

12-2023

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How Swim Lessons Improve Overall Health in Children Ages 7 to 13

Fiona B. Sonni

A Capstone Project for the Bachelor of Arts in Human Development and Family Science

Introduction

My capstone project focuses on increasing school-aged children's awareness about the need for physical activity to improve overall health. There are reports that children's physical activity has decreased in recent years. Because they spend so much time behind a screen, they do not get adequate exercise and experience feelings of depression and lack of motivation to change their habits. Potential reasons for this could include the COVID-19 pandemic forcing children inside, increased popularity in video games, and an increase in social anxiety due to the pandemic. By focusing my project on swimming-related skills, I hope to increase children's physical activity levels, while also improving their physical and mental well-being. A study by Wegner et al. (2020) found that physical exercise can reduce diagnosed and undiagnosed depression in children. This study proves that exercise promotes children's overall health. Physical exercise is good for children between the ages of 7 and 13. My project improved my students' activity levels and taught them the positive impacts swimming safely on physical and mental health. I incorporated my project into my pre-arranged swim lessons with my students ages 7 to 13 years old by presenting them with information throughout the swim lesson.

Needs Statement

Physical activity levels have decreased in young children in recent years. This largely has to do with the COVID-19 pandemic where about a third of children used streaming services and other online technologies to access activity classes and lessons (Dunton et al., 2020). As children's activity levels have declined, poor physical development, rates of obesity, and poor mental health have increased (Sahoo et al., 2015). Growing research about physical fitness among children shows an improvement on physical development, mental stability, and decreases

in medical risk factors as an adult (Physical Activity Facts | Healthy Schools | CDC, 2022).

Because of these risk factors, it is important to investigate children's activity levels. Physical activity encompasses all activities performed at any intensity day or night. I define water safety as the procedures, precautions, and policies associated with safety in, on, and around bodies of water where there's a risk of injury or drowning. Mental health describes a person's condition with regard to their psychological and emotional well being. These terms are used most often throughout my project, where I worked with children ages 7 to 13 years old at the Monterey Sports Center. I built and implemented a curriculum that focused on increasing their awareness of the physical and mental impacts of exercise, especially swimming. This topic is important to me because when I was growing up I spent a lot of my time in a pool, and swimming was the easiest way for me to get exercise and increase my physical activity levels while also relaxing and having fun. In order to avoid poor health as an adult, it is necessary to teach a curriculum to children that emphasizes the impact of physical activity and includes discussion of safety.

A common societal problem is that many children and adolescents have low physical activity levels. The COVID-19 pandemic shutdown and restrictions led to a 20% decrease in daily exercise among children and adolescents (Diaz, 2022). COVID-19 restrictions, including social distancing, changed the balance between learning time and physical activity, allowing an increase of screen time. Further, physical exercise outlets like sports clubs, pools, gyms, and community centers were closed. This is a problem because children's physical health is declining, which increases the likelihood of future medical issues. A lot of research has been done to investigate the impact of physical health on young people. Eighty percent of children 5-18 years old failed to meet the national recommendations of physical activity in 2016 (Anderson et al., 2019). This statistic demonstrates why children need to be more active. When

children learn these skills, it improves the likelihood of good health in adulthood. Although children's bodies are resilient, being inactive as a child will impact their physical development. Exercise is a habit that's best started young. The Center for Disease Control explains the consequences of physical inactivity for adults, which includes the following: energy imbalances, increased risk of becoming overweight or obese, increased risk factors for cardiovascular disease, high blood pressure, insulin resistance and glucose intolerance, increased risk for type 2 diabetes, increased risk for breast, colon, endometrial, and lung cancers, and low bone density, which leads to osteoporosis (Physical Activity Facts | Healthy Schools | CDC, 2022). A decrease in children's activity levels can lead to problems with physical development and make them more prone to adult medical issues. When children build the foundation of increasing their physical activity levels at a young age, they will more likely be physically healthy and fit as they get older.

There are both immediate and long term benefits of physical activity. After moderate-to-vigorous physical activity, the brain is immediately more active and helps people to think and learn. Over time, regular physical activity can improve brain health, help to manage weight, reduce risk of disease, strengthen bones and muscles, and improve quality of life (Benefits of Physical Activity, 2023). By doing any amount of moderate-to-vigorous physical activity, a person is more prone to health benefits and increases their chances of living longer. Making small changes in one's lifestyle, like increasing levels of physical activity, leaves a long lasting impact on one's physical health.

Physical activity can promote positive mental health outcomes, and sports, like swimming, can improve people's mental and physical health. The mental health benefits that are immediately felt after exercise include improved thinking or cognition and reduced short-term

feelings of anxiety for children 6 to 13 years old and adults. Thinking, learning, and judgment skills continue to benefit from physical activity as a person ages, which is why it is so important to start exercising at a young age. Regular exercise can reduce depression and anxiety while also helping people sleep better (Benefits of Physical Activity, 2023). Swimming in particular has its own mental health benefits. Not only does swimming improve people's moods, it also can decrease depression and anxiety (Health Benefits of Swimming | Healthy Swimming | Healthy Water | CDC, 2022). Swimming in a ninety degree pool supports people by decreasing depression and improving mood. The positive feelings that result from swimming makes it a great mental health tool.

I chose to focus on mental health as one of my Learning Outcomes because I wanted to help my 7 to 13 year old students learn the benefits of swimming and physical activity on mental health. A study in Bali found that swimming training can reduce stress for school-age children (Dewi & Ilmy, 2021). This is important because mental health is significant to a child's development, especially when the child is between the ages of 7 to 13. Swimming reduces stress by providing a mindfulness activity. The repetitive nature provides a flow state that calms the brain. Focus can shift from the cause of stress to a focus on swimming that provides an emotional release. It is common to use exercise as an outlet to relieve stressful events in one's life (Kumar, 2015). Swimming as an outlet to relieve stress for children is very important because it improves their stress management and mental development as they age.

Physical activity is really important in young ages in terms of their overall development. Research has been conducted to investigate the childhood relationship among physical activity, fitness, cognitive function, and academic achievement, and it was discovered that physical activity is related to areas of the brain that support complex cognitive processes. This shows that

along with having good physical health, physical fitness and activity can also improve cognitive development in ages 7 to 13. Specifically, physical activity influences brain structure and function (Donnelly et al., 2016). This study proves that physical activity, no matter what it might be, can improve a child's cognitive abilities that plays a role in their overall health. There needs to be more studies about physical activity and cognitive development, especially after the COVID pandemic when children were forced inside. After reviewing the research, it is clear that physical activity has some positive effect on development which further supports the idea that children between the ages of 7 and 13 need to increase their exercise levels.

Water safety is significant in increasing physical activity levels with swimming. Water is extremely dangerous and many people underestimate water safety. People who start to swim do not realize how scary it can be. Teaching 7 to 13 year olds how to swim safely will decrease potential drowning incidents per year. Olaisen, Flocke, and Love (2018) studied the impact of children ages 3 to 14 learning how to swim. They concluded that "This intervention study contributes to the knowledge of intervention effectiveness in injury prevention, primarily through the finding that the number of swimming lessons—rather than gender or age group—represents the major contributing factor to swim skill acquisition" (Olaisen et al., 2018). Their research supports the idea that water safety is important in terms of swimming for fitness while decreasing injuries related to swimming. By the end of my capstone project, my students were able to list the 3 rules of water safety. In order to appreciate the physical benefits of swimming for children ages 7 to 13, safety needs to be addressed first.

When children learn how to swim, it makes their life a lot healthier. Swimming allows children to increase their physical activity levels, improve their physical development, and relieve whatever life stress they experience. In order to increase awareness, I taught swim lessons

to students ages 7 to 13 that included information about water safety, the importance of physical activity, and how swimming improves their mental and physical health at the Monterey Sports Center in Monterey, California.

Theory

The theory that informed this capstone project is Erik Erikson's theory of psychosocial development. This theory emphasizes that human personalities continue to develop past the age of five and that the development of personality depends directly on the resolution of existential crises from infancy to old age (Maguire-Fong et al., 2019). By successfully going through each stage of life, people will acquire positive virtue that resolves the crisis. For example, the industry vs inferiority conflict, which most relates to my students ages 7 to 13 years old, is described as developing self-confidence in their abilities when competent or developing a sense of inferiority when not (Maguire-Fong et al., 2019). When a student tries to do the same activity as a peer with higher skills and fails to complete the task, their self confidence lowers. In this stage, children are comparing themselves to their peers and trying to understand their abilities and worth.

Erikson's industry vs. inferiority conflict is most seen in this capstone project because there are different levels of skill within each student. As their instructor, it is my job to help the students build their confidence. Many students are trying to make their parents proud because they know their parents are watching from the sidelines. After accomplishing a task, these students will look up for their parents to applaud their progress. I work with my students to develop their self confidence in swimming. Additionally, with completion of swimming lessons my students feel competent and confident in their swimming abilities. These skills will remain useful to them throughout their lives. By learning how to swim safely, my students develop a

useful skill that both increases their physical activity levels that provides a mindful outlet through swimming.

Consideration of Diversity

My capstone project targeted children between the ages of 7 and 13 years old living in the Monterey County area of California, who wanted to learn how to swim. The majority of my students were Latino and White. Out of 24 total students, most were girls, one student was a non-binary child, and only 4 were boys. Socioeconomically the children who were in my swim lessons were middle class. Each class size included 6 students, but if a family wants one-on-one lessons they would sign up for private lessons which cost more than group lessons. The majority of my students are primarily visual learners as opposed to auditory learners. Two of my students in this capstone project are not native English speakers, one only speaks Spanish and the other only speaks Turkish. In order to teach them how to swim and explain the learning outcomes to them, I have to use visual teaching techniques.

The diversity characteristics influenced the development of my project minimally. Based on students' skill level and English language knowledge, I had to adjust my phrasing and teaching techniques. My project was geared towards 7-13 year old children who wanted to learn how to swim. To account for the large age range of students, I presented material by asking questions and getting them to think about the topics in relation to themselves. Most of the information was presented by modeling and providing examples. This project is responsive and sensitive to the group's characteristics by being straightforward, entertaining for young people, and fun.

The Learning Outcomes

[indent] I provided 6 lessons over the course of 2 weeks that focused around the benefits of physical activity for mental and physical health at the Monterey Sports Center for children ages 7 to 13 years old. The project had four learning outcomes:

1. Students will be able to list 3 rules of water safety.
2. Students will be able to list 3 benefits of physical activity for physical health .
3. Students will be able to list 3 benefits that physical activity has for mental health.
4. Students will report how they increased their physical activity in a 2 week period.

Methods

Location and Participants

I provided 6 lessons over the course of 2 weeks that focused on the benefits of physical activity for mental and physical health at the Monterey Sports Center for children ages 7 to 13 years old. In total, 24 students participated in my lessons and 5 to 6 students per lesson. Majority of my students were female. Out of 24 students, 4 of them were male. These students were already signed up for swim lessons with me, and so I incorporated my curriculum into the preset swim lessons.

Procedures and Materials

I instructed 6 lessons over the course of 14 days about what it means to be healthy and how to support oneself in improving overall health. Each swim lesson is 45 minutes long, and I used 15 of those minutes to instruct about overall health and the need for physical activity. The first lesson focused on water safety and why physical activity is important for the body. I pointed out the lifeguards and explained the 3 rules of water safety. I told them how deep water can be dangerous if people do not know how to swim, and that they need to know where the lifeguards

are. If they ever felt uncomfortable around the water, they should talk to the lifeguard.

Additionally, I explained how it is healthy for the body to have physical activity and that it is important for children to keep moving. For the last part of this lesson, I asked the students why they should keep their bodies moving, and they called out verbal responses.

During the second lesson we reviewed what we discussed the first time and expanded on it. I asked the students to point out where the lifeguards are on the deck, and why they think their chairs are so high off the ground. Students called out responses. Next, I asked what the students need to do when the lifeguards talk to them, and the students confirmed that they need to listen to the lifeguards. After that, each student shared out the different kinds of physical activity they participated in after school. I used positive reinforcements to congratulate the students on their physical activity levels.

For the third and fourth lessons, we focused on physical activity and why it is important for the mind and mental health. I started the third lesson by highlighting the information from lessons one and two. I did a short informal assessment to determine what they remembered about water safety and the importance of physical activity. After receiving the verbal responses, I introduced mental health by using words like “happy,” “calm,” and “enjoyable.” I explained how swimming can be fun and make you happy or calm. I asked each student individually “how do you feel when you’re swimming?” They gave answers about how they feel when they are swimming and also afterwards.

The following day we had the fourth lesson that reiterated the learning objectives from the third lesson. Then, I built on more mental health coping strategies. I gave the students different scenarios where swimming could help them manage their feelings: “If you had a bad day at school, then you could ask mom and dad to take you to the pool to swim.” I continued by

asking them if that would make them happy. Students responded verbally. One student asked me “if I was angry about something, could swimming make me happy?” I affirmed them before moving onto the rest of the lesson. By the end of the swim lesson, the students needed a reminder of what we discussed about physical activity.

By the fifth lesson, it was clear to me that my students struggled to remember the importance of exercise on the mind. To start this lesson, I had the students share out our 3 rules for the pool. Students raised their hands and I called on a different student to explain a different rule. Next, I led a question and answer session. I asked the following questions: “What are 3 good things that happen to our bodies when we exercise? What are 3 good things that happen to our mind when we exercise?” Students again raised their hands and provided verbal feedback. After that, I asked the students to verbally reflect on their current physical activity levels. I asked each student “What kind of exercise do you do each week on top of swimming? What other exercise do you do before or after school?” Students provided verbal responses about current activity levels in addition to swimming.

Finally, the last lesson students received their certificates. I conducted an assessment. By using true/false questions and short verbal responses, students individually demonstrated what they learned about the need for physical activity and how it improves mental and physical health. Students completed their swim lessons to receive their certificate. Before getting their certificate, students shared separately with me how they increased their activity levels over the last 2 weeks, the 3 rules of water safety, 3 benefits of physical activity on the body, and 3 benefits of physical activity on the mind.

Results

The learning outcomes for this project were for students to be able to list 3 rules of water safety, list 3 benefits of physical activity for physical health, list 3 benefits that physical activity has for mental health, and report how they increased their physical activity in a 2 week period. On Day 6 of a 6-day curriculum students were assessed on these learning outcomes. I assessed my students by requesting verbal responses to my questions, and each student raised a hand to answer independently. A student fully met the learning outcome by answering all 3 questions correctly and completely. Students partially met the learning outcome when they were able to list at least 2 examples instead of 3. Students who did not meet the learning outcome were unable to answer any of the questions. First, I asked students “What are the 3 rules of water safety?” Out of 24 total students, 100% of students met Learning Outcome 1.

Next, I asked “What are the 3 benefits of physical activity for physical health?” Out of 24 total students, 22 (92%) students partially met the learning outcome. They were able to list one or two benefits but were unable to think of a third benefit from previous lessons. Eight percent did not meet learning outcome 2. Based on the question asked, my students felt confused and nervous because they either could not answer the question fully or at all. Twenty two participants listed at least two physical health benefits of exercise. The most frequently mentioned benefit was not getting sick. The second most frequently mentioned one was staying skinny.

After that, I asked “What are the 3 benefits of physical activity on mental health?” One hundred percent of the students did not meet learning outcome 3 due to either forgetting or not understanding mental health. None of the students were able to give an example without my prompting. Finally, I assessed their increased physical activity levels by determining their ability

to swim independently and giving them a certificate which provides proof of completion of swim lessons. 100 percent of the students fully met Learning Outcome 4.

Discussion

My capstone project focused on the benefits of swimming and physical activity on overall health for children 7 to 13 years old. Students were able to list the 3 rules of water safety and increase their physical activity levels in a 2 week period. They were most successful in these learning outcomes because it was the first thing I asked them every swim lesson as part of a routine. They, also, had this intention to meet these outcomes on their own. Additionally, students were partially able to list the physical health benefits of exercise. They were partially successful in this area because the information was easy to remember and familiar for them. Overall, I was able to keep the students interested and engaged in the material throughout the two weeks. My students told me that they enjoyed their lessons with me.

Limitations that came with my project were explaining mental health to 7 to 13 year olds. Although I tried to use language that 7 to 13 year olds would understand, it was still a concept they struggled to remember and grasp. Because I had limited time with my students to talk about mental health, my students did not have enough repetition to remember everything. Students were not able to list 3 benefits of mental health after exercise. The majority of students were able to list at least 2 correct benefits. For lessons 4, 5, and 6, I had to re-introduce topics from lessons 1, 2 and 3. This left me with little time to discuss mental health within the 45 minute lessons. I could strengthen the project by building my own workshop, rather than adding curriculum to pre-arranged swim lessons. I could, also, alter my assessments to use written responses or surveys if I were able to build a lesson outside of the water.

If I were to perform this project again, I would build my own workshop and have longer lessons with personalized activities to help the students fully understand all learning outcomes. Offering the workshop to older students would be beneficial because they would be able to grasp the concept of mental health more easily. In the future, I would spend more time defining terms and explaining the larger concepts. I would also have students track their progress and apply the concepts at home. As a group we would discuss our results in the following lesson. To be more inclusive of diversity, I would make sure the lessons are open to everybody. I would advertise the workshop in more places like schools, grocery stores, and youth centers. Even though my project was not fully successful, I believe what I taught my students was important and valuable. In the future, I hope that children remember what was taught and continue to exercise into adulthood.

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