





Post COVID-19 adversity quotient levels of kindergarten students and role of teachers in improving child adversity quotient

 Daviq Chairilsyah¹⁺

 Rita Kurnia²

 Zetra Hainul Putra³

^{1,2,3} Universitas Riau, Indonesia.

¹Email: daviq.chairilsyah@lecturer.unri.ac.id

²Email: rita.kurnia@lecturer.unri.ac.id

³Email: zetra.hainul.putra@lecturer.unri.ac.id



(+ Corresponding author)

ABSTRACT

Article History

Received: 24 May 2022

Revised: 7 September 2023

Accepted: 18 December 2023

Published: 8 January 2024

Keywords

Adversity quotient

Gender

Kindergarten

Post COVID-19

Teachers

Teacher roles.

This research examines the post-COVID-19 adversity quotient levels among kindergarten students and evaluates the pivotal role educators can play in enhancing this essential attribute. Amid the pandemic, kindergarten-level students transitioned to virtual learning environments, faced a potential impact on their adaptability when shifted back to in-person classes. Notably, students with a higher adversity quotient exhibit greater adaptability than those with lower levels. Consequently, this study undertakes an inquiry into the extent of students' adversity quotient and the intricate contributions of teachers in fostering this critical skill. Conducted in Pekanbaru, Riau Province, Indonesia, this research employed a saturation sampling approach, recruiting 151 students and 30 teachers from public kindergarten settings. Analytical methods encompassed descriptive quantitative analyses and t-tests with the help of SPSS 25. The findings revealed that students, on average, exhibited a high adversity quotient. This finding underscores their proficiency in dimensions such as control, origin/ownership, reach, and endurance when confronting challenges, both during and after the COVID-19 era. Additionally, the research unveiled a significant gender-based difference in adversity quotient levels, with male students outscoring their female counterparts. Moreover, the study underscored the commendable performance of teachers in fulfilling their roles to bolster students' adversity quotient. This observation implies that educators effectively assumed their responsibilities across each dimension of the adversity quotient, fostering a conducive learning environment characterized by sound practices during online and in-person instructional sessions, thus facilitating students' adaptability.

Contribution/Originality: This research stands out due to its distinctive placement within the post-pandemic context as it extensively explores the intricacies of adversity quotient in young children, emphasizing gender-related distinctions. This approach enhances our grasp of early-life resilience and offers valuable insights to academia by addressing an often-overlooked aspect of childhood development.

1. INTRODUCTION

The COVID-19 pandemic that spread globally has affected numerous changes in aspects of life (Pino & Merin, 2021). One of the government's efforts to stop the breakout was enacting a lockdown and working-from-home policy, which significantly affected people's lives. As mentioned, the pandemic had capped many aspects of life, including education. Inevitably, the educational sector experienced shocks in every education level, from higher to kindergarten.

Jimenez (2021) states that the implementation of online learning should get serious attention. The enactment of learning from home is believed to affect the kindergarten level greatly. In essence, teaching and learning activities at a kindergarten level should be challenging (Ray, 2022) using a concrete medium (Kim, Araya, Hailu, Rose, & Woldehanna, 2021), active teaching and learning by implementing playing/games (Den Hoed, 2014; Huang, 2013). Apart from that, children require social interaction to develop their skills (Kim et al., 2021). Through this peer-interaction and collective activities, learning about their futures will be more attainable (Kim et al., 2021). Lastly, children at the kindergarten level are also entitled to rights to good quality education and a stable relationship among peers, teachers, and nurses (McKenna et al., 2021).

Given the paramount significance of the aforementioned concerns, it becomes apparent that the pandemic has profoundly impacted early childhood education, particularly at the kindergarten level. One conspicuous repercussion is the emergence of psychological challenges among young pupils, as underscored by several researchers (Kim et al., 2021; Liu et al., 2021; McKenna et al., 2021; Park, Logan, Zhang, Kamigaichi, & Kulapichitr, 2020; Timmons, Cooper, Bozek, & Braund, 2021).

Kindergarten education represents a promising investment, not only for families but also for nations, considering that today's children will inherit the future of both. Safi'i (2021) emphasizes this critical role of early education, highlighting its profound impact on the holistic development of children, including the nurturing of their adversity quotient. Adversity quotient refers to an individual's capacity to effectively navigate challenges, manage stress, and adapt in the face of adversity. Furthermore, Kim (2020) draws attention to neurological studies indicating that approximately 50% of a child's cognitive development occurs within the first four years of life. By the age of 8 years, this proportion increases to a staggering 80%, rendering these early years as the most pivotal period in a child's development. These formative years shape not only cognitive abilities and emotional intelligence but also play a crucial role in laying the foundation for the development of an individual's adversity quotient. They establish fundamental cognitive and behavioral patterns, influencing how children perceive and respond to challenges later in life. Hence, investing in quality early education becomes instrumental in fostering resilience, problem-solving skills, and adaptability, crucial components of a robust adversity quotient that greatly influences future success and well-being.

In light of these concerns, experts advocate for empowering young students with an adversity quotient. This skill equips them with the fortitude to persevere and face challenges without capitulation (Timmons et al., 2021). In an era marked by heightened technological competition, economic challenges, and increasing demands on human resources, nurturing resilience in children becomes imperative. At the school level, teachers play an instrumental role, despite the unpredictability of their students' future endeavors. Their primary objective is to provide a conducive learning environment that fosters the development of the adversity quotient as a foundational skill. This skill enables students to confront and overcome obstacles and challenges in the future, thereby enhancing their ability to navigate difficult times successfully.

The concept of the adversity quotient was pioneered by business consultant Paul G. Stoltz, Ph.D. Stoltz posited that a robust adversity quotient empowers individuals to be more productive, creative, and competitive, even in the face of unprecedented circumstances (Ahmar, Rahman, & Mulbar, 2018; Den Hoed, 2014; Hema & Gupta, 2015; Molnár & Hermann, 2023; Santos, 2012). Furthermore, Santos (2012) emphasizes that fostering a strong adversity quotient is an integral part of teachers' roles and responsibilities in preparing students for the challenges they will encounter in life.

The concerns mentioned above are substantiated by clear reasons. Research conducted by Molnár and Hermann (2023) and Zierer (2021) has revealed the profound impact of COVID-19 on children, both in the short-term and long-term. Of particular concern is the effect of online learning, which has shown limited progress, and in some cases, no progress at all, in children's educational development. This issue is worrisome as it may adversely affect a child's adversity quotient. However, contrasting viewpoints exist as well. Research by Bubb and Jones

(2020) suggests that online learning is not necessarily a hindrance for children. It highlights the adaptability of children, teachers, and parents to online learning, with teachers capable of producing engaging and creative lessons, while parents provide essential guidance during the online learning process.

Amidst these conflicting findings, it is intriguing to analyze how children develop their adversity quotient during the COVID-19 pandemic, a time when the majority of teaching and learning processes are conducted through online platforms. As classes continue to be held online, often without the implementation of health protocols like face coverings and social distancing, challenges are expected in offline teaching and learning. The transition back to face-to-face classes may not be seamless, with schools having to enforce COVID-19 policies that could potentially impact students' adversity quotients, as some may be hesitant to interact and adapt.

This study addresses a notable research gap by focusing on young children's adversity quotient in the context of science education during the post-COVID-19 pandemic era. What sets this research apart is its unique positioning within the post-pandemic landscape. Unlike prior studies, this investigation delves into the intricacies of adversity quotient in early childhood, with a particular focus on gender-based variations.

Through a comprehensive exploration of the influence of COVID-19 on young children's adversity quotient, this research endeavors to uncover the potential ramifications of this unprecedented global health crisis. Of significance, this study was carried out in Indonesia, a nation still navigating the challenges of adapting to online learning, an adaptation necessitated by the COVID-19 impact. Furthermore, the research also examines whether online learning, which has become prevalent during this period, affects the adversity quotient of young children. It is noteworthy that enhancing the adversity quotient of children necessitates additional guidance, particularly for young learners, given the challenges associated with capturing their attention during the learning process. However, due to the COVID-19 situation, children are currently engaged in remote learning, which presents a distinct learning environment compared to previous studies.

Based on the aforementioned reasons, this research aims to investigate the following questions.

1. To identify the level of adversity quotient post COVID 19 at kindergarten level.
2. To investigate the differences in adversity quotient between male and female students.
3. To analyze teachers' roles in enhancing students' adversity quotient.

2. METHODS

2.1. Research Subject

This is a descriptive quantitative study aimed at investigating students' adversity quotient and teachers' roles in assisting their students to develop adversity quotient. 151 kindergarten students and 30 teachers were recruited in this investigation. The study was conducted in three selected kindergarten schools in Pekanbaru, Riau Province, Indonesia. These schools were rationally selected as the subject because they are exemplary schools at the provincial level. This study employed the saturated sampling technique which means all populations were selected as the research subject. The number of male students was 48, and females were 103 respectively. All students were in the 4-6 years old age range. Since the age of students is very young, additional measures were implemented to uphold ethical considerations. Apart from obtaining consent from parents or legal guardians, special attention was paid to ensuring a simplified explanation of the study's purpose and procedures, presented in a way that the children could easily understand. Creating a comfortable environment for their participation was paramount, and obtaining their assent, whenever feasible given their age and comprehension, further reinforced ethical standards. Additionally, constant monitoring and sensitivity to their emotional well-being throughout the study remained a priority, given the participants' young age, to maintain their comfort and engagement while upholding ethical guidelines.

2.2. Data Collecting Procedure

This study was conducted in December 2022 after the COVID-19 during face-to-face classes. Population sampling was commenced by research team members at school.

2.3. Data Collection and Analysis

This is a descriptive quantitative study aimed at investigating students' adversity quotient and teachers' roles in assisting their students to develop adversity quotient. To collect the data, observation sheets were employed to collect data from students, and a set of questionnaires was distributed to teachers. The observation sheet was adopted from Stoltz (2007) including control, origin, ownership, and reach/endurance. Stoltz's (2007) observation sheet was selected due to its alignment with established models and frameworks. These dimensions have been recognized in prior research or theoretical constructs as fundamental components in evaluating various phenomena. In addition, the observation sheet from Stoltz (2007) demonstrated validity and reliability as it had undergone rigorous testing in prior studies. This validation ensured that the dimensions effectively captured the intended observations accurately and consistently.

This study employed two observers. Before the questionnaire was administered to teachers, the researcher conducted a validity test by employing person product moment and reliability using the Cronbach alpha questionnaire method to 30 teachers outside the research sample. The test of the instrument obtained a score of 0.910 with an r-table value was 0.361 with a level of 5%. This result indicates that the questionnaire was valid to use as a research instrument. Then, to find out the difference in adversity quotient between male and female students, Statistical Package for the Social Sciences version 25 (SPSS) was used.

In order to categorize the scores of the research subjects and provide a more comprehensive assessment, the study relies on the information and guidelines presented in the following Table 1.

Table 1. Score guideline.

Category	Percentage value
High	76% -100%
Mediocre	56% - 75%
Low	0% - 55%
Total	100.00%

Source: Wawan and Dewi (2010).

3. FINDINGS AND DISCUSSION

3.1. Findings

3.1.1. Kindergarten Students' Adversity Quotient

Table 2 illustrates the level of adversity quotient in kindergarten students post COVID-19. It is clear from the table that the dimension of control scored higher with a percentage of 73.51% (SD=0.71) which indicates that students have enough ability to control problems. In contrast, the dimension of endurance scored lower with a percentage of 67.33% (SD=0.56). It implies that students have enough ability to perceive that problems are not long-lasting.

Table 2. Indicators of adversity quotient.

Dimensions	Percentage	Mean	SD	Category
Control	73.51%	2.21	0.71	Mediocre
Origin and ownership	68.87%	2.07	0.71	Mediocre
Reach	67.77%	2.03	0.74	Mediocre
Endurance	67.33%	2.02	0.68	Mediocre

Table 2 also indicates that the percentage difference from each dimension is not significant. Each dimension is in mediocre category. It shows that students in this research have attained enough control, origin, ownership, reach and endurance to face problems. The details can be seen in the Figure 1.

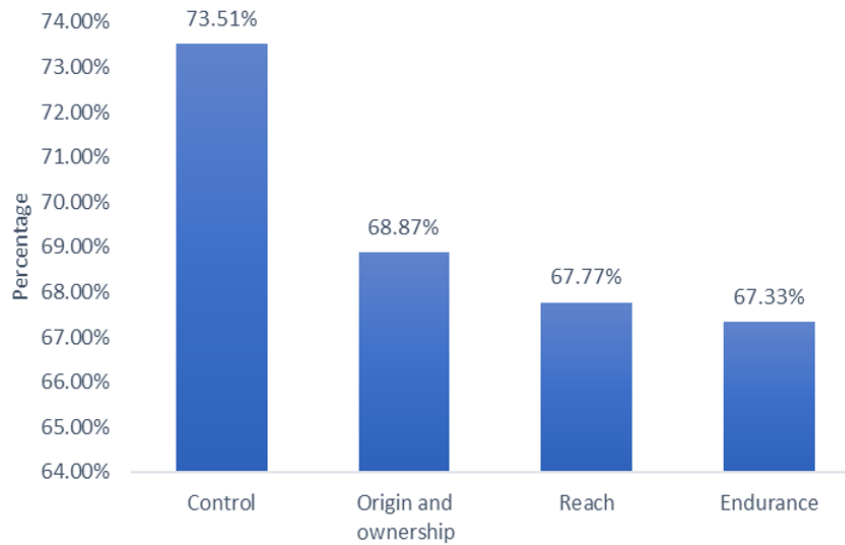


Figure 1. Percentage of achievement indicator AQ.

Figure 1 depicts that, on average, most students fall into the mediocre category with a score of 85 (56.29%). Students who attained a high category comprised 27.81% (42 students). In contrast, 24 students (15.90%) were classified in the low category. Hence, there is a need for improvement in students' adversity quotient.

Next, it was necessary to identify if there was a different level of adversity quotient between male and female students. Table 3 illustrates the statistics based on gender.

Table 3. Descriptive statistics based on gender.

Variable	Gender	N	Mean	Std. deviation
Adversity quotient	Male	48	8.92	1.40
	Female	103	8.05	1.68

From Table 3, it can be seen clearly that 48 male students in this study attained a mean score of 8.92 while 103 female students scored 8.05. Therefore, it can be concluded that male students scored slightly higher than females, with a score of 0.87. However, this score difference is not statistically significant. To find out if there was a different level of adversity quotient between males and females, an independent sample t-test was conducted using Statistical Package for the Social Sciences (SPSS) with the result shown in Table 4.

Table 4. T-test of adversity quotient.

Results of students' adversity quotient	t-test for equality of means						
	t	df	Sig. (2-tailed)	Mean difference	Std. error difference	95% confidence interval of the difference	
						Lower	Upper
Equal variances assumed.	3.11	149	0.002	0.87	0.28	0.32	1.42
Equal variances not assumed.	3.33	108.74	0.001	0.87	0.26	0.35	1.38

From Table 4, it can be seen that $t\text{-count} = 3.11 < t\text{-table} = 1.98$ ($3.11 > 1.98$) and $p < 0.05$ (0.002). It indicates there is a significant difference in students' adversity quotient levels between males and females.

3.1.2. Teachers' Roles in Students' Adversity Quotient

3.1.2.1. Teachers' Roles in the Dimension of Control

Table 5 illustrates teachers' roles in developing students' adversity quotient at the kindergarten level.

Table 5. Teachers' roles in the dimension of Control.

Statements	N	Percentage	Mean	SD	Category
I provide lessons so that students may learn from bad events/Problems they experienced	30	83.33%	3.3	0.66	High
I teach children to stay positive about bad events/Problems that may currently happen.	30	80.00%	3.2	0.81	High

Table 5 demonstrates that teachers play a significant role in fostering a high level of adversity quotient among students. This suggests that teachers can create engaging lessons that help students comprehend challenging situations and encourage them to adopt a positive mindset.

3.1.3. Teacher Roles in the Dimension of Origin and Ownership

Table 6 illustrates teachers' roles in developing students' adversity quotient in the dimension of origin and ownership. As depicted, the data highlights that teachers excel in fostering students' adversity quotient within the domain of origin and ownership, and therefore rank within the high category. This indicates that teachers are able to guide students to encounter problems gracefully and trained them to be responsible by assigning tasks at school.

Table 6. Teacher roles in the dimension of origin and ownership.

Statements	N	Percentage	Mean	SD	Category
I guide children to accept challenges encountered gracefully	30	93.33%	3.73	0.45	High
I train students to be responsible by assigning tasks at school	30	86.67%	3.47	0.78	High

3.1.4. Teachers' Roles in the Dimension of Reach

Table 7 illustrates teachers' roles in the dimension of Reach.

Table 7. Teachers' roles in the dimension of reach.

Statements	N	Percentage	Mean	SD	Category
I train students to respond to problems positively	30	91.67%	3.67	0.48	High
I train students to face problems strongly so that they might not affect them negatively.	30	83.33%	3.33	0.76	High

The data presented in Table 7 clearly indicates that teachers excel in their contributions to the development of students' adversity quotient within the "Reach" dimension, consistently achieving a high rating category. This means that teachers are able to train students to respond to problems positively and face problems so they will not affect them negatively.

3.1.5. Teachers' Roles in the Dimension of Endurance

Table 8 illustrates teachers' roles in the dimension of endurance.

Table 8 Teachers' roles in the dimension of endurance.

Statements	N	Percentage	Mean	SD	Category
I regularly invite students to increase their endurance by exercising.	30	92.50%	3.7	0.47	High
I remind parents to fulfil their child's nutritional intake so that they develop good resistance.	30	87.50%	3.5	0.68	High

Table 8 shows teachers' roles in the development of students' adversity quotient in the dimension of endurance is in the high category. Teachers are able to invite students to increase their endurance by exercising regularly either inside or outside classes. The teachers also remind parents to fulfil their child's nutritional intake so that they have good resistance.

3.2. Discussion

3.2.1. The Level of Adversity Quotient of Kindergarten Students Post COVID-19

During the COVID-19 outbreak in Indonesia, teaching and learning processes were held online. This way of learning greatly affected the teaching and learning atmosphere. Teachers and students were required to re-adapt to commence the teaching and learning process.

At the beginning of online learning enactment, it was a challenging time as many schools are not familiar with online lessons. There were some concerns that online teaching and learning cannot meet national educational goals, especially at the kindergarten level where students require teacher guidance throughout the learning process. Despite the challenges, the government and educational institutions collaborated to improve the quality of education during the outbreak.

The aforementioned concerns are substantiated by clear reasons. Research conducted by Molnár and Hermann (2023) and Zierer (2021) indicate that the presence of COVID-19 has yielded both short-term and long-term consequences for children. Online learning only makes minimal progress or even no progress at all in children's educational development. This issue is worrisome as it may adversely affect a child's adversity quotient. The monotonous and unstimulating online learning is a cause for concern, as it has the potential to burden children and consequently result in a decline in their adversity quotient.

One of the skills that students need to acquire during and post the outbreak is the adversity quotient. The result of this study indicates that the level of adversity quotient of students in three public kindergartens was in the high category. It implies that students have a higher level of control, origin/ownership, reach, and endurance to encounter problems.

First, the control dimension obtained a proportion of 73.51%, suggesting that children have a sufficient tendency to think optimistically, take life lessons or benefit from the difficulties they face. The conditions after the COVID-19 pandemic forced children to return to face-to-face school routines. This condition certainly required good adaptation to the new learning environment. As it is known, classes during the pandemic were held online which did not require students to intensively interact with their peers. Nevertheless, the dimension of control becomes significantly important as pupils have to interact intensively as it requires children to control themselves from unexpected events during school interactions. The result of this study shows that students were able to cope with problems.

Second, the dimension of origin and ownership obtained score of 68.87% suggesting that students can understand the origin of the problems they are experiencing and have developed a high responsibility to encounter the problems with support from parents and teachers. Students who attended offline classes after COVID-19 would face problems with the learning surroundings. If they cannot encounter the problems, the learning process will not be maximum as interaction is one of the hardest things to cope with among kindergarten students. Inevitably, this

skill required a strong mentality which can make it harder for them. The result of this study suggests that students have developed enough responsibility to cope with problems related to adaptation during face-to-face learning.

Third, the dimension of reach obtained a score of 67.77% suggesting that students have enough ability to evaluate problems they face. Students have enough ability to limit the range of problems that arise in their lives. They did not allow fear or any other negative emotion to stay longer in their face-to-face learning. Students tried to adapt well to their new learning environment. Inevitably, this is also with maximum support from parents, teachers and friends.

Finally, the dimension of endurance obtained a score of 67.33% suggesting that students have enough endurance to encounter problems post COVID-19. This resilience appears to become one of the important aspects of encountering unprecedented things in their lives. Each individual surely has the ability to analyze the origin of problems in their life. However, if they are not occupied with good durability, they are prone to stuck for a long time. The result of this study indicates that students have enough durability to overcome problems.

Moreover, the score of each dimension is in line with the research subjects' scores. The study finds that average kindergarten student is in the mediocre score category, namely 85 children or 56.29%. It implies that students in this research have enough adversity quotient.

The result also indicates that 42 students or 27.81% are in high category, which is not a very satisfying number; and 24 students or 15.90% are in the low category, which implies that surrounding supports are required to improve students' adversity quotient. The findings of this study are in line with previous investigations (Ahmar et al., 2018; Espa, 2020; Hema & Gupta, 2015) which emphasize that individual adversity quotient play significant roles to assist students to encounter problems.

3.2.2. The Difference in Adversity Quotient Level Based on Gender

The difference in adversity quotient in gender is one of the research questions in this study. This is not without reason, since prejudices about the adaptability of males are better when compared to females. This was evident when making observations that males tend to be more capable to respond well to their environment. This difference becomes important to investigate in order to find solutions and treatments based on gender.

Based on the results of a study of 48 males, an average score of 8.92 was obtained and 103 females obtained an average score of 8.05. It implies that there was a difference of adversity quotient between male and female students where males scored 0.87 higher. This study also conducted a t-test to investigate if the difference was significant or not. The test indicates that $t\text{-count} = 3.117 < t\text{-table} = 1.98$ ($3.117 > 1.98$) and $p < 0.05$ (0.002). It indicates there is a significant difference in students' adversity quotient levels between male and female students.

The result is in line with a study by Agusniatih and Nurzuama (2020) and Lasmono (2001) which highlights that the adversity quotient at the kindergarten level was in a good category and gender played a significant role in this skill. Pupils naturally have high curiosity, so they are more likely to find out the problems and figure out solutions.

To add on, Asni, Nabilah, Fajri, and Chairunnisa (2021) state that students' adversity quotient during the pandemic was in the mediocre category, then in the high category post COVID-19 depending on how students respond to their environment and their genders.

3.2.3. Teachers' Roles in Students' Adversity Quotient

The research conducted by Pino and Merin (2021) highlights that teachers have demonstrated remarkable resilience and adaptability in response to the challenges posed by the COVID-19 pandemic. Despite facing formidable obstacles, teachers have persevered and showcased their commendable qualities, particularly within the realm of education. Nevertheless, it is crucial to prioritize the mental well-being of teachers to ensure their continued effectiveness in delivering instruction. The acquisition or cultivation of students' post-COVID-19

adversity quotient is closely intertwined with the role of teachers. Teachers, when adequately prepared to address challenges in face-to-face learning, can provide valuable stimulation to students.

This study focuses on four key dimensions of adversity quotient at the kindergarten level: control, origin and ownership, reach, and endurance. The aim was to elucidate the role of teachers in each of these dimensions. As per Jimenez (2020), these dimensions of adversity quotient can be nurtured during the early childcare period. Teachers play pivotal roles in fostering students' self-confidence, self-appreciation, a sense of being cared for, and a feeling of being heard.

These roles significantly influence students' ability to confront challenges without negatively impacting themselves. Furthermore, as emphasized by Risman (2016), teachers have a profound connection to students' adversity quotient. Therefore, teachers must recognize that they cannot always be by the students' side. It is essential to train students to solve problems from an early age, encouraging them to tackle challenges ranging from simple to complex, helping them rise above disappointment and despair, and ultimately nurturing them into resilient individuals.

Based on the findings of this study, the teacher's role in developing students' adversity quotient is high. This can be seen from the percentages obtained in each dimension of the adversity quotient. Teachers attained high scores in the control dimension. To provide good self-control abilities to students, teachers have succeeded in providing good learning so that pupils understand their problems. As classes were held online, it is undoubtedly influenced how students centralize their attention. At the beginning of online learning, students seem less interested in the learning presented by the teacher. However, teachers did not cap there. The teacher invited pupils to continue to think optimistically about the breakout and provided an understanding to them of the importance of continuous learning. This gradually changed the negative views of students about online learning and began to show fairly good self-control abilities.

The research conducted by Bubb and Jones (2020) provides evidence that online learning does not impede children's educational progress. It indicates that children, along with their teachers and parents, can readily adjust to the online learning environment. Furthermore, teachers also demonstrate their ability to create captivating and innovative instructional materials.

These findings strongly reinforce the ongoing research conducted by the author. Engaging and enjoyable learning experiences undoubtedly exert an influence on children's adversity quotient. Consequently, children will perceive online learning as a manageable undertaking, particularly when the content is designed to inspire and foster the development of self-control skills.

Furthermore, the research findings conducted by Alea, Fabrea, Roldan, and Farooqi (2020) provide insight into the extensive knowledge possessed by teachers regarding the impact of COVID-19.

Teachers demonstrate their ability to prepare themselves effectively in navigating through the challenges posed by the pandemic. They are capable of designing engaging instructional activities, although adaptation is still necessary. Jimenez (2021) elucidates that teachers' adversity quotient during the COVID-19 pandemic surpasses the average level. Such circumstances serve as supporting factors for teachers to deliver effective instruction. Consequently, children do not perceive the presented learning materials as further complicating their lives. This outcome ultimately contributes to the enhancement of children's adversity quotient amidst the COVID-19 pandemic.

Second, teachers scored high in the dimension of origin and ownership. Teachers were able to guide students to encounter problems gracefully. It is undoubtedly challenging to commence as students are naturally young and is worsened by the fact that classes must be conducted online. However, teachers performed their best efforts to develop students' abilities by assigning them tasks to form their responsibility which can stimulate them to cope with COVID-19. It implies that students' score in origin and ownership was in enough category.

Third, teachers scored high in the dimension of reach. Teachers in this study have succeeded in stimulating students to strengthen themselves so problems during COVID-19 will not affect them in the longer term. Post COVID-19 classes are held face-to-face. If students do not have the ability to the dimension reach, they will set boundaries with others. It might appear as students are afraid of getting infected by the virus. However, during online lessons, teachers were able to help students to develop their reach dimension. Subsequently, problems were not significantly affecting pupils.

Lastly, teachers scored high in the dimension of endurance. Basically, endurance can be built with positive activities such as exercising. This is the underpinning idea employed by teachers to increase the endurance of their students during COVID-19. Teachers regularly invited students to commence gymnastics before online classes are started. Apart from that, teachers regularly remind parents and students about nutritious food intake.

The COVID 19 pandemic that hit globally has had a significant impact on people who do not have good self-resilience. Kindergarten students' good self-reliance cannot be separated from the roles of teachers. Good teachers' guidance will encourage children to develop a good adversity quotient (Jimenez, 2020, 2021; Rahayu, 2021; Solfema, 2017; Yazon & Ang-Manaig, 2019).

4. CONCLUSION

Based on the research results several things can be concluded:

1. The level of students' adversity quotient at kindergarten level post COVID-19 is in enough category. It implies that students have enough control, origin/ownership, reach, and endurance to encounter problems during and after post-breakout.
2. There is a significant difference in adversity quotient based on gender. Male students scored higher than females.
3. Teachers' role in improving students' adversity quotient is in the high category. It indicates teachers play their roles in each dimension. Teachers properly stimulate students during online lessons until face-to-face classes are commenced.

Funding: This study received no specific financial support.

Institutional Review Board Statement: The Ethical Committee of the Universitas Riau, Indonesia has granted approval for this study.

Transparency: The authors state that the manuscript is honest, truthful, and transparent, that no key aspects of the investigation have been omitted, and that any differences from the study as planned have been clarified. This study followed all writing ethics.

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

Authors' Contributions: Conceptualization, formulating data collection techniques, and overseeing the research process as a whole, D.C.; the data analysis phase, employing advanced analytical methods to extract meaningful insights from the collected data, R.K.; conducting fieldwork, diligently collecting data, and ensuring its accuracy and quality, Z.H.P. All authors have read and agreed to the published version of the manuscript.

REFERENCES

- Agusniatih, A., & Nurzuama, S. (2020). Adversity quotient of students of early childhood education program who experiencing tsunami. *Atlantis Press*, 449(2019), 183–188. <https://doi.org/10.2991/assehr.k.200715.038>
- Ahmar, A. S., Rahman, A., & Mulbar, U. (2018). The analysis of students' logical thinking ability and adversity quotient, and it is reviewed from cognitive style. *Journal of Physics: Conference Series*, 1028(1), 1-9. <https://doi.org/10.1088/1742-6596/1028/1/012167>
- Alea, L. A., Fabrea, M. F., Roldan, R. D. A., & Farooqi, A. Z. (2020). Teachers' Covid-19 awareness, distance learning education experiences and perceptions towards institutional readiness and challenges. *International Journal of Learning, Teaching and Educational Research*, 19(6), 127-144. <https://doi.org/10.26803/ijlter.19.6.8>

- Asni, A., Nabilah, S. S., Fajri, N., & Chairunnisa, D. (2021). Adversity quotient of students during covid-19 outbreak. *JPPI Jurnal Penelitian Pendidikan Indonesia*, 7(1), 72-77. <https://doi.org/10.29210/02021831>
- Bubb, S., & Jones, M.-A. (2020). Learning from the COVID-19 home-schooling experience: Listening to pupils, parents/carers and teachers. *Improving Schools*, 23(3), 209-222. <https://doi.org/10.1177/1365480220958797>
- Den Hoed, R. C. (2014). *Forest and nature school in Canada*. Retrieved from <https://childnature.ca/wp-content/uploads/2017/10/FSC-Guide-1.pdf>
- Espa, R. P. (2020). *Adversity quotient (AQ) and academic performance of selected students in MSU Marawi city presented in 3 rd*. Paper presented at the International Conference in Education , Psychology , and Social Science (ICEPSS) International Research Enthusiast Society Inc . (IRES Inc .) A. May 2016.
- Hema, G., & Gupta, S. M. (2015). Adversity quotient for prospective higher education. *The International Journal of Indian Psychology*, 2(3), 49-64. <https://doi.org/10.25215/0203.080>
- Huang, R. (2013). What can children learn through play? chinese parents' perspective of play and learning in early childhood education. *Little Blue*, 1, 12-19.
- Jimenez, E. C. (2020). Emotional quotient, work attitude and teaching performance of secondary school teachers. *Journal of Pedagogical Sociology and Psychology*, 2(1), 25-35. <https://doi.org/10.33902/jpsp.2020161079>
- Jimenez, E. C. (2021). Adversity and emotional quotients of public elementary school heads amidst the COVID-19. *International Journal of Didactical Studies*, 2(2), 101460-101460. <https://doi.org/10.33902/ijods.2021269755>
- Kim, J. (2020). Learning and teaching online during Covid-19: Experiences of student teachers in an early childhood education practicum. *International Journal of Early Childhood*, 52(2), 145-158. <https://doi.org/10.1007/s13158-020-00272-6>
- Kim, J. H., Araya, M., Hailu, B. H., Rose, P. M., & Woldehanna, T. (2021). The implications of COVID-19 for early childhood education in Ethiopia: Perspectives from parents and caregivers. *Early Childhood Education Journal*, 49(5), 855-867. <https://doi.org/10.1007/s10643-021-01214-0>
- Lasmono, H. K. (2001). Tinjauan singkat adversity quotient. *Anima, Indonesian Psychological Journal*, 17(1), 63-68.
- Liu, Y., Yue, S., Hu, X., Zhu, J., Wu, Z., Wang, J., & Wu, Y. (2021). Associations between feelings/behaviors during COVID-19 pandemic lockdown and depression/anxiety after lockdown in a sample of Chinese children and adolescents. *Journal of Affective Disorders*, 284, 98-103. <https://doi.org/10.1016/j.jad.2021.02.001>
- McKenna, M., Soto-Boykin, X., Cheng, K., Haynes, E., Osorio, A., & Altshuler, J. (2021). Initial development of a national survey on remote learning in early childhood during COVID-19: Establishing content validity and reporting successes and barriers. *Early Childhood Education Journal*, 49(5), 815-827. <https://doi.org/10.1007/s10643-021-01216-y>
- Molnár, G., & Hermann, Z. (2023). Short-and long-term effects of COVID-related kindergarten and school closures on first-to eighth-grade students' school readiness skills and mathematics, reading and science learning. *Learning and Instruction*, 83, 101706. <https://doi.org/10.1016/j.learninstruc.2022.101706>
- Park, E., Logan, H., Zhang, L., Kamigaichi, N., & Kulapichitr, U. (2020). Responses to coronavirus pandemic in early childhood services across five countries in the Asia-pacific region: OMEP policy forum. *International Journal of Early Childhood*, 52(3), 249-266. <https://doi.org/10.1007/s13158-020-00278-0>
- Pino, Z. A. N., & Merin, J. A. (2021). Educators' adversity quotient: Rising above challenges in the time of pandemic. *Education Journal*, 10(4), 119-125. <https://doi.org/10.11648/j.edu.20211004.12>
- Rahayu, A. P. (2021). Research result adversity quotient and self adaptation ability. *Adversity Quotient and Student's Self Adaptation Ability in the Pandemic Time Covid-19*, 6(1), 1-7. <https://doi.org/10.24903/pm.v6i1.674>
- Ray, D. C. (2022). Play and self-regulation. *Playful Education*, 6(1), 39-45. <https://doi.org/10.4324/9781003285618-6>
- Risman, H. (2016). Development of pedagogical competency instruments for elementary school class teachers in Marioriwawo District, Soppeng Regency. *Jurnal Penelitian dan Evaluasi Pendidikan*, 1(1), 1-7.
- Safi'i, A. (2021). The effect of the adversity quotient on student performance, student learning autonomy and student achievement in the COVID-19 pandemic era: Evidence from Indonesia. *Heliyon Journal Homepage*, 7(12), E08510. <https://doi.org/https://doi.org/10.1016/j.heliyon.2021.e08510>

- Santos, M. C. J. (2012). Assessing the effectiveness of the adapted adversity quotient program in a special education school. *International Refereed Research Journal*, 2, 13-23.
- Solfema, S. (2017). Adversity intelligence as a contributing factor of tutor ' s adversity intelligence as a. *European Journal of Education Studies*, 3(11). <https://doi.org/10.5281/zenodo.1134472>
- Stoltz, P. G. (2007). *Adversity quotient: Turning obstacles into opportunities*. Jakarta: Grasindo.
- Timmons, K., Cooper, A., Bozek, E., & Braund, H. (2021). The impacts of COVID-19 on early childhood education: Capturing the unique challenges associated with remote teaching and learning in K-2. *Early Childhood Education Journal*, 49(5), 887-901. <https://doi.org/10.1007/s10643-021-01207-z>
- Wawan, A., & Dewi, M. (2010). *Theory and measurement of human knowledge, attitudes and behavior*. Yogyakarta: Nuha Medika.
- Yazon, A., & Ang-Manaig, K. (2019). Adversity Quotient®, emotional quotient and academic performance of Filipino student-parents. *International Journal of Social Sciences*, 4(3), 1253-1264. <https://doi.org/10.20319/pijss.2020.62.153163>
- Zierer, K. (2021). Effects of pandemic-related school closures on pupils' performance and learning in selected countries: A rapid review. *Education Sciences*, 11(6), 1-12. <https://doi.org/10.3390/educsci11060252>

Views and opinions expressed in this article are the views and opinions of the author(s), International Journal of Education and Practice shall not be responsible or answerable for any loss, damage or liability etc. caused in relation to/arising out of the use of the content.