aesthetic medicine. Modern culture encourages us not to move. "Moreover, the conditions of the external environment fail to provide a human being with natural stimuli that determine his/her physical and mental balance, and they fail to activate the natural mechanisms of people's resilience" (Nitecka-Walerych, 2019, p. 232). However, for the harmonious development of a child, physical health and activity are of key importance. Physical activity facilitates new cognitive experiences, improves motor skills, forms a healthy lifestyle and behavior (Żukowska, 2017), and prevents diseases of civilization.

Richard Louv (2014) points out that isolating a child from the world of nature leads to a nature-deficit disorder. The author emphasizes that children need free and physical contact with nature, through which they can take up spontaneous and unguided play. The disorder itself is not a disease, but it involves high costs that are paid by a person for being alienated from the world of nature. Such costs include reduced use of one's senses, attention deficit, and increasingly, diseases of civilization based on mental and physical disorders. Also, the syndrome may be analyzed on the microscale (a person and their family) or the macroscale of the whole society. That is why in educational activities, for the former scale, one has to emphasize the consequences of insufficient contact with nature and, for the latter scale, one has to indicate various benefits of direct human contact with nature. The changes that are to be implemented should not involve a return to the conditions of life from thousands of years ago, but they should aim to improve our contact with nature, which may form and/or improve children's resilience. Contact with nature, including with a forest, helps children to get to know and realize

their resilience resources, develops their ability to use those resources, and helps them gain new ones. Being connected with nature assumes living in nature and in accordance with nature, which develops a nature-friendly attitude and lifestyle. Regular contact with nature (e.g. in a forest) teaches us to respect it and to care for natural resources. Also, it encourages us to reflect on our existence. Playing in a forest makes it possible for children to satisfy their need for free movement, to learn about the world with the use of all their senses, to experience failure and success, to feel joy and sorrow, and to learn to cope with threats and predict the results of their own decisions and actions. As emphasized by Anna Nitecka-Walerych (2019, pp. 236–238), children who are physically active in natural surroundings have a better awareness of their own body and fewer problems learning about the body's limitations. Free exploration of a varied natural environment makes it possible for children to practice motor coordination, plan movement in space, and become confident and fluent in movement correlated with proper muscle tension. Physical activity facilitates human development in many other areas: in the cognitive, social, emotional, and spiritual fields. While playing outdoors, children have the opportunity to use their creativity and imagination. Moreover, as the author indicated, in direct contact with nature children instinctively fulfill those developmental needs that have been blocked in them. In order to release their own potential, they need freedom, space, adventure, and simplicity. Where there are no ready solutions (e.g., imitation toys), children automatically activate their creative resources. And as they grow older, their innate curiosity motivates children to engage in more and more original and nonstereotypical forms of cognition. Contact with nature within formalized education is offered by forest kindergartens, which began appearing in Poland in 2014 (Nitecka-Walerych, 2019).

While discussing education through nature and with nature, it is worth mentioning that it may include various forms of activities, such as team sports, outdoor games, survival trips (or trips with elements of survival), paper chases, walks, hikes and expeditions, camping trips, climbing, bike riding, and many other activities. Such events may be included within the frames of formalized education on different levels, or they can be used in family education.

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The goal of contact with nature (and with the forest environment), including rest and recreation, in an environment that is different to that of everyday life, stems from natural psychological human needs. Such needs include the need for safety, which is connected with the protective functions of a forest, and the need for self-fulfillment, which is reflected in using the forest as a space for relaxation, recreation, and various kinds of motor activity. Also, according to Piotr Gołos (2010, pp. 150–151), human need for contact with the natural environment may be explained by Edward Osborne Wilson's theory of biophilia, according to which a human being is connected with the natural landscape and natural areas in the original state on a genetic level (Wilson, 1984). Moreover, the theory of psychophysical stress reduction by Roger Ulrich (1981) says that contact with nature may reduce stress through watching nature. There is also the theory of attention regeneration by R. and S. Kaplan (1989), according to which a person searches for contact with nature because, due to fascination with nature and the opportunity to distance oneself from everyday problems, they improve their concentration.

"Forest education" – The psychosocial and protective functions of a forest

According to Katarzyna Simonienko (2022),[2] a forest is

a huge, wise book from which we can learn many useful things. It is an original and inimitable work of art. It is a living organism, a pharmacy, a tangible system of bubble worlds, and a friend.

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[2] Doctor of medicine Katarzyna Simonienko, PhD is the founder of *Centrum Terapii Lasem* [the Forest Therapy Center]. Since 2018, she has been conducting forest therapy and eco-therapy sessions. She has written books – *Lasoterapia* [Forest Therapy] (2021, Wydawnictwo Dragon), *Nerwy w las. Jak odnaleźć spokój i radość życia* [Distress in the Forest: How to Find Peace and Joy in Life] (2021, Wydawnictwo Sensus) – and a scientific monograph, *Terapia lasem w badaniach i praktyce* [Forest Therapy in Research and Practice] (2021, Wydawnictwo Silva Rerum).

It is a bag full of fairytales, a source of archetypes, fears, and com-
forts; a context.

A forest has always been an important part of people's lives. It is an
inseparable element of their existence. This is because a forest is an im-
portant part of nature, both the primal one (e.g., virgin forests or jungles)
and the environment shaped by humans (urban woodlands planted by
people). A human being needs nature to live, which is why they are
obliged to protect it. However, the meaning of a forest changes over time
and with the societal and individual needs of people. At the moment,
a forest is a closer or farther surroundings for human communities, but in
the past its influence on people's lives was even stronger. Along with the
development of civilization, forest spaces became destroyed and reduced
because of human activity; people's relationship with forests weakened.
However, people today have started to notice the natural, social, and cul-
tural functions of forest areas, appreciating the beauty of forests and their
intrinsic value. The forest has become the subject of research and interest
in forestry and natural sciences. Also, the social sciences today are inter-
ested in forests, emphasizing the role of nature in the areas of human so-
cial life and education. Those sciences analyze various relationships and
dependencies between humans and their natural environment, includ-
ing the functions performed by nature (and its elements) in society
(Ciszek, 2021, pp. 58–61).

Forests perform many functions. According to Mariusz Ciszek (2021,
pp. 62–65), they usually include economic functions (production) and
non-production functions, which can be further divided into ecological
ones (shaping the environment) and social ones. Pedagogical researchers
analyze the social functions of a forest, which refer to its influence on the
physical, psychological, and spiritual development of an individual and
the whole of society. These functions certainly influence one another.

Within the scope of physical functions, it is emphasized that a forest
performs several healing tasks that are important for a person's life and
physical development, in terms of both preventing diseases and support-
ing pharmacological treatment. This is because a forest is characterized

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by a specific microclimate that plays the role of a natural spa or sanatorium. It protects us against the consequences of civilization's development (the protective function of a forest) because it serves as the planet's "green lungs," reduces noise, emits antiseptic substances into the atmosphere, ionizes the air, and facilitates rest and recreation (the touristic and recreational function of a forest). Touristic and recreational activity that occurs outdoors in direct contact with a forest can regenerate strength, reinforce the body performance, develop fitness through various kinds of sports, and promote recreational activities such as collecting fruit from the undergrowth. Another group of functions refers to the beneficial influence of a forest on mental health through physical and spatial representations of the forest environment (e.g., sound, space, shape of the terrain, or smell) connected with adaptation and through factors that improve our self-esteem, mental welfare, sense of development, identity, control, and freedom to act. A forest facilitates regeneration of not only physical strength, but also of the mind. Contact with a forest – with its natural beauty, smells, and sounds – makes it possible for a person to rest, find peace, release stress, and think about life. Moreover, relationship with nature, which in this case is developed through contact with a forest, has an emotional dimension because it facilitates a good mood, satisfaction, and a sense of happiness, which in turn promotes mental and physical well-being. Another important set of functions is those which are responsible for a person's spiritual development (cognitive and religious). Spiritual development is multifaceted and can intensify various forms of culture. A forest influences imagination and creativity, is the source of inspiration and creative ideas, and satisfies the need for aesthetic and transcendental experiences. Also, studying a forest extends our scientific knowledge (a product of human intellectual and cognitive activity). Thus, a forest also has scientific and didactic functions. It is a place of scientific research in many disciplines, but it is also the place of a didactic process which promotes knowledge of nature and develops environmentally-friendly attitudes. Because the educational functions of a forest are connected with its didactic function, they form a need and willingness to protect nature. A "living lesson" occurring in a forest also has an axiological dimension.

It teaches us that a forest is not only useful, but also an ingrained and cultural value that is the source of our civilization – a value that has to be protected and respected by all of us (Ciszek, 2021, pp. 62–65).

Conclusion

A child's contact with nature facilitates their health, not only in the physical dimension, but also in the social, mental, emotional, and spiritual dimensions, which support a good quality of life in unstable conditions. Nature creates space in which a young person, in a natural manner, has the opportunity to act and develop important verbal and non-verbal communication skills, such as negotiating, controlling emotions, and being assertive and empathetic. A child learns to cooperate with others, solve problems, and develop their trust in themselves and other people. Surrounded by nature, a young person learns to manage their time, sustain their motivation and persistence, cope with changing challenges, adapt to the changing environment in a creative and flexible way, and make decisions in stressful and dangerous situations. All this helps them develop and reinforce the sense of efficiency, agency, self-regulation, and optimism – to strengthen their own resources. Therefore, we can assume that the natural environment (including a forest), when used properly, helps us develop and/or reinforce a child's resilience, a faculty which may facilitate their adaptation to the changing and fragile reality.

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Teachers' Opinions on the Forms, Causes, Consequences, and Possible Solutions to Deviant Behavior Among Senior School Students in Ilorin, Nigeria

Abstract

This research examined teachers' opinions on the forms, causes, and consequences of deviant behavior among senior school students in Ilorin South Local Government Area in Nigeria. The study adopted a descriptive form of survey research. The study population consisted of teachers of public senior secondary schools in Ilorin South; the study group was comprised of 322 teachers selected from 23 schools in the area using the purposive sampling technique. A questionnaire designed by the researcher with 28 items using a four-point Likert scale was used to elicit the necessary data from the respondents. The tool was checked for content validity and the split-half method revealed a reliability index of 0.68. A descriptive statistical method of percentages was used to answer the research question. The findings revealed that lateness, truancy, disrespect of the school authority, and examination malpractice were some of the forms of deviant behavior prevalent among the students. Also, access to illicit drugs and over- or under-pampering of children were considered some of the causes of deviant behavior, while academic failure, increased dropout rates, increased social vices, and an inconducive teaching and learning environment were thought to be the consequences of deviant behavior. Therefore, the provision of adequate

facilities, monitoring of students' activities at all times, and professional counselling are possible solutions to the problem of deviant behavior among the students.

Keywords: behavior, social vices, deviancy, forms and consequences

Introduction

Deviant behavior remains an obstacle to the development of society and the achievement of educational goals and objectives. Deviant behaviors could be viewed as acts that are contrary to the existing rules, regulations, and norms that guide a particular society or organization. Deviant behavior has been described as behavior that is at variance with the acceptable norms of a school (Bolu-steve & Esere, 2017). Deviant in sociology is an action or behavior that violates social norms, including a formally enacted rule (e.g., crime), as well as informal violations of social norms (e.g., rejecting folkways and mores). Although deviance may have a negative connotation, the violation of social norms is not always a negative action; positive deviation exists in some situations. Even if a norm is violated, a behavior can still be classified as positive or acceptable. Social norms differ throughout society and between cultures.

A certain act or behavior may be viewed as deviant and receive sanction or punishment within one society, while in another society it is seen as normal behavior. As expressed by Chuks (2016), three elements allow a behavior to be described as deviant: it impedes an individual's effective functioning in society, it hinders an individual from meeting their personal needs, and it interferes with the wellbeing of other members of the society. Additionally, as a society's understanding of social norms changes over time, so too does the collective perception of deviance. Deviance is relative to the place where it was committed or to the time when the act took place. Killing another human is generally considered wrong. Wrong behavior is also visible within the education system, potentially perpetrated by either teachers or learners. When it is perpetrated among learners, it is frowned upon by the school authorities and most times

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sanctioned. Igbinovia (1997) maintained that deviance among students can be a way of drawing attention to injustice and exposing the system's defects in order to adjust them.

Deviant behavior is rampant behavior or acts committed by public secondary school students which disrupt the smooth running of the teaching and learning activities in the school setting. When such an act is perpetrated, it affects the teachers, students, school authorities, and even society at large. Deviant behavior results in all manner of social vices, such as drug abuse, sexual offences, stealing, destruction of public/school property, bullying, and many more. It should also be stated that students engaging in deviant behavior such as hooliganism or street fighting results in the destruction of life and property and, in turn, causes insecurity and creates panic in society.

There is a need to curb this behavior among students because this group of perpetrators will otherwise pose a greater threat to society as they grow older. Deviant behavior among students can prevent them from becoming useful and reliable members of society. It may even lead them to becoming corrupt leaders if they happen to hold public office in the future. It can also make learners lose interest in the value of education. For instance, a student that is impregnated as a result of engaging in sexual immorality may find it difficult to continue with her schooling, thereby preventing her from pursuing her academic career. By so doing, the student's dream or school achievements are limited.

Schooling is an important aspect of every individual's life because it is a key to developing oneself and society. In Nigeria and other parts of the world, as one makes the effort to acquire education, there are certain factors that frustrate the process, which is harmful to the smooth running of every level of educational institutions. Deviant behavior is one of these frustrating factors that prevent the smooth running of education. It cannot be disputed that deviant behavior such as smoking, drinking, stealing, sexual immorality, gambling, and others lead students into all manner of unfavorable or unhealthy behaviors, such as robbery, rape, bullying, drug addiction, unwanted pregnancy, abortion and other forms of criminal dispositions or tendencies. It will be very difficult for

education to achieve its aims in any society if there is a high rate of crime or social vices created by deviant behavior. It is a common feature in Nigeria today to hear in the media that students are engaging in crimes such as drug abuse, sex offences, smuggling, armed robbery, pickpocketing, snatching of cell phones, cybercrime, truancy, and various kinds of theft. These are no doubt strongly deviant behaviors that could result in disorderliness and a breakdown of the norms of the school and society at large.

Deviant behavior among students cannot be completely eradicated, but it can be reduced to its barest minimum if certain measures are taken by the parents, teachers, and school authorities to curb this undesirable behavior. These measures include improved interpersonal relationships and effective communication between teachers and students, a positive attitude among teachers toward work, adequate facilities to make an environment that is conducive for teaching and learning to take place, appropriate discipline of children from their parents, a joint effort between the school and the parents to keep deviant behavior under control, constant monitoring of students' activities by both the school and the parents, encouragement and rewarding of positive attitudes or behavior from the students, adequate care of children from the parents, constant oversight of children's behavior and performance at school, regular admonishment of the students, and many more.

In light of these challenges created by deviant behavior to deter societal development and achieve educational goals, the researcher intends to examine the forms, causes, and consequences of and possible solutions to deviant behavior among students, portraying one or two improper behaviors or attitudes daily in the school. These negative behaviors include stealing, vandalism, rudeness toward teachers, a negative attitude toward work, fighting, meeting in a secluded place during classes, dressing inappropriately or indecently, smoking, and many more. All of these are behaviors that deviate from the school rules and regulations, which disrupt the school activities and thereby limit the achievement of the school's aim and the development of society at large. Thus, the researcher was motivated to investigate the forms, causes, and

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consequences of and possible solutions to deviant behavior among public secondary school students.

Statement of the Problem

Senior school students are fond of displaying one or two improper behaviors or attitudes daily in school. These negative behaviors include destruction of school property, rudeness to their teachers, cultism, bullying, stealing, negative attitudes toward work, fighting, meeting in a secluded place during classes, dressing improperly or indecently, smoking, and many more. The variety of these deviant behaviors was witnessed in a school during the annual Science Week, some students were caught tampering with the generator used to supply electricity for the event. This act led to damage to the amplifier being used for the event. Unfortunately, the event was to witnessed official commissioning of a 12 units computer set donated to the school by Rotary Club International. The donors ascertained that this deviant behavior the students could have destroyed the school property, thus, the computer units are would not be safe in the school, and the donation was withdrawn. This incident cost the school possession of this equipment, but after several apologies and several weeks, the donors returned it to the school.

Similarly, there was an incident of a teacher who corrected a student for misbehaving; this particular female student became so rude and addressed the teacher inappropriately in the presence of her colleagues and students' teachers who witnessed the scene. The teacher became furious and flogged the student, who did not cease uttering all manner of insults at the teacher in question before finally being taken to the staff room, where she was collectively scolded by other teachers. This shows the extent to which students have become fearless and disrespectful of their teachers at school.

Cultism and bullying are no longer limited to higher institutions in Nigeria; they have also spread to the lower levels of education. These deviant behaviors are evident in our present-day senior and junior

schools. A real-life scenario is the death of the 14-year-old boy, Sylvester Oromoni, of Dowen College in Lagos State. Several accusations claimed that the boy had been bullied multiple times by his senior classmates before he was finally killed for refusing to join a cult. Ethical principles have gone into extinction if youths are capable of committing such an evil act.

The above are behaviors or attitudes evident among secondary school students, which deviate from the school rules and regulations, disrupt the school activities, and thereby limit the achievement of the school's aims and society's development.

Purpose of the Study

The study investigated teachers' opinions on the forms, causes, and consequences of and possible solutions to deviant behavior among students. Specifically, the study examined teachers' opinions on the forms, causes, and consequences of and possible solutions to deviant behavior among public senior school students in Ilorin South.

Research Questions

This research question guided this study: What are the teachers' opinions on the forms, causes, and consequences of and possible solutions to deviant behavior among public senior school students in Ilorin South?

Research Design

A descriptive form of survey research was adopted to examine the form, causes, and consequences of and possible solutions to deviant behavior among public senior school students in the Ilorin South Local

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Government Area of Kwara State, Nigeria. The study population was public senior secondary school teachers in the Ilorin South Local Government Area. The study focuses on public senior secondary schools and all the teachers of the schools. There are a total of 38 public senior schools (Kwara State Ministry of Education, 2021), 23 of which were sampled using a simple random sampling procedure, with a total population of 1,720 teachers. A total of 322 teachers was considered an appropriate sample size according to a table of sample selection by The Research advisors (2006).

A 28-item questionnaire with a 4-point Likert scale designed by the researchers, titled "Teachers' opinion on the Forms, Causes, and Consequences of and Possible Solutions to Deviant Behaviors," was used to elicit the required data from the respondents, teachers in the selected schools in the Ilorin South Local Government Area.

The content validity of the instrument was verified by experts in the Educational Research, Measurement, and Evaluation unit of the Department of Social Sciences Education, University of Ilorin. The reliability of the instrument was checked with the use of the split-half method. Cronbach's alpha was adopted in the analysis and a reliability index of 0.68 was obtained. A descriptive statistical method of percentage was used to answer the research questions; the results are presented in the first four tables.

Results and Discussion

The results of the study are presented in the following tables.

Research Question: What are the teachers' opinions on the forms of deviant behavior among public senior school students in Ilorin South?

Table 1: Teachers' opinions regarding the forms of deviant behavior

The following behaviors could be forms of deviant behavior among senior school students:	Agreed (%)	Disagreed (%)
Examination malpractice	87.5	12.5
Truancy	88.6	11.5
Bullying	86.2	11.8
Lateness to school	90.7	9.3
Stealing	78.2	21.9
Sexual misconduct	77.1	22.9
Fighting	85.4	14.6
Disrespecting the school authority	87.6	10.4
Drug abuse (smoking and alcohol)	71.8	28.1
Damaging school property	78.7	21.3

Table 1 shows that over 70% of the teachers confirmed all the items in the table as forms of deviant behavior that are prevalent among their students.

Research Question: What are the teachers' opinions on the causes of deviant behavior among Public Senior School students in Ilorin South?

Table 2: Teachers' opinions regarding the causes of deviant behavior

The following factors could be causes of deviant behavior among senior secondary school students:	Agreed (%)	Disagreed (%)
Over- or under-pampering of children	81.6	18.4
Family poverty	72.3	27.8
Poor attitude of teachers toward work	41.8	58.2
Overpopulation in the classroom	80.0	20.0
Negative effects of mass media	84.5	15.5
Negative peer influence	93.8	6.2
Easy access to illicit drugs	82.5	17.5
Lack of reinforcement for good behavior	71.5	28.4

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Table 2 shows that five of the eight factors were causes of deviant behavior in the opinion of the teachers (71.5% to 82.5%).

Research Question: What are the teachers' opinions on the consequences of deviant behavior among Public Senior School students in Ilorin South?

Table 3: Teachers' opinion on the consequences of deviant behavior

The consequences of deviant behavior could be:	Agreed (%)	Disagreed (%)
It may lead to academic failure among students	98.0	2.0
Difficulty forming positive interpersonal relationships	7.1	92.9
It makes the school inconducive to teaching and learning	81.6	18.4
Increased rate of drop-out among students	96.9	3.1
Increase in social vices in society	92.7	7.3
It may lead to problems paying attention, concentrating, and learning	14.5	85.6

Table 3 shows that deviant behavior among public senior school students may lead to some of the items listed.

Research Question: What are the teachers' opinions on the possible solutions to deviant behavior among Public Senior School students in Ilorin South?

Table 4: Teachers' opinions regarding possible solutions to deviant behavior

The following measures could be possible solutions to deviant behavior among senior secondary school students:	Agreed (%)	Disagreed (%)
A professional counsellor should be employed in the school	96.9	3.1
Activities of the students should be monitored at all times	99.0	1.0
Teachers should display a positive attitude toward work	96.9	3.1
Adequate facilities should be provided to reduce overpopulation in the school	100.0	–

Table 4 shows that 96.9% to 100% of the teachers agreed with the possible solutions.

Discussion

The first finding of the research was that students in Ilorin South exhibited deviant behaviors, such as examination malpractice, lateness to school, truancy, bullying, disrespect of the school's authority, vandalism, sexual misconduct, drug abuse, stealing, and fighting. Examination malpractice is a common form of deviant behavior that is observed among students in the Ilorin South Local Government Area: according to 87.5% of the respondents, students cheat during examinations. This is supported by the report of the Examination Ethics Project, which revealed that about 12% of the candidates who took the Senior School Certificate Examination in 2021 were involved in some form of malpractice during the examination (Adebayo,2021). The report further revealed that Nigeria ranks poorly in the World Examination Malpractice Index. This finding is also similar to that of Amini-Philips and Chukwuma (2017) and Whawo (2015), who found that examination malpractice, stealing, and disobeying class rules were common among students.

Lateness to school was also observed as a reoccurring form of deviant behavior among students in Ilorin South. Some students roam the streets when they ought to be in school. Some of them do not enter the school premises until the second or third period is almost over. This is in line with the findings of Adegunju et al. (2019), who stated that the official arrival time for students at school in Nigeria is 7:30 a.m. Unfortunately, many students can still be seen walking unconcerned around the streets at 9:00 or 9:30 a.m. and many students stay away from school during school hours. Truancy is a another perpetual, regular form of deviant behavior among students. As reported by Oghuvbu (2008), globally, truancy has been regarded as a cankerworm that has eaten deep into the fabric of educational programs and has caused many setbacks for secondary school students in their educational pursuits. Porter (2013) found that

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students who commit truancy commit deviant acts at a higher rate than students who stay in school.

Bullying also exists among the students of Ilorin South. The senior and stronger students tend to bully the junior and weaker students in the school. Okechukwu (2016) enumerated physical assault, extortion, and verbal humiliation and intimidation as various forms of bullying. In addition, Placidius (2013) found that physical bullying was perceived as a dominant element of bullying. Moreover, stealing – which involves taking what does not belong to one without permission – is a consistent and uncalled-for form of deviant behavior that exists among the students. Consuming alcoholic beverages and smoking cigarettes, marijuana, shishas, or other substances are common behaviors of the students from the local area, in the opinion of the teachers. This is corroborated by Chamberlin's (2015) findings, which revealed that many in-school adolescents and even secondary school students have been found on school premises smoking Indian hemp (marijuana), cigarettes, heroin, and other drugs not recommended by doctors.

The second research finding is the causes of deviant behavior among students in Ilorin South, which include easy access to illicit drugs, over- or under-pampering of the child, overpopulation in the classroom, poverty, and a lack of reinforcement for good behavior. Easy access and abuse of drugs among students leads to them misbehaving and having no regard for or fear of the school authority once they are under the influence of the drug. As such, this induces deviant behavior among the students in the school. The easy access to drugs for students in this area is in line with the view of De Bruijn et al. (2014) that even though the legal purchasing age of alcohol is 18 years, anybody can buy alcohol in Nigeria due to the non-enforcement of the existing law and a lack of means to prove one's age. Additionally, there is extensive production and consumption of homemade alcohol (WHO, 2014) such as palm wine, ogogoro, burukutu, and pito. These facts make drugs easily accessible to and abused by secondary school students. Secondly, over- or under-pampering, overpopulation, family poverty, and a lack of reinforcement for good behavior were observed to be the causes of deviant behavior among students in Ilorin

South. This is in agreement with the findings of Yezna Tagele, (2020) in his work "Deviant Behavior of Secondary School Students in Gondar City." Similarly, the American Observer (2007) also agrees that overcrowded classrooms, parent inadequacies, negative peer influence, and negative effects of mass media are causes of deviant behavior among students in school. This finding is also in line with those of Jones (2010), which revealed that peers play an important role in the social and emotional development of adolescents and has the ability to influence others. Similarly, Yarduma and Abdulamid (2007) found that the explosion of the media system through Facebook, Twitter, LinkedIn, WhatsApp, Imo, YouTube, television, radio, magazines, newspapers, and computers has contributed to the inculcation of deviant practices among students in school.

The third research finding is that the consequences of deviant behavior are academic failure among students, increased drop-out rate, increased social vices in society, and an inconducive environment for teaching and learning. This finding is inline with the report of Yezna Tagele (2020) and American Observer's (2007) report on the consequences of deviant behaviors. On the other hand; other consequences such as difficulty forming positive interpersonal relationships, problems paying attention, concentrating in class, and learning were not considered as consequences of deviant behavior among the students in the present study. This negates the finding of Agi (2016), that most students involved in deviant behavior do not benefit from schooling.

The fourth research finding involves possible solutions to deviant behavior among students in Ilorin South: providing adequate facilities to reduce overpopulation in schools (100.0%), monitoring students' activities at all times (99.0%), employing professional counsellors in schools (96.9%), and teachers demonstrating a positive attitude toward work (96.9%). These results are in line with the recommendations of Yezna Tagele (2020), Agi (2016), and the American Observer (2017) in their various studies, that good school facilities must be provided to aid effective teaching and learning in schools.

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Conclusion and Recommendations

School is assumed to be a place where students are equipped with the necessary knowledge, skills, and attitude to build self-reliance and develop society. At the same time, a school is also a place where all manner of unwanted behaviors that could hinder the objectives of the school are displayed.

Based on the research findings, the following recommendations are made:

a. Schools and society at large should strongly promote and reward positive behavior among students at all times. This will motivate students to be positive toward the rules and regulations that guide the school and society at large.

b. The parents, teachers, and school administrators should work, communicate together effectively, and adopt appropriate and necessary measures to minimize deviant behavior among students.

c. The rules and regulations of the school should be clear and appropriate discipline must be enforced for any breaches of them.

d. Proper care for the children should be provided and inculcation of adequate discipline in the children should be ensured by the parents.

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Mathematical Narrations and Poetry. A Mathematical Resilience Tool

Narraciones y poesías matemáticas. Una herramienta de Resiliencia Matemática

*La matemática posee no sólo la verdad, sino belleza suprema;
una belleza fría y austera, como una escultura, sin apelación
a ninguna parte de nuestra naturaleza débil, sin la hermosura
de las pinturas o la música, pero sublime y pura, y capaz de una
perfección como sólo las mejores artes pueden presentar.
El verdadero espíritu del deleite, de exaltación, el sentido de ser
más grande que el hombre, puede ser encontrado tanto
en matemática como en la poesía.*
– Bertrand Russell

Abstract

Mathematics frequently appear in stories, poetry, stories, literary narratives, in general in different literary genres.

Numbers and Mathematics usually appear in the stories, poems and narratives of children's and youth literature. Likewise, in these literary genres

spatial relationships, shapes, sizes, quantities, numbers are verified, and it is that in Mathematics the pillars of logic and creativity underlie (Cervera, 1983). Thus, it is intended to develop an analysis and reflection through a bibliographic review of children's and youth literature related to Mathematics as a resilient tool for coping with the teaching of this discipline, creating new learning situations to develop significant links between literature. "mathematics" and resilience.

The results of the research have revealed theoretical and practical tools (stories, tales, poetry, literary narratives, stories) that will accompany and promote resilient mathematical processes through the construction of symbolic spaces of refuge and socio-emotional acceptance through reading and creative expression motivated by children's and youth literature.

Keywords: resilience, mathematical literature, resources

Resumen

Las Matemáticas aparecen frecuentemente en cuentos, poesías, relatos, narraciones literarias, en general en distintos géneros literarios.

Los números y las Matemáticas aparecen habitualmente en los cuentos, poemas y narraciones de la literatura infantil y juvenil. Así mismo, en estos géneros literarios se constatan relaciones espaciales, formas, tamaños, cantidades, números, y es que en las "Matemáticas subyacen los pilares de la lógica y la creatividad" (Cervera, 1983, p. 32).

Así pues, se pretende desarrollar un análisis y reflexión a través de una revisión bibliográfica de la literatura infantil y juvenil relacionada con las "Matemáticas como herramienta resiliente para el afrontamiento de la enseñanza de esta disciplina creando nuevas situaciones de aprendizaje para desarrollar vínculos significativos entre la *literatura matemática* y la resiliencia" (Cervera, 1983, p. 22). Los resultados de la investigación han dado a conocer herramientas teóricas y prácticas (relatos, cuentos, poesías, narraciones literarias, relatos) que acompañarán y favorecerán los procesos resilientes matemáticos a través de "la construcción de espacios simbólicos de refugio y acogimiento socioemocional mediante la lectura y la expresión creativa motivada por la literatura infantil y juvenil" (Pavón, 2015, p. 15)

Palabras clave: resiliencia, literatura matemática, recursos

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MISCELLANEOUS ARTICLES

Creative, Gifted, Talented, and Prodigious Learners Across Contexts: School, Family, and Society/Community

Introducción. Breve recorrido histórico

La literatura infantil y juvenil es un medio muy útil y adecuado para para promover la resiliencia en el afrontamiento del aprendizaje y enseñanza de las Matemáticas (Hürlimann, 1968).

Los antecedentes del manejo de este recurso como ayuda resiliente data al menos de la última mitad de la Edad Media (Panella, 2000), época de gran crecimiento hospitalario en Europa, pero ya en la antigua Tebas "la biblioteca era considerada como el lugar para la curación del alma. En el frontispicio de la Biblioteca de Tebas (Egipto), podía leerse esta inscripción, *Medicina del alma*" (Melillo et al., 2004, p. 20).

Sin lugar a duda, hace tres mil años, la consideración y aprecio de la literatura resultaba muy relevante por el valor que reportaba para la calidad de vida puesto que proporcionaba educación, comunicación, contemplación y desde luego terapia resiliente. A partir de este reconocimiento los libros han sido usados como fuentes de entretenimiento, instrucción y curación (Resiliencia) (Melillo et. al., 2004).

Pedro Romero Martínez (2010), sostiene que una buena elección de una serie de lecturas constituye un mecanismo muy importante para que, al término de su ejercicio, el participante puede revocar su realidad, pudiendo ser vehículo para redefinir los valores que llevan implícitos los textos seleccionados, tomando conciencia de esta forma y socializando las actitudes que puede modificar ante un contexto adverso. Por lo tanto, "una cuidadosa selección de libros puede ayudar a desarrollar la conducta resiliente" Romero (2010, p. 18).

En esta línea de argumentación se puede decir que la lectura (literatura), es sin duda una de las estrategias más efectivas que contribuye de forma más segura al trabajo de «el duelo», entendido como el afrontamiento de los límites de nuestra vida (Pavón, 2015), de los límites de la condición humana o cuando nos enfrentamos a las adversidades por la pérdida de privilegios, trabajo, salud, dignidad, libertad, derechos humanos. (Frankl, 1995, 2007), y en el ámbito educativo al afrontamiento del aprendizaje y enseñanza de las matemáticas, Con todo, la literatura puede ser un excelente acompañamiento y recurso durante este periodo.

Constructo de Resiliencia

Edith Henderson Grotberg (2006, p. 23), delimita el concepto de resiliencia como "la capacidad que tiene el ser humano para hacer frente a las adversidades de la vida, aprender de ellas, superarlas e incluso ser transformados por éstas".

Los niños y adolescentes enfrentan infortunios a lo largo de la vida académica y, por extensión en el ámbito familiar y social. Según las investigaciones de Fiorentino (2008, p. 11), "la resiliencia se activa cuando experimentamos un problema que necesita ser enfrentado y superado", por lo tanto, es necesario una formación para la dotación e integración de herramientas para la adversidad, sobrevivir a las adversidades mediante la resiliencia y aprender de estas experiencias para mejorar.

Resiliencia viene de latín *resilire*, que quiere decir v*olver a entrar saltando* o *saltar hacia arriba*, aunque también tiene la acepción de *apartarse, desviarse* (Melillo et al., p. 9).

"Los pilares de la resiliencia son: autoestima consistente (la cual es la base para los demás pilares), la introspección, la independencia, la capacidad de relacionarse, iniciativa, humor, creatividad, moralidad y la capacidad del pensamiento crítico" (Melillo et. al., p. 10). Tanto es así que la resiliencia pretende promover los factores que protegen más allá de los efectos negativos de la adversidad y por lo tanto es fundamental estimular en la escuela estos factores para "la aceptación incondicional, la autoestima, la creatividad, los recursos personales, habilidades y destrezas, el humor y la capacidad" de otorgar al sufrimiento un sentido real sin olvidar el sistema social de apoyo y las redes solidarias comunitarias para enfrentar esta adversidad y, evidentemente, salir del proceso fortalecido como persona (Fiorentino, 2008, p.15).

Tal y como indican Villalobos y Castelán,

la resiliencia humana no se limita a resistir, sino que va más allá permitiendo la reconstrucción. La resiliencia en educación se concibe como un resorte moral, y se constituye en la cualidad

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de una persona que no se desanima, que no se deja abatir, que se supera a pesar de la adversidad, (2008, p. 24)

haciéndose así más fuerte.

Literatura para la resiliencia matemática

En la enseñanza y aprendizaje de la literatura infantil y juvenil y tal y como indica Cervera (1984), hay que tener en cuenta los tipos de literatura, funciones, géneros literarios, tipos de cuentos y la estructura. Por consiguiente, para desarrollar la conducta resiliente en las Matemáticas se sugieren los géneros literarios, infantil y juvenil, con el fin de ilustrar y promover la resiliencia en la adquisición de las competencias de esta disciplina.

En este sentido hay que distinguir entre literatura recuperada o ganada, literatura instrumentalizada y literatura creada para los niños. Como vemos, el proceso formativo y creador de la literatura infantil y juvenil, se ha desarrollado de tres formas distintas, nos permite por tanto indicar tres tipos de literatura infantil, (Henderson, 2006):

La **literatura** *ganada* (otros la llaman *recuperada* empleando una mala traducción del francés *dérobé* -robada-) que engloba todas aquellas producciones que no nacieron para los niños pero que, andando el tiempo, el niño se las apropió o ganó o se le destinaron, previa adaptación o no.
Aquí cabe incluir todos los cuentos tradicionales, el sector folclórico de la literatura infantil, muchos de los romances y canciones, una porción nada despreciable de la novelística juvenil, etc. Tal es el caso de los *Cuentos*, de Perrault, o las adaptaciones de *Las mil y una noches* (Cervera, 1984, p. 32).

La **literatura** *creada* para los niños, que es la que tiene ya como destinatarios específicos a los niños. Es la que en gran medida

se ha producido, y sigue produciéndose, tanto bajo la forma de cuentos o novelas como de poemas y obras de teatro. Así podemos citar *Las aventuras de Pinocho*, de Collodi, *La bruja Doña Paz*, de Antonio Robles, *Monigote pintado*, de Joaquín González Estrada, o *El hombre de las cien manos*, de Luis Matilla.

De una forma o de otra esta literatura infantil tiene en cuenta, según los cánones del momento, la condición del niño. Evidentemente en ella se reflejan muchas tendencias y concepciones de la literatura infantil queda hacen particularmente viva e interesante (Díez y Cubells, 1973, p. 16)

La **literatura** *instrumentalizada*. Bajo este nombre pretendemos señalar gran cantidad de literatura. Nos referimos a todos lo que aparecen en series en las que, tras escoger un protagonista común, lo hacen pasar por distintos escenarios y situaciones: la playa, el monte, el circo, el mercado, el zoo, el campo, la iglesia, el colegio, la plaza. O bien aquellos que se crean como extensión para ejercicios de **matemáticas**, gramática u otras asignaturas (Anzieu, 1993, p. 17)

Pero ¿Cuáles son las funciones de la enseñanza de la literatura infantil y juvenil? De acuerdo con Vilá y Badía (1992), podemos señalar las siguiente:

1. **Acceso al imaginario compartido**: permite a los niños y niñas conocer lo común de los cuentos.
2. **Dominio del lenguaje** a través de las formas de discurso literario: la transmisión de los cuentos fortalece los procesos de lenguaje, el manejo gramatical, mecanismos de comprensión e interpretación de textos y los diferentes usos del idioma en diversos contextos.
3. **Socialización**: son los procesos de transmisión de conocimientos y valores que pretende ser inculcados, que se han transferido por medio de los relatos tradicionales, culturales y que los entornos han logrado compartir por medio de sus generaciones (Anzieu, 1993, p. 18).

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Desde un punto de vista de la Psicología evolutiva, para lograr que estas funciones se desarrollen es necesario conocer e identificar cuáles son los géneros literarios. Atendiendo a las investigaciones de Aguilar et al. (2002), podemos establecer las siguientes funciones:

1. **Narrativo**: se trata de los géneros que cuentan una historia ajena a los sentimientos del autor.
2. **Poesía:** son textos más subjetivos, en los que predomina la metáfora y se educa la sensibilidad. Expresan los sentimientos del poeta y consiste en un vocabulario y una expresión más estética basándose en el disfrute de la palabra.
3. **Teatro:** su objetivo es la representación. En el teatro además de la parte escrita del texto tiene que ver otros muchos aspectos como el lenguaje oral y el lenguaje corporal y verbal. Mediante la representación se lleva a cabo una educación integral del niño ya que toca todos los aspectos básicos del desarrollo (Anzieu, 1993, p. 19)

Con estas reflexiones pretendemos crear nuevas situaciones de aprendizaje en las que se establezca una estrecha relación entre la Literatura Matemática y la resiliencia, pero ¿qué entendemos por Literatura Matemática? En primer lugar, no debemos olvidar que la Literatura es una forma de arte y que desde los albores de la Humanidad existe una necesidad y deseos de contar la vida y sus experiencias, es decir, se ha tenido la necesidad de transmitir la sabiduría a las siguientes generaciones más jóvenes para conservar así sus tradiciones y su idioma. En efecto, siempre ha existido una literatura de transmisión oral y es la que ciertamente siempre existió. En tiempos antiguos, cuando las personas no sabían escribir y leer, la literatura oral tenía gran difusión entre las gentes. En segundo lugar, las

Matemáticas son la disciplina que, mediante el razonamiento deductivo estudia las propiedades de los entes abstractos, números, figuras geométricas, etc., así como las relaciones que se establecen entre ellos. Nos permite conocer las cantidades, las

estructuras, el espacio, las relaciones, los cambios cuantitativos
y cualitativos, (Díez y Cubells, 1973, p. 25)

entre otros. Por lo tanto, ¿por qué no integrar estas dos áreas de co-
nocimiento para que su relación proporcione un medio y/o recurso para
el fomento y construcción de estudiantes resilientes?

Si analizamos con detenimiento los cuentos y poemas de la litera-
tura infantil y juvenil (Díez y Cubells, 1973), constatamos que el sistema
numérico obtiene una frecuencia de aparición muy relevante. Es el caso
de cuentos ya clásicos y tradicionales como «Los tres cerditos», «Los siete
cabritos», «Blancanieves y los siete enanitos», «101 Dálmatas», «Las tres
mellizas», sin olvidar los poemas y juegos como los de Emilio Ballagas
(1985), «Los diez perritos», «¿Cuántos panes hay en el horno?», «El siete»,
entre otros títulos de este mismo autor.

También y con mucha frecuencia aparecen las relaciones espa-
ciales, la forma, el tamaño, la comparación (recordemos que las Mate-
máticas dependen, como ya sabemos, tanto de la lógica como de la
creatividad).

Las características más generales de la Literatura y la Matemática
según Anzieu (1993, p. 8) pueden resumirse en que:

– Ambas contribuyen al desarrollo de la creatividad y la imaginación.
– Ambas ayudan a organizar y disciplinar el pensamiento lógico.
– El lenguaje literario se embellece y enriquece con el lenguaje mate-
  mático, y viceversa.
– Ambas hacen uso de una cierta precisión del lenguaje, pues tanto el
  lenguaje matemático como el literario son especialmente precisos.
– En la literatura hay predominio de la función poética del lenguaje:
  Siempre se propone interesar al receptor tanto en el mensaje, como
  en su forma. La Matemática también pretende interesar al receptor
  por la forma y por el mensaje que envía.
– Ambas se valen del valor expresivo de las palabras. Al significado
  concreto de las palabras, se le añaden otros de tipo subjetivo, que las
  hacen más ricas por su contenido.

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– Ambas emplean recursos estilísticos o figuras retóricas. Son recursos por los que la lengua adquiere mayor expresividad o se despierta una mayor atención hacia lo que se está diciendo. Ejemplos: comparaciones, imágenes etc.(Anzieu, 1993, p.8)

La Lengua, incluyendo la Literatura y las Matemáticas, "son las dos áreas básicas instrumentales que se deben desarrollar a lo largo de toda la Educación Infantil, Primaria y Secundaria" (Anzieu, 1993, p. 10). Cuando se unen permiten trabajar sub-competencias diversas desde un mismo foco.

– Comprensión lectora
– Expresión escrita
– Matemáticas en la vida cotidiana

Por tanto, en nuestras aulas las narraciones, y en particular los cuentos, pueden ser un elemento aglutinador de contenidos de diversas áreas y en concreto aquellas Matemáticas que debemos trabajar (Anzieu, 1993, p. 11). Esto deviene en unas claras ventajas:

– "Presentan los aspectos matemáticos en **contexto.**
– Nos permiten hacer las **conexiones** matemáticas.
– Ayudan a desarrollar las **competencias** básicas.
– Provocan una alta **motivación** en el alumnado"
(Anzieu, 1993, p. 11)

Dentro de la Literatura en general, existen muchos ejemplos muy relevantes y significativos, como muestra de algunos de ellos vamos a hacer referencia además de los clásicos de Lewis Carroll (escritor y matemático), *Alicia en el país de las maravillas y Alicia a través del espejo* publicados en 1865 y 1871 respectivamente, los libros que Miguel de Guzmán publicó en 1984, 1987 y 1988, dedicados en principio a sus dos pequeños hijos Miguel y Mayte: *Cuentos con cuentas, Aventuras Matemáticas y los Espingorcios.* Sin olvidarnos del famoso *El Aleph* de Jorge Luis Borges (véase Anexo I),

La Poesía se puede definir como la manifestación de la belleza o del sentimiento estético por medio de la palabra, en verso o en prosa. Una definición usual de Matemáticas (Smith 1934), es que es la ciencia deductiva que estudia las propiedades de los entes abstractos, como números, figuras geométricas o símbolos y sus relaciones. También dentro de la poesía podemos encontrar muchos ejemplos de **poemas matemáticos** creados tanto por profesionales de la literatura, como por matemáticos. Así uno de los grandes investigadores en Educación Matemática, David Eugene Smith (1934, p. 47), indicó que "(…) las Matemáticas y la poesía tienen una estrecha relación de parentesco, porque ambas son hijas de la imaginación. La poesía es creación, ficción, y la matemática ha sido definida como la más sublime de las ficciones". Por lo tanto, si esto es así podríamos manifestar el sentimiento estético de situaciones cotidianas con las Matemáticas.

En esta misma línea y como ejemplos podemos citar a autores clásicos dentro de la literatura poética como:

Gloria Fuertes: *Números Comparados, El burro en la Escuela,* (veáse Anexo II) Rafael Alberti: *Los ángeles colegiales, A la divina proporción, Soneto al dodecaedro, A la línea, No sé …* (véase Anexo III), Miguel de Unamuno: *La tabla de multiplicar,* etc., (véase Anexo IV).

También cabe citar a matemáticos y científicos que se sumergen en el mundo de la poesía matemática como: Javier Peralta: *Soneto cálculo infinitesimal* (véase Anexo V), Sir Frederick Soddy[1](Brown, 1969): T*eorema del Círculo de Descartes* (véase Anexo VI)

Existen algunas organizaciones de matemáticos que divulgan estos relatos y/o poesías matemáticas como son la *Real Sociedad Matemática Española* (RSME, 2002), que a través de su página web de divulgación (Divulgamat, 2016), encuentra un espacio para que cada mes haya un texto literario relacionado con las Matemáticas. También la RSME ha organizado

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[1] Soddy (1877–1956), premio nobel de química en 1921, publicó en 1936 un poema titulado "The Kiss precise", donde sacó a luz un teorema de Descartes sobre círculos, que ya citaba el célebre Apolonio en sus problemas.

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en algunas ocasiones, concursos anuales de relatos cortos matemáticos, en donde algunos centros educativos han llevado a sus alumnos para participar en el evento.

En este sentido, también podemos citar a las alumnas Ángela Ochoa (4º ESO en el *IES Emilio Jimeno de Calatayud* (Zaragoza) y Alejandra Latorre Martínez de Espronceda (3º de primaria del CEIP Foro *Romano de Cuarte de Huerva* (Zaragoza) que ganaron en 2017 el primer premio del concurso de microrrelatos matemáticos, en las categorías de Secundaria y primaria respectivamente, que se organizó en el *Congreso Bienal* de la RSME celebrado en la *Universidad de Zaragoza* ese año (véase Anexo VII).

Algunos centros educativos, y en particular algunos de los profesores también organizan ellos mismos concursos de relatos matemáticos y/o de poesía matemática, donde pueden participar todos los componentes de la comunidad educativa, lo que hace que muchos alumnos se ilusionen y participen estableciendo una interrelación entre las asignaturas de Lengua y Literatura castellana y las Matemáticas. Como prueba de ello, hacemos referencia al poema que se incluye como Anexo VIII de la alumna Carmen Mojarro, de primer curso de bachillerato del *IES la Rábida de Huelva* que puso letra "de matemáticas" a unas sevillanas.

También queremos citar como ejemplo a la *Facultad de Ciencias, de la Universidad de Alicante (2022),* con su *Concurso de Microrrelatos Matemáticos*, que ya va por su décima tercera edición. Así pues, y siguiendo las directrices de Díez y Cubells (1973, p. 13), las ventajas que facilitan la comprensión de los aspectos matemáticos son:

- El comienzo de su red matemática intelectual.
- El gusto y una actitud positiva hacia la materia.
- La utilización de procedimientos básicos: clasificar, ordenar, organizar, interpretar.
- La génesis de conceptos primarios a partir de la manipulación, reflexión y abstracción.
- El desarrollo de las competencias básicas:
     Pensar y razonar.
     Comunicar.

Modelar.

Plantear y resolver problemas.

Representar.

Utilizar el lenguaje formal y técnico de las Operaciones.
(Díez y Cubells, 1973, p. 13)

Conclusiones

El propósito de esta investigación es la de favorecer los procesos re-silientes matemáticos a través de la construcción de "espacios simbólicos de refugio y acogimiento socioemocional mediante la lectura y la ex-presión creativa motivada por la literatura infantil y juvenil" (Cervera, 1984, p.16).

Se trata de dar a conocer las herramientas teóricas y prácticas para el acompañamiento con relatos, cuentos, poesías, etc., y propuestas de expresión creativa a niñas, niños para el afrontamiento de las dificulta-des en el aprendizaje y enseñanza de las Matemáticas. Por lo tanto, el objetivo es promover la resiliencia matemática, entendido como la pro-moción de autonomía, independencia, iniciativa y sociabilidad en la ad-quisición de esta disciplina

"El enfoque de resiliencia matemática permite una mirada diferente, centrada en las capacidades de los niños y adolescentes para hacer frente a la adversidad" (Aguilar et al., 2002, p. 18).

Algunos profesores de matemáticas somos conocedores de estos recursos de resiliencia y convocan concursos, premios, etc., en donde los alumnos, y ellos mismos pueden ser creativos y poner a disposición de los demás sus propios sentimientos de empatía con las Matemáticas.

Difundir estos recursos depende de todos y redundaría en una mejora de la **resiliencia matemática** tanto para alumnos como para profesores.

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ANEXOS

Anexo I
Jorge Luis Borges
El Aleph

En la parte inferior del escalón, hacia la derecha, vi una pequeña esfera tornasolada, de casi intolerable fulgor.

Al principio la creí giratoria; luego comprendí que ese movimiento era una ilusión producida por los vertiginosos espectáculos que encerraba. El diámetro del Aleph sería de dos o tres centímetros, pero el espacio cósmico estaba ahí, sin disminución de tamaño.

Cada cosa (la luna del espejo, digamos) era infinitas cosas, porque yo claramente la veía desde todos los puntos del universo.

Vi el populoso mar, vi el alba y la tarde, vi las muchedumbres de América, vi una plateada telaraña en el centro de una negra pirámide, vi un laberinto roto (era Londres), vi interminables ojos inmediatos escrutándose en mí como en un espejo, vi todos los espejos del planeta y ninguno me reflejó, vi en un traspatio de la calle Soler las mismas baldosas que hace treinta años vi en el zaguán de una casa en Fray Bentos, vi racimos, nieve, tabaco, vetas de metal, vapor de agua, vi convexos desiertos ecuatoriales y cada uno de sus granos de arena, vi en *Inverness* a una mujer que no olvidaré, vi la violenta cabellera, el altivo cuerpo, vi un cáncer en el pecho, vi un círculo de tierra seca en una vereda, donde antes hubo un árbol, vi una quinta de Adrogué, un ejemplar de la primera versión inglesa de Plinio, la de *Philemon Holland*, vi a un tiempo cada letra de cada página (de chico, yo solía maravillarme de que las letras de un volumen cerrado no se mezclaran y perdieran en el decurso de la noche), vi la noche y el día contemporáneo, vi un poniente en Querétaro que parecía reflejar el color de una rosa en Bengala (…)

Anexo II
Gloria Fuertes
Números comparados.

Cuéntame un cuento de números,
háblame del dos y el tres
-del ocho que es al revés
igual que yo del derecho-.
Cuéntame tú que te han hecho
el nueve, el cinco y el cuatro
para que los quieras tanto;
anda pronto, cuéntame.
Dime ese tres que parece
los senos de cualquier foca;
dime, ¿de quién se enamora
ese tonto que es el tres?
Ese pato que es el dos,
está navegando siempre;
pero a mí me gusta el siete,
porque es un roto en la vida,
y como estoy descosida,
le digo a lo triste: Vete.
Cuéntame el cuento y muy lenta,
que aunque aborrezco el guarismo,
espero gozar lo mismo
si eres tú quien me lo cuenta.

Gloria Fuertes
El burro en la escuela

Una y uno, dos
Dos y una, seis.
El pobre burrito

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Contaba al revés.
¡No se lo sabe!
-Sí me lo sé.
-¡Usted nunca estudia!
Dígame ¿por qué?
-Cuando voy a casa
no puedo estudiar;
mi amo es muy pobre,
hay que trabajar.
Trabajo en la noria
Todo el santo día.
¡No me llame burro,
profesora mía!

Anexo III
Rafael Alberti
Los ángeles colegiales

Ninguno comprendíamos el secreto nocturno de las pizarras
ni por qué la esfera armilar se exaltaba tan sólo cuando la mirábamos.
Sólo sabíamos que una circunferencia puede no ser redonda
y que un eclipse de luna equivoca a las flores
y adelanta el reloj de los pájaros.
Ninguno comprendíamos nada;
ni por qué nuestros dedos eran de tinta china
y la tarde cerraba compases para al alba abrir libros.
Sólo sabíamos que una recta, si quiere, puede ser curva o quebrada
y que las estrellas errantes son niños que ignoran la aritmética

Rafael Alberti
A la divina proporción

A ti, maravillosa disciplina,
media, extrema razón de la hermosura,
que claramente acata la clausura
viva en la malla de tu ley divina.
A ti, cárcel feliz de la retina,
áurea sección, celeste cuadratura.
Misteriosa fontana de mesura
que el Universo armónico origina.
A ti, mar de los sueños angulares,
flor de las cinco formas regulares,
dodecaedro azul, arco sonoro.
Luces por alas un compás ardiente.
Tu canto es una esfera transparente
A ti, divina proporción de oro.

Rafael Alberti
Soneto al dodecaedro

A ti, maravillosa disciplina,
media, extrema razón de la hermosura,
que claramente acata la clausura
viva en la malla de tu ley divina.
A ti, cárcel feliz de la retina,
áurea sección, celeste cuadratura,
misteriosa fontana de mesura
que el Universo armónico origina.
A ti, mar de los sueños, angulares,
flor de las cinco formas regulares,
dodecaedro azul, arco sonoro.
Luces por alas un compás ardiente
Tu canto es una esfera transparente.
A ti, divina proporción de oro.

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Rafael Alberti
No sé…

No sé si el faro incendia aún las horas
del triste odiar la Trigonometría,
si en tus zapatos duerme todavía la arena de las playas
salvadoras.

Si en las algas y espumas rodadoras
trina el Latín con la Fisiología,
si el alto lavadero en que te urgía
el placer solitario, rememoras.

No sé si vas despierto o vas dormido,
en pecado mortal sobrecogido,
a comulgar sin fe cada mañana.
No sé, no sé...
Mas sé que tu locura
fue hacer del mar tu sola asignatura,
alumno al sol que de la mar se ufana.

Quién me iba a decir a mí,
pintorcillo por las playas y castillos ruinosos
de El Puerto de Santa María,
practicante de excesivas rabonas
—alumno al sol que de la mar se ufana—.

Rafael Alberti
A la línea

A ti, contorno de la gracia humana,
recta, curva, bailable geometría,
 delirante en la luz, caligrafía que
diluye la niebla más liviana. A ti,
sumisa cuanto más tirana

misteriosa de flor y astronomía
imprescindible al sueño y la poesía
urgente al curso que tu ley dimana.
A ti, bella expresión de lo distinto
complejidad, araña, laberinto
donde se mueve presa la figura. El
infinito azul es tu palacio. Te canta
el punto ardiendo en el espacio.
A ti, andamio y sostén de la pintura.

Anexo IV

Miguel de Unamuno
La Tabla de multiplicar

2×2 son 4,
2×3 son 6,
¡ay qué corta vida
la que nos hacéis!
3×3 son 9
2×5 10
¿volverá a la rueda
la que fue su niñez?
6×3 18
10×10 son 100.
¡Dios! ¡No dura nada nuestro pobre bien!
∞ y 0
¡la fuente y el mar!.
¡Cantemos la tabla
de multiplicar!

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Anexo V

Javier Peralta Coronado

Soneto Cálculo Infinitesimal

Cálculo infinitesimal. Formado
por el diferencial. Que lo esencial
es hallar, a una curva que me han dado,
su tangente en un punto real.
Y si una parte es la diferencial,
averiguar con alta precisión
el área que limita una función,
es la otra: el cálculo integral.
¿Sorprende que en las partes anteriores
en las que se divide la cuestión
sean complementarios los actores?
Por cierto, antes hubo algún intento,
pero son Newton y Leibniz los autores,
con polémica, sí, sobre el invento.

Anexo VI

Sir Frederick Soddy (1936)

(Teorema del Círculo de Descartes)

El Beso preciso

/Frederick Soddy/
Pueden besarse los labios, dos a dos,
sin mucho calcular, sin trigonometría;
mas ¡ay! no sucede igual en la Geometría,
pues si cuatro círculos tangentes quieren ser
y besar cada uno a los otros tres,
para lograrlo habrán de estar los cuatro
o tres dentro de uno, o alguno
por otros tres a coro rodeado.

De estar uno entre tres, el caso es evidente
pues tres veces son todos besados desde afuera.
Y el caso tres en uno no es quimera,
al ser este uno por tres veces besado internamente.

Acuden cuatro círculos a un beso;
Si más pequeños, con más curvatura.
Precisamente es la curvatura
De la distancia al centro el inverso.
Aunque Euclides quedó mudo ante el dilema,
No hay ya necesidad de un «más o menos»,
Pues la curvatura cero es una recta
Y si es cóncava tiene signo menos;
La suma de sus cuadrados dará
Del cuadrado de la suma la mitad

Espiar de las esferas
los enredos amorosos
pudiérale al inquisidor
requerir cálculos tediosos,
pues siendo las esferas más «corridas»
a más de un par de pares
una quinta entra en la «movida».
Empero, siendo signos y ceros como antes
para besar cada una a las otras cuatro.
El cuadrado de la suma de las cinco curvaturas
ha de ser triple de la suma de sus cuadrados.

/Thorold Gosset/
No debemos empero confinar nuestros cuidados
a los simples círculos, esferas y planos,
sino elevarnos a n-espacios e hipercurvaturas
donde también las múltiples tangencias son seguras.

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En n-espacios, los pares de tangentes
son hiperesferas, y es verdad
–mas no evidente–,
cuando n + 2 de tales se osculean
cada una con n + 1 compañeras
que el cuadrado de la suma de todas las curvaturas
es n veces la suma de sus cuadrados.

Anexo VII
Ángela Ochoa Tejero
4º de ESO IES Emilio Jimeno Calatayud (Zaragoza)
Calculando el amor

1 mirada,
2 besos en las mejillas,
3 conversaciones trascendentales,
4 días sin dejar de pensar en ti,
5 minutos para vernos,
6 horas juntos,
7 semanas hablando cada día,
8 meses hasta que empezamos a salir,
9 veces nos dijimos te quiero y es infinitamente
  imposible que pueda vivir sin ti.

Alejandra Latorre Martínez de Espronceda
3º de Primaria del CEIP Foro Romano
Cuarte de Huerva (Zaragoza)
La fiesta de los números de primaria

Los primeros en llegar fueron los organizados ordinales.
Se le sumaron los naturales a su ritmo. Los últimos fueron los romanos con
sus faldas.

Como todos eran enteros tenían gran apetito y se tomaron el 100% de la cena. Hubo decenas de tablas de diferentes tapas.

Al compás de cuatro tiempos de la música bailaron los pares en pareja y los impares a su aire.

Todos contaron que disfrutaron aproximadamente el doble que el año pasado. El resultado fue muy positivo y la fiesta terminó a la hora exacta.

Anexo VIII

Carmen Mojarro Corsino

Ex-alumna de 1º Bto. del IES La Rábida (Huelva)

Primer premio del Concurso de Sevillanas Matemáticas

Pitágoras y Thales, dos peregrinos
Dos peregrinos,
Pitágoras y Thales, dos peregrinos
Que de Grecia han venido a hacer el camino.
A hacer el camino,
Sin libro y sin apuntes de Geometría
Sólo con la esperanza y la alegría.
Y en el río Quema
A los dos se les olvidan,
Y en el río Quema
A los dos se les olvidan
Sus teoremas.
La peineta que llevas son tres vectores
Son tres vectores,
La peineta que llevas son tres vectores
Que salen de tu pelo entre dos flores
Entre dos flores,
Que los mueve la brisa de la mañana
Sin módulo ni origen de coordenadas
De coordenadas,

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Que no tienen producto ni división

Que no tienen sentido ni dirección.

Si matemáticos fueran los lirios de la marisma

Los lirios de la marisma,

Si matemáticos fueran los lirios de la marisma

Dibujarían en el aire cilindros, conos y prismas

Y trazarían las veredas,

Y trazarían las veredas todas ellas paralelas

Para que no se borraran las huellas de las carretas.

Y tendrían su compás,

Y tendrían su compás de fandangos y sevillanas.

Para cantarte Rocío el lunes por la mañana.

La Luna le dice al Sol que esta noche ella no sale

Que esta noche ella no sale,

La Luna le dice al Sol que esta noche ella no sale,

Que está aprendiendo a contar los números naturales

Que está aprendiendo a contar,

Que está aprendiendo a contar con una calculadora

Que le ha regalado un lucero a las claras de la aurora

Que está aprendiendo a contar,

Que está aprendiendo a contar y a calcular el gentío,

Que ha venido hasta tu ermita

Para verte a ti, Rocío.