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California State University of Monterey Bay



*The Importance and New Interpretation of Physical Education in the Elementary School Setting:
Health and Wellness Education*

We must implement quality Health and Wellness Education in elementary school classrooms to lower the risk of the rising obesity endemic reaching our younger generations and emphasize awareness of mental health and wellbeing with equal importance.

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ABSTRACT:

Despite substantial evidence of the countless cognitive and physical benefits physical education in elementary school classrooms provides, some schools in the United States do not offer an adequate combination of both physical activity *and* education about nutrition, health, and wellbeing. To fully encapsulate the subject of Health and Wellness Education (HWE), students must not only be engaged physically outside of the classroom, but they must also be engaged holistically with an equal emphasis on mind, body, and spirit inside the classroom. This student engagement would include daily lessons regarding mental wellbeing, a consistent and reserved period for physical activity, and the ability to analyze the nutritional value of meals they are offered inside and outside of the school cafeteria to make healthier choices on their own. Not only is it necessary for schools to make room for these curricular modifications, but it is also imperative to consistently provide them throughout the entire school year and a child's whole elementary experience. If children are not steadily receiving HWE, they are at risk of becoming obese, falling into the stigmatized world of anxiety or depression without self-help skills, and potentially developing life-threatening diseases such as type two diabetes, certain cancers, and cardiovascular disease later in life. This paper will explore the many ways that HWE can be positively implemented in elementary schools to avoid this growing epidemic.

Key Words: Health and Wellness Education (HWE), elementary school, obesity, Nutrition Education, holistic health, Mental Wellbeing, Physical Activity Education

INTRODUCTION:

A considerable misfortune in most elementary schools in the United States is the ephemeral presence of, or in some cases total lack of, Physical Education programs for children. The Center for Disease Control (CDC) defines Physical Education as, "an academic subject characterized by a planned, sequential K–12 curriculum (course of study) that is based on national standards [of physical activity]" (CDC 2017). According to this definition, Physical Education does not focus on the importance of the whole child. It focuses solely on an educator's ability to meet predetermined standards through facilitating children's exercise during the most developmentally important years of life.

Studies that show the use of Physical Education in elementary schools indicate that less than four percent of elementary schools provide the minimum required daily physical education of 150 minutes per week for the entire school year of thirty-six weeks for students in all grades in the school (School Health Policies and Program Study, 2006). Nearly half of school administrators, forty-four percent, admitted they take away from the time designated for physical education to spend more time focusing on subjects such as math and reading for standardized testing since the passage of the No Child Left Behind Act (Kohl & Cook, 2013). Because of this substantial deficit in the adequacy of traditional Physical Education programs, I propose a modification. Physical Education should no longer be a part of the elementary school curriculum. Instead, Health and Wellness Education (HWE) programs should take the place of current subpar Physical Education programs. The definition of HWE in pertinence to school curriculum is, "a standard-achieving curriculum built for the whole child in which educators utilize a holistic approach to present children with a realistic understanding of, and genuine interest in, the complexity of physical, mental, and nutritional well-being and how it is present in everyday life" (Ackley, 2018). An essential component that current Physical Education programs lack in

comparison to HWE is the convergence of physical, nutritional, *and* mental wellbeing and education.

Studies show that regular physical activity can improve a child's functional status and limit the potential for disability during the middle and late adult years of life (Sarma 2017). Additionally, it has been proven that long-term implementation is essential in physical education programs because short-term programs have shown a diminishment in healthy results. Many studies have shown that ninety-seven percent of elementary school students who do at least forty minutes per week of a physical activity program at school (outside of their classroom setting) are superior in abdominal strength and endurance, and cardiorespiratory endurance than children who are not exposed to such a program. According to the U.S. Department of Health and Human Services (2000), over 300,000 American deaths occur every year due to physical inactivity and unhealthy diets. While these deaths are not a direct result of current inadequate Physical Education programs in elementary schools, perhaps the children who participate in HWE will be less likely to become part of the statistic of those living a short and unhealthy lifestyle.

Lack of HWE in elementary school settings is a key contributor to childhood obesity and the general ignorance of the importance of mental health. Afflictions such as childhood obesity and specific mental disorders will remain prevalent in our society, potentially reaching an endemic level, if schools continue to lack HWE programs that emphasize three important elements of a child's health; nutrition, mental well-being, and physical activity. To provide any one component of health without the other two would be inconsequential, as each idea affects the whole child. Merely providing Physical Education in elementary schools does not facilitate the development of a child's values regarding their own personal holistic health.

If children are to be encouraged to take part in Physical Activity in school, they should furthermore be properly educated about the nutrients they deliver to their body and mind, and how these variables can affect their emotional well-being. Because children who participate in a Physical Education program at school are more likely to participate in physical activity outside of school, the classroom portion of nutrition should be considered with just as much value and importance as the physical portion. Doing so will ensure they continue to make healthy choices outside of the school setting (Trudeau & Shephard, 2005). Thus, children are dually affected by a school's choice to utilize insufficient physical education programs; children will lack education in nutritional, physical and mental wellness concepts.

LITERATURE REVIEW:

The prevalence of afflictions such as childhood obesity and mental disorders, including but not limited to depression and anxiety, is a growing epidemic in the United States. As future educators, we must prioritize the importance of facilitating student engagement, understanding, and awareness of each issue. To prevent these afflictions and encourage mindfulness toward children who are already exposed to them, elementary schools must provide better methods of Health and Wellness Education (HWE) for their students encompassing three equally essential foci: Hands-on Nutrition, Mental Wellbeing, and Physical Activity.

Nutrition is defined by the World Health Organization (WHO) as the intake of food, considered in relation to the body's dietary needs. There is extensive evidence to suggest that an inadequate intake of vegetables is linked to an increased risk of many chronic diseases such as obesity, heart disease, and some cancers (Van Duyn MA & Pivonka E 2000). An approach using Hands-on Nutrition would give children the opportunity to plant, grow, and enjoy their own fruits and vegetables while learning the importance of healthy eating. This would require schools to provide space for gardens to be cultivated by students and their supervising educator. Some challenges schools may face concerning the successful execution of school gardening programs include limited funding, personnel, and time (Ozer, 2006). This method using Hands-on Nutrition is important for children because providing free and easily accessible fruits and vegetables have been experimentally proven to positively affect long-term dietary patterns in children (DeCosta, P; et al. 2017).

The World Health Organization defines *Mental Wellness* as “a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and can make a contribution to his or her community”

(WHO 2017). Mental wellbeing education is vital for children for multiple reasons. There is growing evidence to suggest that the history of mental disorders such as some forms of anxiety, mood disorders, attention-deficit/hyperactivity disorder (ADHD), and obsessive-compulsive disorder (OCD) in adults could potentially have been detected at childhood or adolescence, when the first onset is common (Kessler, et al., 2007). Early detection could reduce the severity of the disorder and prevent secondary disorders (Kessler, et al., 2007). Because of an omnipresent lack of knowledge in most communities about childhood mental disorders, absence of training in adult educators, and little or no financial resources for a program to have successful development and implementation, children are not getting the education they need to understand the subject of Mental Wellbeing correctly. Child and adolescent mental health and nutrition are not being sufficiently addressed in elementary schools, and we must supplement HWE at an age-appropriate level to promote both a healthy body and a healthy mind.

Physical Activity is defined by the World Health Organization as “any bodily movement produced by skeletal muscles that require energy expenditure – including activities undertaken while working, playing, carrying out household chores, traveling, and engaging in recreational pursuits” (WHO 2017). Exercise, which is a subdivision of Physical Activity that is planned and structured with repetition, aims to improve or maintain one or more mechanism of physical fitness. Beyond exercise, any other physical activity that is done during leisure time, for transport to get to and from places, or as part of a person's work, has a health benefit. Furthermore, both moderate- and vigorous-intensity physical activity improves health (WHO). The importance of children participating in Physical Activity is shown in results from available research and meta-analysis indicate a positive association of physical activity with cognitive performance and

academic achievement in children and adolescents (Sibley & Etnier, 2003; Hillman et al., 2008; Tomporowski et al., 2008; Trudeau & Shephard, 2008; Fox et al., 2010; Rasberry et al., 2011).

This paper will explore the many creative ways elementary schools can be injected with the appropriate level of HWE. Because it is necessary for the health of our future generations to make this substantial change, we must choose to begin with the reform of what is now referred to as “Physical Education” and develop a holistic program with a broader focus. This will benefit children not only physically, but cognitively, emotionally, and socially.

Although the idea of such a radical modification to current Physical Education programs does have its concessions such as school funding, time-consuming workshops for educators, and providing space for certain activities such as gardening, the negative repercussions of continuing to provide children with inferior physical education are inevitable, and dangerous. Much can be gained from providing this change in curriculum, including a positive change in the way students perceive becoming physically active and learning to take care of their body and mind. If HWE is implemented properly, the old ways of the original Physical Education will become obsolete and it will become apparent that it is our responsibility, as adults, to provide our children with quality, holistic education.

THEME A: Hands-on Nutrition

There is evidence indicating that children who participate in growing their own fruits and vegetables in a school garden are able to better identify vegetables, develop an increased preference for vegetables in their diets, and are more willing to taste a more extensive variety of vegetables, including those they do not grow, than children who do not participate (Ratcliffe, Merrigan, Rogers, & Goldberg, 2009). Gardening in schools has also been proven to reduce

overweight children's body mass index (BMI) after a twelve-week program (Gatto, Martinez, Spruijt-Metz, & Davis, 2016).

Food researchers at Cornell University and Ohio State University found evidence that children who grow their own salad ingredients are five times more likely to eat a salad with those ingredients than if the vegetables were simply grown and provided for them with no student-engagement (Wansink, Hanks, & Just, 2015). There were 370 students observed at lunchtime for three days to determine what foods the students added to their plates and what foods they left behind when they were finished eating. Observations found that initially, only two percent of the students supplemented their meals with salad. The number of students who chose this healthier option at lunch increased to ten percent when the vegetables were student-grown. While this study is small, it indeed provides evidence that student-cultivated gardens at school can positively impact student diets, and lead to them make healthier choices in their daily food consumption (Wansink, Hanks, & Just, 2015).

While studies indicate that children become more willing to consume a variety of vegetables after experiencing cultivating a school garden, results suggest that the complexity of long-term dietary change requires additional and more comprehensive strategies to be implemented by educators (Morgan, et al., 2010). Some additional strategies might include but are not limited to, practice preparing healthy meals in the classroom, creating a recipe book, and providing hands-on activities for children that illustrate sugar intake and why it should be reduced. Children who prepare their own healthy meals are likely to have a better-quality diet and can lead to less frequent fast-food use as young adults (Larson, Perry, Story, & Neumark-Sztainer, 2006). These results conclude that educators and school administrators should work

together to implement school gardens to positively influence healthy dietary habits at an early age (Parmer, Salisbury-Glennon, Shannon, & Struempfer, 2009).

THEME B: Mental Wellbeing

Mental Health and Wellbeing can be a complicated component of HWE to understand, so it is essential to educate children and adolescents across the different domains of quality of life (QOL). These domains include emotional well-being, interpersonal relationships, material well-being, personal development, physical well-being, self-determination, social inclusion, and rights (Schalock, Verdugo, & Braddock, 2002). Each domain is valued differently by individuals so developing a curriculum that includes this critical QOL component will provide children with the opportunity to begin developing values at an early age. An essential component of HWE is the level of which children are able to understand, become aware, and develop a value for the Mental Wellbeing of themselves, their family, and their peers.

The National Survey of Children's Health shows that one out of every seven children in the United States (fifteen percent) ages two to eight years old was diagnosed with a mental, behavioral, or developmental disorder (MBDD) (NSCH 2012). A child is considered to have an MBDD if they suffer from any of the following: attention-deficit/hyperactivity disorder (ADHD), depression, anxiety problems, behavioral or conduct problems such as oppositional defiant disorder or conduct disorder, Tourette syndrome, autism spectrum disorder, learning disability, intellectual disability, developmental delay, or speech or other language problems (Bitsko, Holbrook, Robinson, et al., 2011-2012).

Depressive illness is predicted to become the second leading cause of disability globally by 2020 (Murray & Lopez, 1997). The onset of depression is likely in adolescence or earlier, and it would be advantageous to take preventative measures at an early stage in life to potentially

reduce the severity of depressive symptoms (Toseeb, Brage, Corder, et al., 2014). In 2010, the leading cause of death among adolescents ages twelve to seventeen years was suicide (CDC 2010). While these adolescents were no longer in elementary school at the time of their suicide, research indicates that there are steps elementary schools can take to potentially prevent this outcome through early intervention (Kessler, et al., 2007). Diagnosis and intervention as early as elementary school can make a difference if implemented adequately and consistently. Sufferers of a depressive symptom called Cognitive Dysfunction have difficulty with keeping attention, verbal and nonverbal learning, short-term and working memory, visual and auditory processing, processing speed, problem-solving, and motor functioning (John & Kuruvilla, 1992). Experiencing these symptoms can produce significant barriers for students emotionally, academically, and socially.

Although research on exercise and depression in children is limited, there is sufficient data to show improvements in children's depression after exercising (Larun, Nordheim, Ekeland, Hagen, & Heian, 2006). In 2013 in the United States, it was discovered that 42.7 percent of teens have a mental disorder (nine percent reported depression, 13.9 percent reported suicidality, 23 percent had substance use/abuse, 13.5 percent reported anxiety, and 18.6 percent had ADHD) (Heneghan, et al., 2013). This is not due to a lack of Physical Education in elementary schools. However, a percentage of these mental disorders could have been prevented or lessened in severity and recognized sooner with a quality HWE program to provide children with early intervention and awareness.

It is essential to consider the implementation of Mental Wellbeing education in every HWE program. Depression is so prevalent in today's society with 6.6 percent of the adult

population in America suffering from the illness. Preparing children to feel comfortable reaching out for help can lead them to a higher QOL (CDC 2010).

THEME C: Physical Activity and Exercise Education

Obesity is considered a prevalent chronic disorder by many health officials and is quickly shifting from the status of an epidemic to that of an endemic. According to the *Journal of Primary Prevention*, obesity has tripled in the last thirty years. The National Center for Health Statistics (NCHS) released data in 2005 that demonstrated thirty percent of children ages six to nineteen were considered overweight and fifteen percent considered obese.

After examining the effect of increasing the frequency and length per week of traditional Physical Education lessons to prove its cognitive benefits, multiple intervention studies discovered mixed results when looking at students' academic and cognitive performances (Arday, et al., 2013). While it is important for children to experience physical activity lessons that benefit them cognitively as well as physically, the specific effect on cognitive performance and academic achievement in adolescents after increasing the intensity of these lessons is unknown (Arday, et al., 2013). Although there is little research on a child's cognitive improvement followed by physical activity, after-school exercise programs have been proven to help overweight children improve their executive function, mathematical achievement, and brain activation (Davis et al, 2011).

In a study completed to assess the QOL of obese children between the ages of five and eighteen, findings concluded that children who are obese have a significantly lower QOL in all domains which include physical status and functional abilities, psychological status and wellbeing, and social interactions (Schwimmer, Burwinkle, & Varni, 2003). Exclusion criteria for the study were any genetic syndromes associated with obesity, cerebral palsy, spina bifida,

hypothyroidism, and if a child lived in a group home or in an institutionalized facility. Results indicate that children and adolescents who are severely obese have a lower health-related QOL than children and adolescents who are considered a healthy weight, and similar QOL to children diagnosed with cancer (Schwimmer, Burwinkle, & Varni, 2003). A healthy weight for children is calculated by dividing the child's weight in kilograms by the child's height in meters. A healthy child body mass index (BMI) would fall between the 5th and 85th percentile. Below is a chart to help determine what BMI percentile a ten-year-old boy falls into.

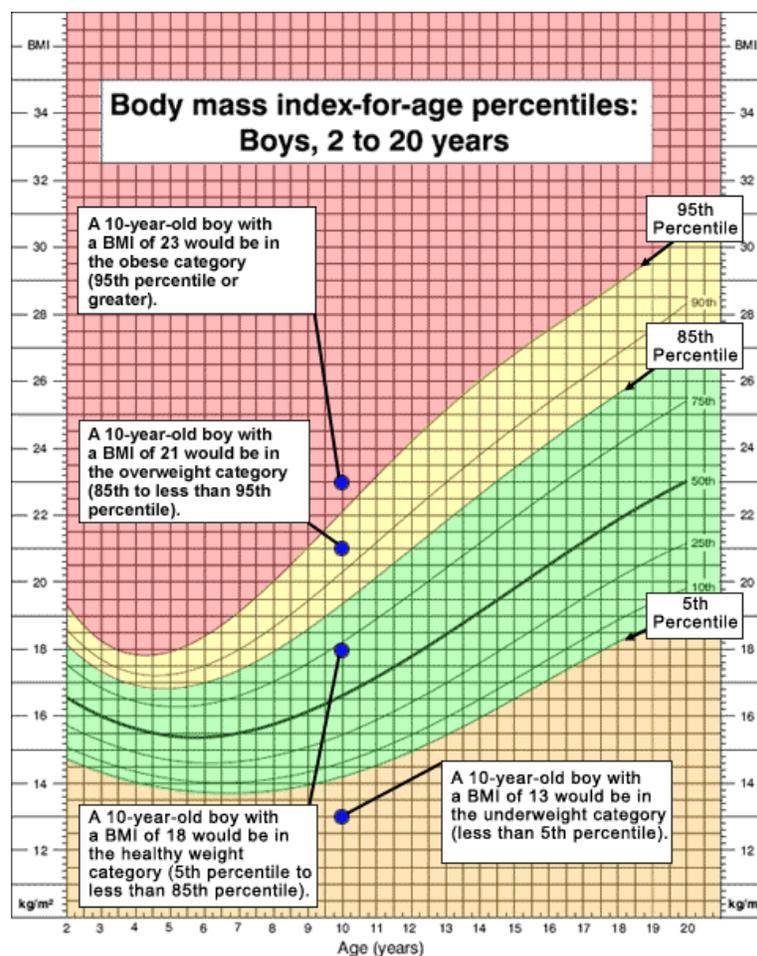


Figure 1: Body mass index-for-age percentiles. Reprinted from "What is a BMI percentile and how is it interpreted?," Center for Disease Control and Prevention (CDC), 2015, Retrieved from https://www.cdc.gov/healthyweight/assessing/bmi/childrens_bmi/about_childrens_bmi.html.

The Physical Activity and Education portion of HWE differs from current practices of Physical Education in one significant component; emphasis on a child's understanding of why they are completing a particular exercise, what exercises their body is capable of accomplishing and at what intensity they can safely withstand. Not only must we encourage children to exercise and provide them with instructions for doing so, but we must also include reasoning and meaning behind why each exercise is important to facilitate a more in-depth understanding behind each activity (Smith & Parr, 2006). If students are not delivered proper justification behind the specific intent of each exercise they are told to complete by their instructor, they may not comprehend the purpose of completing that task. It is essential for students to be taught not only how to complete specific exercises, but they must also learn that there is more than one objective to Physical Activity and Education; knowledge of how their bodies are affected and can benefit from these activities is equally necessary to the proper execution of an exercise (Mosston & Ashworth, pg.15).

CONCLUSION:

With all three of these components settled into one curriculum, children will be able to grow not only academically, but social-emotionally, physically, and with inclusion of nutrition, holistically. While there are still concessions to this new interpretation of the current state of Physical Education such as time, money, and space for additional activities like gardening and teacher workshops, the benefits of implementing such a program far outweigh the minor consequences. As previously noted, the overall strengths of HWE would include a positive change in the way students perceive becoming physically active and learning to take care of their body and mind. If we are to be successful, we must begin with one small step to make one big

difference; increase the wellness of our future leaders by decreasing the ordinary patterns of Physical Education in our elementary schools, and supplementing that gap with education regarding Nutrition, Mental Wellbeing, and comprehensive Physical Activity.

CURRICULUM:

Because this is all so important, I am building a curriculum to show how an adequate HWE program would look for first-grade elementary students. There is an appropriate level of Health and Wellbeing Education on which to begin educating students of each grade.

HWE curriculum is envisioned as follows:

August-September:

Introduction to the basic concepts, value and definitions of Nutrition.

Introduction to the basic concepts, value and definitions of Mental Wellbeing

Introduction to the basic concepts, value and definitions of Physical Activity and Exercise

October-November:

Identifying the risks associated with poor eating habits-begin designing garden

Identifying the concept of Anxiety

Identifying the benefits of Physical Activity and Exercise

December:

Understanding what effects certain foods have on our bodies

Understanding mood and how/why it changes daily

Understanding the reason behind safety and precautionary measures when exercising

January-February:

Developing a link between eating poor and obesity-begin planting garden

Developing a link between emotional wellbeing and social wellbeing

Developing a link between completing an exercise, and the corresponding muscle groups needed to do so

March:

Establishing the frequency of sugary beverages and high-sodium foods - “anything is fine in moderation” theme

Establishing a sense of self- “who am I, and why I love me” theme

Establishing an interest- “there is a fun physical activity for everyone; I just found mine” theme

April-May:

Creating a personal statement of the importance and value of Nutrition

Creating a personal statement of the importance and value of Mental Wellbeing

Creating a personal statement of the importance and value of Physical Activity and Exercise

June:

Sharing a completed personal statement and action plan/goal for carrying out tasks specific to Nutrition

Sharing a completed personal statement and action plan/goal for carrying out tasks specific to Mental Wellbeing

Sharing a completed personal statement and action plan/goal for carrying out tasks specific to Physical Activity and Exercise

This curriculum will begin with an introduction to the basic concepts of each component of HWE, and guide students through various activities associated with these components. By June, students will be able to describe their own personal thoughts and feelings in regard to Nutrition/their body, Mental Wellbeing/their emotions, and Physical Activity and Exercise/their physical abilities and exercise preferences. In conclusion, by following the structure of the above curriculum for generating students' thorough understanding of HWE, educators will be saving our younger generations and those to follow by fostering a future graduating class of knowledgeable, rounded individuals with a holistic, healthy lifestyle, and a positive approach to entering the adult world independently.

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