

DOI: 10.21767/2572-5394.100056

Children's Physical and Emotional Health Promotional Intervention: Sanford Health Fit Initiative

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Received date: April 27, 2018; **Accepted date:** May 08, 2018; **Published date:** May 14, 2018

Citation: Williams SE, Nachtigall N, Hardie D (2018) Children's Physical and Emotional Health Promotional Intervention: Sanford Health Fit Initiative. J Child Obes S1-003.

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Abstract

The health and well-being of children is a universal priority for families, communities, nations, and even international welfare, development, and success. Physical health is an overwhelming concern, especially related to the escalating epidemic of childhood overweight and obesity. Furthermore, emotional health is an area of immense interest including the relevance of self-control and its role in controlling emotions, influencing interactions with others, and assisting one in becoming a self-directed learner. Children's health promotional interventions have been developed and implemented; however, the majority either focuses on one health aspect and/or the effects of one health aspect on another. The Fit Initiative originated from a web partnership between Sanford Health and WebMD, and later fully developed by Sanford Health with the purpose of improving children's health. The objective of this theoretically-based programming has been to incorporate technology, engaging programs, as well as the utilization of key role models and caregivers of children in and throughout a number of settings including homes, schools, daycares, healthcare clinics, and communities to inspire and support healthy lifestyles. The Sanford Health Fit Initiative is focused on the four commonly recognized key elements of healthy living: food, move, mood, and recharge. It assists children and families in cultivating a better understanding of how the key influencers of mood and recharge affect their daily choices and habits, including food and move. Children and families are guided to recognize, appreciate, and apply a more thorough understanding of the interrelatedness of these four elements so that they may experience real and meaningful behavioral change.

Keywords: Childhood health; Health promotion; Health initiative; Sanford health fit initiative

The Introduction of a More Inclusive Children's Physical and Emotional Health

Promotional Intervention: Sanford Health fit Initiative

The health and well-being of children is a universal priority for families, communities, nations, and even international welfare, development, and success. Physical health is an overwhelming concern, especially related to the escalating epidemic of childhood overweight and obesity. In addition to all of the health complications resulting from excess weight, there is also the possibility of other chronic disease risk factors manifesting already in youth, including cardiovascular disease (CVD) [1,2]. Furthermore, emotional health is an area of immense interest, as well. Aside from the relevance of self-control and its role in controlling emotions, influencing interactions with others, and assisting one in becoming a self-directed learner, youth are exhibiting an increasing number of stress-related symptoms and health problems [3,4]. There is an undeniable need for health promotional interventions for children.

Physical Health

Today in developed countries like the United States (US), children are afforded many health-related resources and opportunities due to technology and given the availability of services; children's physical health is projected to be very good. While there still are the threats of infant mortality, preventable infectious diseases, injuries, and dental caries, physical health is overwhelmingly influenced by the child's environment. In negative cases, this potentially habituates sedentary and unhealthy lifestyles, causing historically adult-onset chronic diseases and conditions including obesity occurring during childhood. Obesity, in particular, has become a major concern in today's children. According to the most recent National Center for Health Statistics (NCHS) Data Brief from the Centers for Disease Control and Prevention (CDC), prevalence of obesity in US youth was 18.5% in 2015-2016 [5].

Children who are overweight and obese are more likely to continue to be obese as adolescents and adults, as well as stand

at an increased risk for poor health outcomes associated with excess weight. Such conditions related to obesity include asthma, diabetes, CVD, and sleep apnea [6-8]. CVD risk factors in the form of elevated total cholesterol, triglycerides, insulin levels, and increased blood pressure were found in 60% of obese children aged 5-10 years [6]. The health-related quality of life in obese children is so poor that it is similar to that of children with cancer, in comparison to healthy children [9].

There are many factors affecting physical health, but one of the most controllable is health behavior, including physical activity (PA). One's individual health behavior is the single, most significant contributor to health and the development of preventable chronic diseases including obesity, CVD, diabetes, and cancer [10,11]. The health benefits of PA, in particular, on children's physical health and development have been confirmed by a great deal of research [12,13]. Therefore, PA promotion must be continually explored and studied to find the most effective interventions in increasing the PA levels of children, aiding in the establishment of healthy, active lifestyles.

Emotional Health

The US Surgeon General provides the following excerpt concerning mental and emotional well-being:

Mental and emotional well-being is essential to overall health. Positive mental health allows people to realize their full potential, cope with the stresses of life, work productively, and make meaningful contributions to their communities. Early childhood experiences have lasting, measurable consequences later in life; therefore, fostering emotional well-being from the earliest stages of life helps build a foundation for overall health and well-being. Anxiety, mood (e.g., depression) and impulse control disorders are associated with a higher probability of risk behaviors (e.g., tobacco, alcohol, and other drug use, risky sexual behavior), intimate partner and family violence, many other chronic and acute conditions (e.g., obesity, diabetes, CVD, HIV/STIs), and premature death [14].

Aside from fostering the importance of emotional health, it has become increasingly understood that acknowledging children's opinions and experiences is imperative to the development of health-based interventions and improved health [15-17]. Further, childhood well-being may have a broad impact across the course of one's life in terms of their physical and emotional health. It has been determined that 50% of mental disorders begin their onset prior to adulthood [18,19]. Mental disorders have become increasingly seen as a determinant of poor health and quality of life. These disorders have even become recognized as a growing cause of disease [20]. In fact, the burden caused by mental health disorders and self-inflicted harm has been estimated as being higher than that of CVD and cancer [21].

Emotional health- and wellness-related interventions for children and adolescents could have a substantial impact on their development, resulting in not only optimal health and well-being, but also resulting in a reduction of the impairment attributable to mental disorders and physical illness in adulthood, decrease in suicide rates, and reduced reliance on

mental health care services [22]. Additionally, more benefits of greater emotional health of children and adolescents could include improved educational outcomes, healthy lifestyle, and better social relationships [23].

Current Children's Health Promotional Interventions

There are a number of established policy-driven goals and objectives, strategies, and various initiatives related to the promotion of children's health. Among these, include the Physical Activity Guidelines for Children and Adolescents developed by the Office of Disease Prevention and Health Promotion (ODPHP); as well as the National Health Education Standards and physical activity- and mental health-related topics and objectives, leading health indicators, along with evidence-based resources proffered by the CDC [24-28]. Other specific children's health promotional interventions have also been developed and implemented; however, the majority either focuses on one health aspect and/or the effects of one health aspect on another. There are many recent interventions aimed at promoting PA [29-36]. There are even some that not only focus on PA, but also begin to include other facets including health education and examination of behavioral change [37-40]. However, no research was found to date that included more inclusive interventions aimed at both concurrently improving PA and emotional health.

Program Origination and Purpose

The Fit Initiative originated from a web partnership between Sanford Health and WebMD, and later fully developed by Sanford Health with the purpose of improving children's health. It was designed to serve as a unique, holistic approach to promote and activate healthy choices and actions for children and families. The objective of which has been to incorporate technology, engaging programs, as well as the utilization of key role models and caregivers of children in and throughout a number of settings including homes, schools, daycares, healthcare clinics, and communities to inspire and support healthy lifestyles. The Sanford Health Fit Initiative is focused on the four commonly recognized key elements of healthy living: food, move, mood, and recharge. It assists children and families in cultivating a better understanding of how the key influencers of mood and recharge affect their daily choices and habits, including food and move. Children and families are guided to recognize, appreciate, and apply a more thorough understanding of the interrelatedness of these four elements so that they may experience real and meaningful behavioral change.

At the core of the Fit Initiative health intervention-based programming are the interrelated components of mood, including emotions and attitudes; recharge, namely rest and relaxation; food, focusing on nutritional choices; and move, characterized by PA. Through education and guidance, the intervention is intended to advance through the stages of change, focusing on the significant influences that mood and recharge have on food and move choices. In addition, it provides resources to support social and emotional learning

development. Particular emphasis is placed on intrapersonal skills, including the recognition of emotions and their impact on health-related decisions, self-awareness, self-management, and responsible decision-making.

Theoretical Foundations

The Sanford Health Fit Initiative is founded on and demonstrates the practical application of a number of prominent behavioral change theories and models. These models include the social cognitive theory, social ecological model, and Trans-theoretical model. In addition, the facet focusing on social and emotional skill development and its role in responsible decision-making is supported by the movement entitled the Collaborative for Academic, Social, and Emotional Learning (CASEL). The Fit health interventional programming is grounded in each of these theoretically-based foundations and deemed to be effective accordingly, based on the validation of each of the theories' and/or models' personal, social, and environmental underpinnings.

The social cognitive theory, which focuses on the integration of personal, behavioral, and environmental determinants of behavior and methods of behavioral change, aids in the broad interpretation and functioning of the Fit Initiative. Personal factors such as instincts, drives, traits, and other individual motivational forces influence and are influenced by environmental factors representing situational influences and environments in which behavior is performed; all of which influence behavior. With the key constructs of this theory relevant to health behavioral change interventions including self-efficacy, outcome expectations, self-control, reinforcements, emotional coping, and observational learning, the intention is to enculture a child to believe in themselves and have confidence to develop self-efficacy in their decision-making skills [41-43]. The learning environment and guiding forces behind Fit are intended to stimulate awareness, provide opportunities and the teaching of skills for healthy behavioral choices, as well as extend supplementary support to practice healthy decision-making.

The Fit Initiative utilizes the social ecological model by recognizing multiple levels of influence and integrating broad community participation. Specifically, Fit programming is intended to aid in the understanding of factors affecting behavior and provide guidance for the development of successful programs through social environments. Customarily, this model emphasizes the use of multiple influential levels such as individual, interpersonal, organizational, community, and public policy, as well the premise that behaviors both shape and are shaped by the social environment [42-44]. The endeavor of Fit and the setting and guidance through which it fosters is to infiltrate and influence all of these levels including an individual's knowledge, attitude, skills; social network; surrounding environment and ethos; the cultural values and norms of the community; as well as potentially public policy.

Programming behind the Fit Initiative most closely demonstrates the logistics behind the actual behavioral change steps via the Trans-theoretical model through its guidance in the

process of adopting and maintaining behaviors for optimal health. The construct of 'stages of change' is a key element of this model and proposes that individuals are at different stages of readiness to adopt healthy behaviors. This theoretical model recognizes that long-term changes in health behavior involve multiple actions and adaptations over time [42-46]. Fit attempts to demonstrate this through its basic principles to captivate, educate, and activate its audience. This process entails capturing attention and bringing about awareness of a health behavior, optimally moving one from the initial stages of pre- to contemplation. Contemplation is also influenced through the education provided, informing and motivating change. This education also stimulates and guides preparation for change through the provision of tools and opportunities. Lastly, activation is intended to bestow individuals with the support to initiate and practice the skills necessary for health behavioral change.

Sanford Health Fit is also based on, in part, the systematic framework behind CASEL. The five core competencies of this social and emotional learning process-related movement include both the intra- and interpersonal skills of self-awareness, self-management, responsible decision-making, relationship skills, and social awareness [47]. Such social and emotional learning programming has been proven to be successful in improving the emotional skills, attitudes, and behavior in kindergarten through high school students [48]. Fit attempts to cultivate particularly the intrapersonal skills associated with the emotional learning process across many different types of social settings to encourage the recognition of one's emotions, values, and self-confidence in the regulation of their thoughts and behaviors involved in making responsible decisions.

Program Significance

The Sanford Health Fit Initiative encompasses an innovative suite of community health resources that are aimed at increasing knowledge and improving health behaviors to impact childhood obesity and the progression of chronic disease. All programs are developed incorporating best practice- and evidence-based approaches from education and health coaching.

The Fit Initiative includes a number of programs that go beyond typical health education objectives to achieve "health activation" that empowers and enables children and families to make progressive changes. The unique "captivate, educate, activate" tenets that Fit is built upon focuses on achieving smaller, incremental goals in order to establish desired health behaviors rather than overemphasizing educational points and scientific facts.

The Fit Initiative healthy behavior model focuses on four key factors that affect choices, habits, and health conditions. The core knowledge and behavior change advances traditional health topics of nutrition and exercise to include (1) key influencers: recharge (sleep and rest) and mood (willingness and response); and (2) primary actions: food (nutrition choices) and move (PA). The intended and demonstrated outcomes reflect a change in actions and health-related behaviors that are leading

contributors that impact overall health and wellness (**Table 1**)
(Adapted from CDC Health Curriculum Analysis Tool [49]).

Table 1: Fit program outcomes.

| Factor s | Outcomes | Health Behavior Outcomes |
|---|--|--|
| Fit | Recognize influencers of choices. | MEH-1. Express feelings in a healthy way. |
| | | MEH-2. Engage in activities that are mentally and emotionally healthy. |
| | | MEH-3. Prevent and manage interpersonal conflict in healthy ways. |
| | | MEH-4. Prevent and manage emotional stress and anxiety in healthy ways. |
| | Make constructive choices that impact the well-being of self and others. | MEH-7. Show tolerance and acceptance of differences in others. |
| | | MEH-8. Establish and maintain healthy relationships. |
| | | PHW-6. Practice behaviors that prevent infectious diseases. |
| | | PHW-7. Practice behaviors that prevent chronic diseases. |
| | | PHW-12. Prevent health problems that result from fads or trends |
| | | PHW-8. Prevent serious health problems that result from common chronic diseases and conditions among youth, such as allergies, asthma, diabetes, and epilepsy. |
| | | PHW-10. Seek out help for common infectious diseases and chronic diseases and conditions. |
| | | PHW-11. Seek out healthcare professionals for appropriate screenings and examinations. |
| | | PHW-12. Prevent health problems that result from fads or trends. |
| | | S-7. Get help for oneself or others when injured or suddenly ill. |
| | | S-8. Support others to avoid risky behaviors and be safe. |
| | | V-1. Manage interpersonal conflict in nonviolent ways. |
| V-2. Manage emotional distress in nonviolent ways. | | |
| Mood | Recognize emotions and attitudes and how they influence behavior. | MEH-1. Express feelings in a healthy way. |
| | | MEH-2. Engage in activities that are mentally and emotionally healthy conflict in healthy ways. |
| | Manage Mood to make healthy choices. | MEH-4. Prevent and manage emotional stress and anxiety in healthy ways. |
| | | MEH-5. Use self-control and impulse-control strategies to promote health. |
| | Manage motivation to adopt healthy behaviors. | MEH-6. Get help for troublesome thoughts, feelings, or actions for oneself and others. |
| | Recharge | Sleep the recommended hours. 3 to 5 years=10-13 hours; 6 to 12 years=9-12 hours; 13 to 18 years=8-10 hours |
| MEH-4. Prevent and manage emotional stress and anxiety in healthy ways. | | |
| MEH-2. Engage in activities that are mentally and emotionally healthy. | | |
| MEH-4. Prevent and manage emotional stress and anxiety in healthy ways. | | |

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|-------------|--|--|
| | Increase unplugged relaxation daily. | PHW-1. Brush and floss teeth daily. |
| | | PHW-2. Practice appropriate hygiene habits. |
| | Form healthy responses to energy level. | PHW-3. Get an appropriate amount of sleep and rest. |
| | | PHW-4. Prevent vision and hearing loss. |
| | | PHW-5. Prevent damage from the sun. |
| | | PHW-6. Practice behaviors that prevent infectious diseases. |
| | PHW-12. Prevent health problems that result from fads or trends | |
| Food | Improve food and beverage choices. | HE-1. Eat the appropriate number of servings from each food group every day. |
| | | HE-2. Eat a variety of foods within each food group every day. |
| | | HE-3. Eat an abundance of fruits and vegetables every day. |
| | | HE-4. Choose to eat whole grain products and fat-free or low-fat milk or equivalent milk products regularly. |
| | | HE-5. Drink plenty of water every day. |
| | | HE-6. Limit foods and beverages high in added sugars, solid fat, and sodium. |
| | Reduce sugar consumption. | HE-7. Eat breakfast every day. |
| | | HE-8. Eat healthy snacks. |
| | | HE-9. Eat healthy foods when dining out. |
| | | HE-10. Prepare food in healthful ways. |
| | | HE-11. Balance caloric intake with caloric expenditure. |
| | | HE-12. Follow an eating plan for healthy growth and development. |
| | Increase fruit and vegetable consumption. | HE-13. Support others to eat healthy. |
| | | PHW-6. Practice behaviors that prevent infectious diseases. |
| | | PHW-9. Practice behaviors that prevent foodborne illnesses. |
| | | PA-4. Drink plenty of water before, during, and after physical activity. |
| | | S-3. Use safety equipment appropriately and correctly. |
| | | S-4. Apply safety rules and procedures to avoid risky behaviors and injury. |
| Move | Be physically active throughout the day. 60 minutes or more daily | PA-1. Engage in moderate to vigorous physical activity for at least 60 minutes every day. |
| | | PA-2. Regularly engage in physical activities that enhance cardio-respiratory endurance, flexibility, muscle endurance, and muscle strength. |
| | Increase intensity of physical activity. | PA-3. Engage in warm-up and cool-down activities before and after structured exercise. |
| | Limit screen time. 1-2 hours daily | PA-4. Drink plenty of water before, during, and after physical activity. |
| | | PA-5. Follow a physical activity plan for healthy growth and development. |
| | | PA-6. Avoid injury during physical activity. |
| | | PA-7. Support others to be physically active. |
| | | PHW-4. Prevent vision and hearing loss |
| | PHW-5. Prevent damage from the sun. | |

| | |
|--|---|
| | PHW-12. Prevent health problems that result from fads or trends |
| | S-3. Use safety equipment appropriately and correctly. |
| | S-4. Apply safety rules and procedures to avoid risky behaviors and injury. |
| | S-5. Avoid safety hazards in the home and community. |
| | S-7. Get help for oneself or others when injured or suddenly ill. |
| | S-8. Support others to avoid risky behaviors and be safe. |

All of the programs under the Sanford Health Fit Initiative are developed to not only positively affect health factors, but each Fit-related program is considerate of the inherent purpose and objectives of the audience to enhance the overall success of the adopting program. Some examples include the Fit childcare programming that is intended to enable childcare providers to fulfill regulatory obligations related to nutrition and PA; Fit youth sports programming which integrates the necessity for recommended PA practices and sportsmanship; and Fit school curricula programming aligned with health (and core) education standards and purposefully constructed to incorporate the stages of change to instill the knowledge and skills necessary for sustaining lifelong healthy habits. All of the programming behind the Sanford Health Fit Initiative is intended to promote children's health, as well as potentially cultivate and support the optimal well-being and success of children as they embark on their life journey.

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