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## EXPLORING THE ROLE OF AQUATIC ACTIVITIES IN ENHANCING SOCIAL-EMOTIONAL DEVELOPMENT IN HYPERACTIVE CHILDREN

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**Abstract.** Children with hyperactivity conditions, often known as ADHD (Attention Deficit Hyperactivity condition), frequently struggle with socialization and emotional regulation. This results from a failure to pay attention to and comprehend social norms. Therefore, strategies are required to address these issues, including the use of aquatic or water-based physical activities. This study will further investigate the function of water activities in enhancing hyperactive children's social and emotional development. Eight participants, three hyperactive kids, three parents of hyperactive kids, and two swimming coaches, were included in this study, which was conducted at one of the Cilacap Regency swimming pools using a qualitative case study methodology. Data triangulation, which included field observations, interviews, and documentation, was used to acquire the data. Using the NVivo 15 pro tool, data analysis was completed by classifying and coding significant themes as research results. Important discoveries have emerged about the function of aquatic activities, their effects, hyperactive children's social interactions, and the methods trainers employ to enhance their social and emotional development. Parents, trainers, educators, and even therapists will learn from this study about the advantages of aquatic activities to promote hyperactive kids' social and emotional growth.

**Keywords:** Hyperactive children; aquatic activity; social emotional



## INTRODUCTION

Social-emotional development serves as a foundational aspect in shaping a child's ability to interact, understand emotions, and regulate them appropriately within various social situations. When this development is disrupted as often observed in children with Attention Deficit Hyperactivity Disorder (ADHD) it can lead to a range of difficulties in social relationships. Children with ADHD tend to struggle with maintaining attention, exhibit impulsivity, and demonstrate hyperactive behaviors, which hinder their ability to adapt to social environments (Nur & Sari, 2023). These behaviors, which are often misaligned with the child's developmental stage, further exacerbate challenges in building and maintaining interpersonal relationships (Samuele Cortese, 2023). As a result, these children frequently experience rejection, feelings of alienation, and a significant decline in self-confidence (Lum et al., 2024); (Massoodi et al., 2024).

Data indicate that the prevalence of children with behavioral disorders and hyperactivity reaches 20% globally (Rahmadi et al., 2015), with 9.4% of children aged 2–17 years diagnosed with ADHD (Anto et al., 2023). These children often exhibit behaviors such as restlessness, inability to remain seated, and actions that are inappropriate to the context (Chan et al., 2022). They also tend to experience social isolation due to difficulties in forming healthy peer relationships (Humaiya & Zulaikha, 2023); (Wulan Nurafifah a, 2023). In the educational context, learning activities that emphasize social interaction and play have been proven to help build children's self-confidence, strengthen cooperation, and increase learning motivation (Fauzi, Saputra, et al., 2024). (Muhammad Nur Alif, 2019) emphasize that practical self-defense training implemented in elementary schools not only enhances children's self-protection skills, but also significantly improves their confidence in social interactions and their ability to manage emotional stress within the school environment.

This condition calls for interventions that can help children channel their energy in a positive manner while also shaping constructive social experiences. Physical activity has proven to be one of the most effective approaches for reducing emotional tension and enhancing self-regulation (Nurul Hikam Arifah, Muhammad Farhan Kholidi Harfah, Rahmaniar Wahyuningtias, 2023). Among the various forms of physical activity, aquatic activities are considered both effective and enjoyable (Hidayat, 2019). The aquatic

environment offers hydrostatic pressure and cooling sensations that create a sense of calm and safety for children (Kurniawati et al., 2024). These therapeutic properties of water encourage consistent and active participation in physical activities. In the context of physical education, engaging students actively in supportive environments can also strengthen their social and emotional skills (Rizal Ahmad Fauzi et al., 2025). Furthermore, aquatic activities have been shown to improve concentration, impulse control, and emotional stability in children with ADHD (Hattabi et al., 2022). Additional benefits include enhanced motor skills and physical fitness, which positively affect self-confidence and the ability to engage in healthy social interactions (Acordi et al., 2019). Structured physical activities also foster character values such as discipline, cooperation, and empathy (Fauzi et al., 2025). Argue that self-defense training designed within a modern pedagogical framework contributes to the development of students' self-regulation skills, including metacognitive awareness, motivational control, and reflective decision-making abilities that are especially relevant for hyperactive children who require practical self-regulation strategies applicable in social settings (Alif et al., 2024).

Aquatic activities as a medium for social-emotional intervention have not yet been thoroughly explored, particularly in children with ADHD. Studies such as (Anggraeni & Putro, 2021) primarily discuss the general benefits of physical activity, while research by (Lutfi Nur , Anne Hafina & Bakhri, 2019) focuses more on motor skills without specifically addressing emotional dimensions. (Amalia, 2022). (Diana, 2024) emphasizes that water based methods as therapeutic approaches remain significantly under-researched. In this context, it is essential for further studies to address this research gap, especially within the scope of children with special needs who require more inclusive and adaptive approaches (Fauzi et al., 2025). Aquatic activities also possess a strong social dimension. When structured as organized games, such activities promote cooperation, tolerance, and mutual support among children. Positive emotional experiences gained through water-based play contribute to the development of adaptive mindsets that support social-emotional growth (Ramdani & Azizah, 2020). Interactive games conducted in aquatic settings can reduce aggressive behavior and enhance children's ability to express emotions in a healthy way (Lutfi Nur , Anne Hafina & Bakhri, 2019). Moreover, implementing these activities in collaborative settings helps strengthen children's sense

of belonging and social identity, particularly within small group or community environments (Fauzi, Suherman, et al., 2024).

Aquatic training offers specific benefits for cognitive flexibility and improved attention—two critical components needed by children with ADHD (Li et al., 2023). When children feel comfortable in a preferred play environment, their motivation to interact and build social relationships tends to increase. Such activities also expand children's social experiences beyond the classroom and home, making water a medium that supports holistic personality development. Given the high prevalence of ADHD worldwide—including 6.1 million reported cases in the United States alone (Anto et al., 2023). This study aims to respond to the urgent need for effective, evidence-based interventions. This research serves as an in-depth exploration of the effectiveness of aquatic activities in supporting the social-emotional development of children with hyperactivity. It is expected that the findings will contribute to the academic literature and serve as a practical guide for educators, parents, and therapists in designing joyful, adaptive, and meaningful approaches.

## **METHOD**

We investigated the potential of aquatic activities to enhance the social-emotional development of hyperactive children using a qualitative approach and a case study methodology. According to (Assyakurrohim et al., 2023), a case study design is a kind of research in which a case or phenomenon is examined at a certain activity and time, and information is gathered in-depth using a variety of data collection techniques during that time. Because it offers insight into current events at the study site based on the perspectives of the research participants, this technique is used.

Participants in this study were selected using purposive sampling, a non-probability sampling method based on the relevance of individuals to the research objectives (Kim, 2022). A total of 8 participants were involved, determined by the availability of appropriate subjects at the research location. The participants consisted of three children with Attention Deficit Hyperactivity Disorder (ADHD) who served as the primary subjects of observation, three parents, and two swimming instructors. The main focus of the study was directed toward direct observation of the involvement of the three children in aquatic activities to illustrate its impact on their social-emotional development.

The research took place at a swimming lesson in Cilacap Regency, Central Java Province. The selection of this location was based on preliminary investigations that showed that the case was relevant to the research objectives and had obtained permission to conduct research activities there.

Research instruments are tools or devices used by researchers to collect data to answer research questions and achieve research objectives. This instrument can be a test, questionnaire, interview, observation, or documentation, depending on the type of research being conducted (Cresswell, J. W., & Cresswell, 2018). In this study, the instruments used are observation guidelines, interview guidelines, and documentation (Khamenkanl & Homchampa, 2024). We observed the behavior and social interaction of hyperactive children during aquatic activities. In-depth interviews were conducted with parents and coaches to understand and explore their knowledge and experience in dealing with hyperactive children, while documentation was used to augment the research data with visual evidence.

This study was carried out in phases, beginning with the planning phase, which included choosing the subject, design, and topic as well as obtaining research licenses. The implementation phase, which followed, included participant observation, in-depth interviews, and gathering documents pertaining to aquatic activities. After the data was gathered, it was processed using coding, theme analysis, thematic classification, data validation, and research results preparation.

Techniques for gathering data include documentation, in-depth interviews, and participant observation. Participant observation is when a researcher participates in aquatic activities to observe hyperactive children's behavior up close. We conducted in-depth interviews to gather specific data on how parents and aquatic activity instructors assist hyperactive youngsters. We used field notes to document pertinent events and interactions during the research.

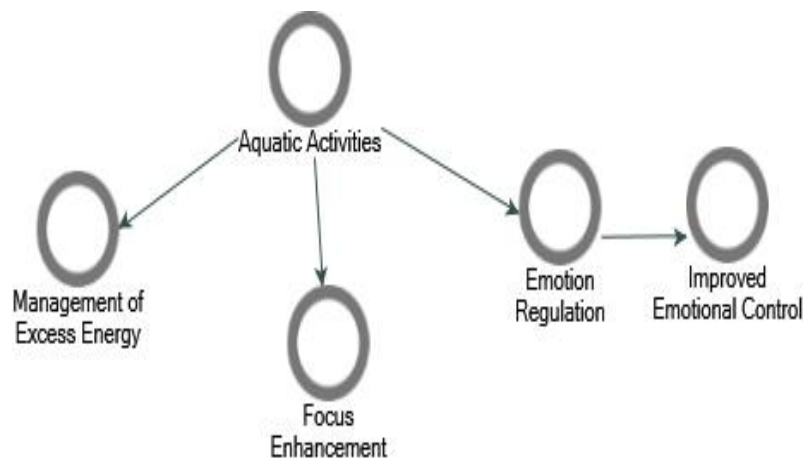
The NVivo 15 Pro tool was used in this study's thematic data analysis to identify significant themes that surfaced in the participant interview transcripts and coding. We then conducted inductive data analysis to determine the participants' responses to the study questions. Inductive data analysis is used to put together patterns, groups, and themes that have already been collected and to draw conclusions from specific data to bigger findings or conclusions (Cresswell, J. W., & Cresswell, 2018).

## RESULT AND DISCUSSION

After conducting interviews with two swimming instructors and three parents of children with hyperactivity, as well as field observations of three hyperactive children participating in aquatic activities, several findings were obtained to answer the research questions. Data analysis was carried out using a thematic approach with the assistance of NVivo 15 Pro software. The analysis process began with transcribing the interview results, followed by open coding to identify key words and recurring statements. These codes were then grouped into several categories, which were developed into main themes. A detailed explanation of how the themes were formed and coded was provided to ensure accuracy and consistency in the interpretation of qualitative data.

### **The role of aquatic activities in controlling the social-emotional state of hyperactive children**

Aquatic activities greatly assist children with hyperactivity problems in managing their surplus energy, improving their attention, and controlling and measuring emotions that they previously could not regulate. The project map below explains the findings about the role of aquatic activities.



**Figure 1.** Project Map The role of aquatic activities in controlling the social-emotional state of hyperactive children  
(Source: Researcher's Process from NVivo 15 Pro Application, 2025)

In the picture above, the components are interconnected, which shows that aquatic activities have an essential role and have a positive impact on the social-emotional development of hyperactive children. Managing excess energy in children with

hyperactivity disorders aims to reduce their activeness and make them feel calmer during aquatic activities and daily life. Coach One stated that:

Coach 1: *"What is clear is that for hyperactive children, the training method must be accompanied by play so that it drains too much energy, so additional activities must be given so that the energy is slightly reduced, and then we will start training."*

Observations of hyperactive children show that they are very active in participating in aquatic activities and are reinforced by parents' statements that their energy is slightly dampened after they are at home. They are calmer when at home or after aquatic activities. In addition to the coach, it turns out that the role of marine activities in managing excess energy is also expressed by one of the parents of hyperactive children who stated:

Parent 1: *"Most of the activities, for example, when he was a child, he swam even though he could not swim yet, but just playing with water, at least 50% of his energy was used up, then he could only play with other toys..."*

In addition to managing excess energy, aquatic activities play a role in improving focus and emotional regulation or controlling the emotions of hyperactive children. Observations show that hyperactive children are often distracted by activities that they like. Still, after they listen to instructions from the coach through their approach, they can and want to follow it. Even hyperactive children can be faster in mastering styles in swimming because they are taught to focus while practicing, even though, for them, it is a difficult thing to do. Increased focus in hyperactive children significantly affects their emotional regulation, so their emotions will be more controlled when participating in aquatic activities. These findings are reinforced by the statements of Coach Two, Parent One, and Parent Two, who stated:

Coach 2: *"Yes, in my opinion, hyperactive children are innate. The child is born. Usually, I let them go after giving directions and then wait for the child to feel calm and focused and then enter the water again."*

Parent 1: *"Because Putra has been taking swimming lessons for a long time, he has become able and familiar with friends in his lessons; he considers himself to be big, so sometimes, even though he is active when swimming, he has a shy nature and can control his own emotions a little"*

Parent 2: *"It is the same; Dana is also very helpful for her emotions when she is in the water because sometimes she feels tired of moving, so her emotions can be*

*suppressed; besides that, she also becomes more intelligent in talking with her coach".*

Aquatic activities have been proven to be effective in helping children with hyperactivity disorder improve and control their social-emotional development. By managing excess energy, hyperactive children are trained to increase focus and regulate emotions so that they can be calmer and more comfortable in practice and in their play environment.

### **The impact of aquatic activities in improving the social-emotional development of hyperactive children**

In improving the social-emotional development of hyperactive children, the findings of this study found that the impact of aquatic activities on hyperactive children is a medium for developing discipline and increasing empathy. In aquatic activities, discipline is instilled from the start time of the activity, the implementation time, the instructor's instructions, and the completion of marine activities. Not only that, aquatic activities have been proven to increase empathy in hyperactive children through social interaction between coaches and peers. Hyperactive children learn to cooperate when playing games in the water, so they learn to understand the feelings of their teammates and try to develop a sense of responsibility within the group.

In the observations made by hyperactive children, they often interact with their friends in the pool. Still, when they are invited to be earnest and disciplined by the coach, they will try to follow the direction of the coach, who shows their disciplined attitude in participating in aquatic activities. Their empathetic attitude is revealed slowly and takes a long time because they have to get used to their environment first. One of the hyperactive children showed that he could be trusted to teach his friend to swim, and this attitude showed that aquatic activities can increase the empathy of hyperactive children. The findings from the observations are further strengthened by the arguments of parents of hyperactive children and coaches who state that:

*Parent 2: "If the funds are because he is active, it is still natural, yes, for example, discipline, the time to rest is like this, ten minutes, ee ten seconds, yes, ten seconds because you have to be there again, so more discipline to it, for example, what style should it be, so he must be able to follow the main thing follow the coach."*

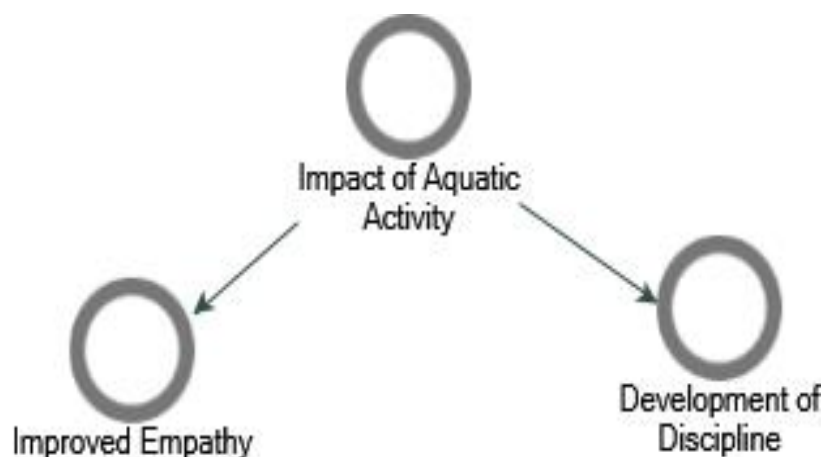
Coach 2: *"The biggest challenge is when the child cannot be directed by myself, so following him must be extra in understanding and also directing to be able to exceed the target we want".*

Their involvement greatly influences hyperactive children's increased empathy in aquatic activities. Learning aquatic activities that are not usually done or taught at school helps children with hyperactivity disorder increase their sense of empathy.

Parent 1: *"Very influential. If the son is actually more mature in responding to anything, he often advises his friends also, ehehe, so now he sometimes feels like a coach from school. I also ask how many children the teacher gives. Sometimes half of the problem is because the coach always trains my girl, who is a boy. If the girl is gentle, so the teacher is the best for me."*

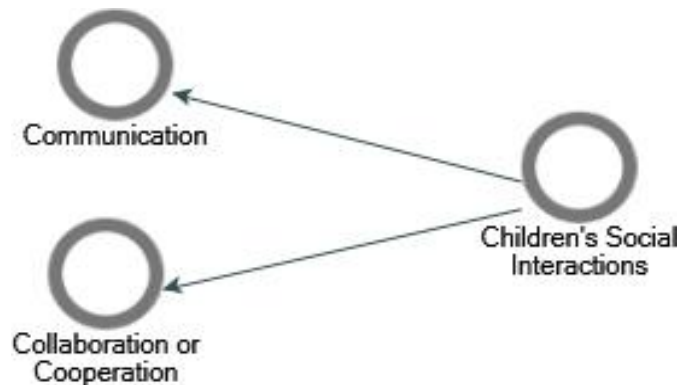
Coach 2: *"Maybe the same as coach amen, but I observe their interactions with their friends more and how they listen and follow instructions. If they start to show empathy, it's a sign e they're making progress".*

The impact of hyperactive children participating in aquatic activities can be very influential on their social-emotional development. Aquatic activities teach hyperactive children to obey the rules, understand the coach's instructions, and train their concentration so that they are more disciplined. The increase in empathy of hyperactive children can be trained slowly by their involvement in aquatic activities. The findings are featured in the following map project:



**Figure 2.** Project Map The impact of aquatic activities in improving the social-emotional development of hyperactive children  
(Source: Researcher's Process from NVivo 15 Pro Application, 2025)

### **Aquatic activities in helping hyperactive children in social interaction**



**Figure 3.** Project Map Aquatic activities in helping hyperactive children in social interaction

(Source: Researcher's Process from NVivo 15 Pro Application, 2025)

The difficulties experienced by hyperactive children usually find it challenging to interact well with their friends because hyperactive children have a selfish nature, ignore the rules in the environment, and have difficulty understanding communication with others. In aquatic activities, the activities carried out are more structured and made as comfortable as possible for children, especially children with hyperactivity disorders. A fun environment in aquatic activities can encourage children to learn to interact and communicate gradually with their friends. Gradual training is what makes hyperactive children able to communicate and cooperate with friends in the pool environment so as to improve their interaction skills. In accordance with the statement of Coach One:

*Coach 1: "So the first one is for swimming itself, the purpose of swimming training at BSC is several, so the first is for fun swimming or cheerful swimming, then for therapy, then also for a special program to become an athlete like that, well, each field has a different pattern and program or curriculum. For hyperactive children themselves, the way is so that they can interact socially through swimming; the first is introduced to their friends who are the same age, friends of the same age, then given what is the name game modification to be able to get to know one friend with another. Later, they will be divided into several groups for game assignments, such as moving the ball here. Later, the children will inevitably cooperate with one friend*

*and another, and they will begin to be active, which is not good communication with their friends, and start learning communication there".*

The findings from observations also show many behaviors of hyperactive children who always communicate with coaches or with their friends. However, this cannot happen immediately because improving communication, collaboration, or cooperation takes a long and gradual time.

Parent 3: *"If I'm really good, it helps Barra with swimming activities, so she communicates more often with friends in the pool or at school."*

Parent 1: *"It's very important if your son is starting to control his emotions. Like swimming lessons, it often involves playing games with his friends, he becomes more disciplined and communication with his friends improves."*

Coach 2: *"If I look at it, swimming activities have taught me many things because the concept at BSC also uses games during swimming lessons, so in that way, I think hyperactive children can be used to develop their social emotions."*

The findings show that teamwork greatly affects the social interaction of hyperactive children. This proves that aquatic activities are effective as a medium to increase their social interaction.

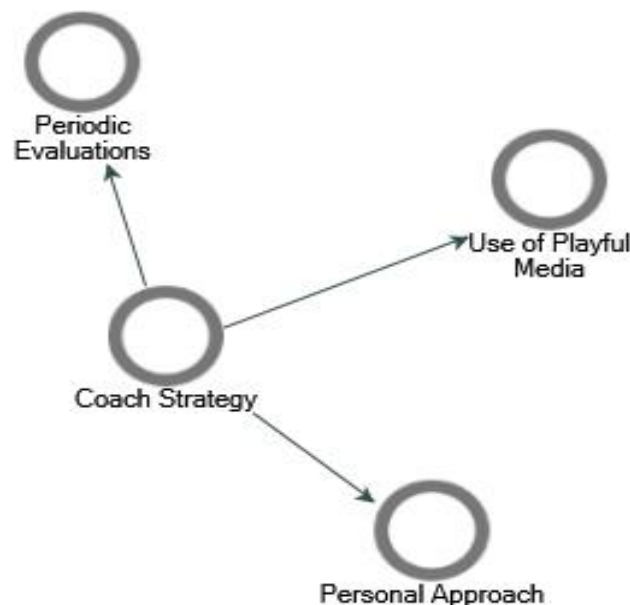
### **Coaches' strategies in handling social-emotional development in hyperactive children**

A coach often has a unique training method; nonetheless, the outcomes of this research show that each coach has an opinion based on what they do during swimming training. The outcomes of this research indicate that a coach has a plan, which includes periodic review, a personal approach, and the utilization of playing media. The coach's goal in employing this method is to see how each hyperactive youngster improves while practicing. Coaches One and Two revealed:

Coach 1: *"I myself use the approach to each hyperactive child to measure the extent to which the child can communicate and control his emotions, if in automatic aquatic activities as in the previous question as coach e must have a variety of training programs adjusted to the needs of hyperactive children to support the development of communication and control of emotions in themselves."*

Coach 2: *"Yes, we must be more patient in dealing with hyperactive children and smart in finding methods to deal with them. The coach's communication must also be personal with his child directly, such as giving motivation and compliments so that the child feels comfortable with the coach. Not even we coaches openly talking in front of his friends will make the child feel insecure."*

The observation results also showed an interaction between the coach and the hyperactive child for a more in-depth approach to hyperactive children's behavior, attitude, and communication. In the process of approaching, in some cases, it is impossible to have a direct impact, but it takes a long time and gradually.



**Figure 4.** Project Map Coaches' strategies in handling social-emotional development in hyperactive children

(Source: Researcher's Process from NVivo 15 Pro Application, 2025)

The coach constantly evaluates every meeting, and even though it is not only for hyperactive children, the coach still sees the extent of the socio-emotional development of hyperactive children who participate in aquatic activities. This shows that coaches have strategies for handling hyperactive children's social-emotional development. In addition to their social-emotional development, the coach evaluates the development of hyperactive children's movements.

Coach 2: *"If you monitor the development of a hyperactive child, the training program is as stated at the beginning. We have an MoU or agreement with the*

*child, for example, freestyle foot movements, hand movements, continuous breathing, etc. So indirectly, we make observations or the term evaluation to see the development of children, their interactions and their movements."*

*Coach 1: "So the first thing is to hold an exam or test to measure the child's developmental ability. So, the implementation of the test can be equated with ordinary children, so later, we will hold an event activity for all children to measure their ability of the child, so when the coordination of hands, feet, and breath is good, it means that the target is met or one of the ee targets desired by the coach is achieved, oh it means that this child needs to be evaluated with additional methods".*

*Coach 1: "I myself conduct periodic evaluations and adjust methods if needed based on mutual feedback from children and parents so that the implementation of the evaluation is also known to the child's parents."*

In addition to using a personal approach and periodic evaluation, the coach carries out strategies for handling social-emotional development in hyperactive children using game media. This game media aims to make hyperactive children able to interact with their friends in the water environment. In addition, game media is used to create a sense of comfort and calm hyperactive children so that children will not feel bored during training activities.

*Coach 2: "Yes, because hyperactive children are active children, yes or active, we usually switch to aquatic activities earlier to be more enthusiastic about activities with others, and we coach usually use games, so there is another filler time to make hyperactive children comfortable in the water."*

*Coach 1: "The first way to measure it is with the standard program that we give or the target, so the first is the introduction of water, so make sure the child dares to enter the water, and it doesn't matter, the point is comfortable, then the process of social-emotional ee is with more progressive activities in the water after the introduction, leg movements, hand movements, and breathing. In addition, usually during training, my child gives additional games to make the child think that water activities are fun because there are games so that children are free to interact with their teammates or with their coaches".*

Direct observation by the researcher supported the findings obtained during the interview. Observations show that hyperactive children are easily direct when they get direct personal instructions. Hyperactive children are always given attention, and the way the coach communicates with hyperactive children is always face-to-face and has an emotional approach. This causes interaction, so hyperactive children feel more confident and can follow the coach's directions well.

Observation or evaluation carried out by the coach directly on hyperactive children aims to observe social-emotional development. Some hyperactive children who have been trained for a long time and fall into this category can already show development in interacting and controlling their emotions. Meanwhile, one child still shows irregularity in obeying the coach's instructions and is still arbitrary on his own. Therefore, the coach continuously uses an evaluation strategy at every meeting to make hyperactive children experience increased social-emotional development.

Aquatic activities that use game media show that hyperactive children's interactions are more controlled because the form of play makes children communicate a lot with their friends. Children who previously could not cooperate with their games became more active in managing their emotions and learning with their friends. Hyperactive children, especially when given water games, are very competitive and always have the soul of wanting to win over their opponents. Coaches often use games to improve social emotions in hyperactive children.

The results of this study show that aquatic activities play a significant role in improving the social-emotional development of hyperactive children by helping them manage excess energy, improve focus, and control emotions. Hyperactive children who engaged in these activities showed improved discipline and empathy, which supported their social interactions. In addition, the hydrostatic pressure in the water provides a calming effect that helps reduce anxiety and stress, making the child more controllable in daily life. These findings support Erik Erikson's (1963) theory of social-emotional development, which emphasizes that social and emotional skills develop through positive interactions (Maree, 2021). The results of this study are important because they show that aquatic activities are not only sports but also effective therapeutic methods for hyperactive children in developing self-control and social skills. These findings can encourage schools or therapy institutions to integrate water-based activities in inclusive

programs. For parents and coaches, this study provides insight into how aquatic activities can support children's development. The implication is that aquatic activities can be an intervention tool that helps hyperactive children in socializing and increasing self-confidence, especially through coach strategies such as regular evaluation, personal approach, and use of play media. In addition to the physical benefits, the positive effects of these activities are also influenced by the social environment formed during practice, where hyperactive children learn to communicate and cooperate in groups.

The results of this study support previous research which shows that physical activities, especially water-based ones, have a positive impact on the social-emotional development of hyperactive children. (Zaliana Purwanti, 2020) found that aquatic activities can improve the social-emotional development of hyperactive children by helping them be more confident and interact better with their surroundings. Water-based physical activities are effective in helping ADHD children reduce hyperactivity and improve focus and social skills (Li et al., 2023). In addition, research by (Acordi et al., 2019) proved that regular swimming training can improve the mental health, cognitive, and motor coordination of children with ADHD. Aquatic activities have a calming effect that can help reduce stress and improve the emotional balance of hyperactive children (Hattabi et al., 2022). Also found that aquatic activities can be used as play therapy to improve the social interaction of children with special needs (Phytanza & Burhaein, 2019). In common, both this study and previous studies agree that aquatic activities help hyperactive children manage excess energy, improve focus, develop social skills, and reduce stress and anxiety. However, this study has differences with previous studies in the research approach and focus. While previous studies have used quantitative or experimental methods to statistically measure the impact of physical activity on ADHD children, this study uses qualitative case study methods that explore the direct experiences of hyperactive children, parents, and coaches to understand the impact of aquatic activities more deeply. This study also highlights the coach's strategies, such as regular evaluation, personalized approach, and use of play media, which have not been widely discussed in previous studies.

This study shows that aquatic activities play an important role in improving the social-emotional development of hyperactive children, but there are some weaknesses and limitations that need to be considered. The limited number of participants involved

only three hyperactive children, three parents, and two coaches, so the results of this study cannot be generalized to a wider population. The research method used is qualitative case studies. However, it provides in-depth insights, but it cannot objectively measure the impact of aquatic activities such as quantitative research using measurement scales or controlled experiments. External factors such as family support, school environment, and children's experiences in other physical activities were not controlled, making it difficult to confirm that children's social-emotional development comes solely from aquatic activities. The duration and intensity of aquatic activities are not standardized, as each child has a different experience in practice, making it difficult to determine how long these activities should be performed for optimal benefits. These limitations affect the study's results, so the findings should be interpreted with caution, and further research with a larger sample size, quantitative approach, and control of external variables is needed to make the results more objective and more widely applicable.

Interpretations of aquatic activities suggest that the benefits may differ for each hyperactive child, depending on various influencing factors. One interpretation is that its effectiveness depends on the individual characteristics of the child, such as the severity of ADHD, family support and their experience with physical activity. Another interpretation suggests that the success of aquatic activities may be more influenced by the trainer's strategies and learning methods, where a personalized approach, periodic evaluations, and the use of in-water games may increase children's comfort and engagement. There is also an interpretation that the social-emotional benefits gained are temporary, requiring ongoing practice for the results to be felt in daily life. Given these interpretations, further research could explore the key factors that contribute to the social-emotional development of hyperactive children so that this method can be optimized more effectively.

Future research can be conducted using quantitative or mixed methods to measure the impact of aquatic activities more objectively and conduct longitudinal studies to see the long-term effects. Future research could compare aquatic activities with other therapies, such as land-based sports or behavioral therapy, to understand the main factors that contribute to the social-emotional development of hyperactive children. Further exploration of the role of trainers and learning strategies is also needed, as the approach used may influence the effectiveness of these activities. External factors such as family

support and social environment are also important to consider for more comprehensive research results.

## **CONCLUSION**

The findings indicated that water activities are vital in enhancing social and emotional development in hyperactive youngsters. Aquatic activities help youngsters manage surplus energy, improve concentration, regulate emotions, and gain emotional control. Water activities significantly impact the social-emotional development of hyperactive children, fostering empathy and discipline. Aquatic activities can improve hyperactive children's social connections by promoting communication, cooperation, and teamwork via games. Trainers use or have their tactics for managing hyperactive children's social and emotional development, including play media, frequent assessments, and personal approaches. This study supports Erik Erikson's (1963) theory of social-emotional development, which states that children's social-emotional development is heavily impacted by their surroundings and supportive and directed social interactions (Mokalu, Valentino Reykliv, 2021). As a result, water activities may assist hyperactive children and other children with special needs in improving their social and emotional development over time. The theoretical implications of this research can help people understand how aquatic activities affect the emotional development of hyperactive children. In contrast, the practical consequences can help develop a therapy program based on aquatic activities to address the emotional development of those children.

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