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Evidence for the Use of Health Promotion Programs in Schools

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Anna Burggraf, OTS, Kathryn College, OTS & Taylor White, OTS, 2021

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Focus Question

How does the use of occupational therapy directed, activity-based health promotion programs in the school curriculum impact the mental health, physical health, and overall wellbeing of children?

Case Scenario

Health promotion is defined as "a process of enabling people to increase control over and to improve their health" (Scaffa, 2019, p. 442). Promotion of health is a common goal that is shared by numerous disciplines (Reitz & Graham, 2019). Health promotion directed towards occupational therapy is the "client-centered use of occupations, adaptations to context, or alteration of context to maximize individuals', families', communities', and groups' pursuit of health and quality of life" (Reitz & Graham, 2019). Health promotion is essential for all age groups, especially for young children who are completing their beginning years of school. Children's thoughts, behaviors, and health are heavily influenced by their physical and social environment (Reitz & Graham, 2019). Other health determinants include genetics, and geographical location (Reitz & Graham, 2019). Lack of accessibility can result in occupational deprivation, which negatively impacts the health of individuals (Reitz & Graham, 2019). Occupational deprivation is defined as, "the lack of access to engagement in an array of selfselected occupations that are meaningful to the individual, family, or community, which can result in ill health" (Reitz & Graham, 2019, p. 677). Occupational therapists need to be aware of demographics when working with populations. Occupational therapists are obligated to create programs for health promotion that are easily comprehended and can be accessed by the general public (Reitz and Graham, 2019).

Through the lens of the Ecology of Human Performance (EHP) framework, different environments can affect an individual's occupational performance (Dunn, 2017). Inconsistent environments for children often yield diverse experiences, which ultimately influences the development of coping strategies and healthy behaviors. Children raised in urban areas of the United States are exposed to various influences that help mold their behaviors and attitudes directly associated with their mental and physical health. The US Census Bureau (2000) defines urban as "comprising all territory, population, and housing units located in urbanized areas and in places of 2,500 or more inhabitants outside of urbanized areas" (p.22). The US Census Bureau (2000) defines an urbanized area as, "consists of densely settled territory that contains 50,000 or more people" (p.23). The location in which people live determines the proximity to accessible resources. Additionally, urbanized areas have higher populations, allowing for discrepancies of socioeconomic status (SES), income, and poverty rates. We took into consideration how these factors may contribute to overall health promotion of children, leading to the decision of focusing on individuals within urban areas when reviewing the literature.

The development of social skills and healthy behaviors are crucial components of childhood development that will be carried into the adult years (Darlington, 2018). It is imperative that the promotion of health and well-being is taught at a young age, to allow children to learn and develop healthy habits that they may use for the remainder of their lives in a wide range of contexts (Darlington, 2018). Helping the urban youth population in the United States participate in activities that are both meaningful to them and their development, allows for promotion of physical and mental health, enhancing well-being and motivations. By increasing a child's overall well-being can also improve their self-efficacy, which leads to greater

occupational performance in childhood occupations (Lee & Jonson-Reid, 2016). Self-efficacy is defined as a person's confidence in their ability to cope or take action within various situations (Carey & Forsyth, 2009). Instead of attempting to "change the person", the therapists who use the EHP model seek to change the environment to enhance performance range. In searching for a theoretical foundation to support the use of this model, the Social Cognitive Theory parallels the same constructs as the EHP model. "The Social Cognitive Theory (SCT) is a model that is a good fit for OT health promotion program development and evaluation due to its emphasis on "how" to change behavior, with the importance poached on self-efficacy and mastery gained through doing" (Reitz & Graham, 2019, p.685). SCT is heavily surrounded on self-efficacy and it strongly helps individuals assess and understand the influence that certain factors have on their health. For example, the American Occupational Therapy Association (AOTA) has created an annual National School Backpack Awareness Day in the month of September. Students participating in the event will wear their backpack over both shoulders with the goal of monitoring the weight they carry. Reitz and Graham (2019) stated, "The programs can use a combination of fun activities to ensure that the students understand their potential susceptibility for an injury and the potential seriousness of an injury, as well as proper techniques" (p. 688). When students perform the correct techniques, self-efficacy is likely to be increased. When healthy habits and self-efficacy are developed at a young age, there is known to be an increase in overall health across the individual's lifespan (Reitz & Graham, 2019).

Occupational therapy practitioners can assist various school professionals to develop programs in schools that improve the overall health of children ages 5-18 years old. Health promotion programs in schools can teach health promotion interventions that provide students with different coping strategies to improve both physical health and overall well-being (Soler-Masó et al., 2019). A few examples of health promotion interventions include physical activity programs, collaborating with teachers to create new tasks, play activities with peers to promote social interaction skills, and movement breaks during the school day to increase attention (AOTA, 2015; School Mental Health Work Group, 2012).

Various health promotion programs have been used in different areas all over the world, such as Denmark, Catalonia, and the United States (Bazyk & Bazyk, 2009; Larsen et al., 2021; Soler-Masó et al., 2019). This shows that regardless of cultural influences, developing healthy habits is valued internationally. Despite the cultural differences seen amongst countries across the world, it has become evident through research that both mental and physical health are evolving areas of concern for the youth population. The topic of health promotion for children and youth in the school system has been recognized for being a growing topic for research opportunities across the globe, making it a highly relevant concern for humanity

Purpose Statement

The purpose for this critically appraised topic paper is to explore research about the use of health promotion programs in the school setting that are aimed to promote physical and mental health in children. School based health promotion programs for children can assist with their physical and mental health development that carries on through adulthood. Health promotion programs will be addressed through the lens of EHP to analyze the various therapeutic interventions such as "establish/restore", "alter", "adapt", "prevent", and "create", as well as analyze the environment factors that influence health and well-being in children (Dunn, 2017).

Summary of Key Findings

Overview of Level I and N/A Studies

Of the 35 articles reviewed from CINAHL, PubMed, American Journal of Occupational Therapy (AJOT), and PsychINFO, we found four articles to critically appraise. Due to the lack of research conducted on this topic within the United States, international research studies were incorporated into this review. Additionally, there was a lack of information about health promotion programs in only the school setting, which contributed to the low number of research articles that were reviewed. The key terms used to search for this topic were: occupational therapy, health promotion, schools, children, well-being, and mental health. Only four studies met our inclusion criteria, which included a population of children ages 5-18 years old that have experienced mental or physical health promotion programs in a school setting. These studies included a level IA, systematic review (Barlow et al., 2014), another level IA, randomized control trial (Larsen et al., 2021), a level N/A phenomenological study (Bazyk & Bazyk, 2009) and a level N/A mixed methods study (Darlington et al.). The next sections provide an overview of each study and are organized by determined level of evidence.

Level I

Larsen et al. (2021) investigated the effects on health knowledge and enjoyment of an 11week "health education through football" program for children aged 10-12 years old in Denmark. All Danish schools (98) were invited to participate in the study, and all children from schools were allowed to participate (Larsen et al., 2021). Of the 69 schools that participated, 3,127 school children took part in the study (Larsen et al., 2021). The inclusion criteria for this study included having to be 10-12 years old and attending a Danish school (Larsen et al., 2021). Exclusion criteria included children who had not returned a signed consent form on time (Larsen et al., 2021). This study was a cluster randomized control trial design in which a 5:1 cluster randomization was used to assign children to either the intervention group or the control group (Larsen et al., 2021). The experimental group received 45-minute sessions, twice a week, for a duration for 11 weeks (Larsen et al., 2021). Sessions consisted of football drills, health education lessons, and small sided games (Larsen et al., 2021). Participating teachers and educators were required to complete a 2.5-day interactive training course before conducting study sessions (Larsen et al., 2021).

Barlow et al. (2014) explored universal school-based mental health promotion programs and the evidence of effectiveness of these interventions. A preliminary review of literature was done using a wide range of terminology to describe attributes of mental health and interventions of promotion (Barlow et al., 2014). Initial search strategies were broad, identifying over 8,000 publications of possible interest (Barlow et al., 2014). Of those, 425 were obtained for further review (Barlow et al., 2014). A total of 17 studies met all of the inclusion criteria, with 16 summarizing evaluations of interventions (Barlow et al., 2014). Inclusion criteria indicated that studies must have included at least one feelings-based (affective) or behavioral measure of mental health (Barlow et al., 2014). The authors excluded studies whose results were based solely of the measurement of skills such as classroom role-play of negotiation strategies (Barlow et al., 2014). A minimum of two groups and/or 40 individuals in both intervention and control groups was also required from the studies (Barlow et al., 2014). A further 53 studies, which met many, but not all of the inclusion criteria, were identified and reviewed to gain a broader understanding (Barlow et al., 2014). The majority of the schools studied were in socio-

economically deprived areas and many had a high proportion of children from ethnic minority groups (Barlow et al., 2014). Findings from this systematic review show that mental health-promoting interventions were more likely to show at least moderately positive results than mental illness prevention programs (Barlow et al., 2014). The interventions that were more successful were more likely to measure self-concept, emotional awareness, positive interpersonal behaviors, and the interventions that were less than moderately successful were more likely to measure conduct problems and antisocial behavior (Barlow et al., 2014). Level N/A

Bazyk and Bazyk (2009) described the detrimental effect that occupational deprivation can have on developing children. The researchers who completed this phenomenological study explored the impact that an occupational therapy group called HOPE (Healthy Occupations for Positive Emotions) could have on low-income youth (Bazyk & Bazyk, 2009). This group therapy was provided to 70 children with ages ranging from 7-12 years old who were attending an afterschool program (Bazyk & Bazyk, 2009). Participation in these groups allowed the participants to socially interact with their peers while engaging in various occupations (Bazyk & Bazyk, 2009). The researcher completed interviews and direct observations of the participants to gain numerous perspectives (Bazyk & Bazyk, 2009). The main themes to come out of this study were that occupations are fun, and these activities help children learn appropriate ways to express emotions (Bazyk & Bazyk, 2009). Bazyk and Bazyk (2009) concluded that programs like HOPE are beneficial for our youth because they decrease occupational deprivation while also promoting mental health through participation in activities that are meaningful to the children.

Darlington et al. (2018) evaluated the influence of contextual factors when implementing a school-based health promotion program. This study was part of a much broader research project that utilized a mixed methods design to carry out the evaluation of the health promotion program (Darlington et al., 2018). Schools were selected based on their participation in a health promotion program between 2012 and 2015. Twenty-seven schools and 1553 students aged 8-11 years old were included (Darlington et al., 2018). A health promotion program was replicated and implemented. Semi-structured interviews with school staff and program coordinators and written documents about the actions implemented were collected for the qualitative data (Darlington et al., 2018). 1553 questionnaires for the children ages 8-11 years old were used to describe the school contexts (Darlington et al., 2018). The researchers defined the following terms: expected outcomes, program impact, contextual factors, and mechanisms (Darlington et al., 2018). This was to prevent confusion of the various potential definitions that could be associated with each term (Darlington et al., 2018).

Person

Analysis of Study Results

Through the lens of the EHP model, the person is described as an individual with unique abilities, which include sensorimotor, cognitive, and psychosocial skills (Dunn, 2017). Two of the studies that were reviewed implemented educational programs about physical activity to promote the sensorimotor functioning and health of children ages 7-12 years old in the school environment (Bazyk & Bazyk, 2009; Larsen et al., 2021). With the implementation of these programs, children were able to explore new occupations that promote healthy habits (Bazyk & Bazyk, 2009; Larsen et al., 2021). In addition, these programs increased the children's ability to utilize sensorimotor skills in various occupations that required them to be physically active (Bazyk & Bazyk, 2009; Larsen et al., 2021).

Cognition levels are also taken into account when looking at the person through the lens of the EHP model (Dunn, 2017). Each of the four studies were completed in school environments that foster the learning of their students and promote cognitive functioning (Barlow et al., 2014; Bazyk & Bazyk, 2009; Darlington et al., 2018; Larsen et al., 2021). Barlow et al. (2014) specifically spoke about one educational program from their systematic review called the PATHS curriculum, which stands for Promoting Alternative Thinking Strategies. This curriculum used educational worksheets and discussions, didactic teaching, and modelling from teachers to promote the social-cognitive skills of the children participating (Barlow et al., 2014). Additionally, this program was used for children without disabilities and children who had cognitive deficits and required special education (Barlow et al., 2014). Barlow et al. (2014) found that this curriculum had a much larger impact on the children with special needs compared to the children without, but the change for children in the regular classroom was still significant. Similarly in the study by Larsen et al. (2021), the participants had the cognitive level of a 5th, 6th, or 7th grader and the program included children with or without disabilities. This program increased the cognitive functioning of children through the use of educational material regarding nutrition, physical activity, and overall hygiene (Larsen et al., 2021). Both of these studies helped children become more knowledgeable about various healthy habits that can be used for the remainder of their lives (Barlow et al., 2014; Larsen et al., 2021).

The psychosocial aspects of the person are also relevant when discussing health promotion and an individual's well-being (Dunn, 2017). Barlow et al. (2014) emphasized the importance of incorporating mental health interventions in schools to reduce the rate of depression and suicide of children while promoting the creation of healthy emotional behaviors and meaningful relationships. These mental health programs are utilized to enhance a child's ability to properly function in social environments and find healthy ways to cope with difficult emotions (Barlow et al., 2014). Bazyk and Bazyk (2009) also found that the implementation of the HOPE therapy groups provided children with healthy ways to cope with emotions. The HOPE therapy group was created to improve the children's psychosocial behaviors and promote participation in meaningful activities (Bazyk & Bazyk, 2009). Bazyk and Bazyk (2009) specifically mentioned that the HOPE therapy groups provided children with the opportunity to share their feelings with the therapists in charge along with other students, which improved their ability to control and express feelings of anger in a positive way. Results of both articles support the importance of using occupation-based mental health programs in schools to enhance the psychosocial aspects of the person (Barlow et al., 2014; Bazyk & Bazyk, 2009). Context

Through the lens of the EHP model, the context concept is made up of a person's temporal, physical, social, and cultural attributes (Dunn, 2017). When preparing to implement a health promotion program, one must be cognizant of varying contextual factors. Darlington et al. (2018) evaluated how contextual factors can play a role in the discrepancy of expected and actual outcomes of a school-based health promotion program. Factors that potentially contributed to this discrepancy include inclusion of training, mode of implementation, home/school relationship, leadership of the management team, and the level of delegated power (Darlington et al., 2018). Another potential factor for discrepancy is the lack of access to resources in low socioeconomic areas (Bazyk & Bazyk, 2009). Darlington et al. (2018) concluded that a single program cannot be introduced in the same manner in every context. That conclusion is also supported by Larson et al. (2021). Larson et al. (2021) implemented a football-based health

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promotion program called "11 for Health in Denmark" that was replicated from a program called "FIFA 11 for Health" that was created and implemented in the southern part of Africa. Larson et al. (2021) states that since the "FIFA 11 for Health" was designed to address the health situation in sub-Saharan Africa, the program had to be modified to address the health situations and concerns in Europe.

Two other studies were completed in group settings, which provided a supportive, interactional environment between the children and their peers (Bazyk & Bazyk, 2009; Larson et al., 2021). Within the two studies, there was assistance in providing a safe space for children to learn essential healthy habits. When children feel safe in their environment, this creates the "just-right environment" (Bazyk & Bazyk, 2009). The "just-right environment" allows children to pursue occupations that are meaningful to them while feeling comfortable with their social and physical environment (Bazyk & Bazyk, 2009). Bazyk and Bazyk (2009) suggest that both the social and the physical environments influenced occupational meaning. Larsen et al. (2021) also provided an environment that promoted essential learning about hygiene, well-being, and physical activity. The social environment of these program implementations allowed for positive interactions with the children and adult role models (Bazyk & Bazyk, 2009; Larson et al., 2021). **Therapeutic Interventions**

The nature of therapeutic interventions through the EHP model lens are described as establish/restore, alter, adapt, prevent, and create (Dunn, 2017). The therapeutic interventions used in the various health promotion programs found include establish/restore, educate, and prevent (Barlow et al., 2014; Bazyk & Bazyk, 2009; Dunn, 2017; Larson et al., 2021).

The use of the prevention intervention may have more positive results compared to the use of the restore approach as evidenced by the Barlow et al. (2014) results. These results indicate that mental health-promoting interventions were more likely to show at least moderately positive results than mental illness prevention programs (Barlow et al., 2014). Programs that called their interventions as a "mental health promotion" instead of "prevention of mental illnesses" resulted with more significant results (Barlow et al., 2014). Similarly, Bazyk & Bazyk (2009) implemented a 9-week program that gave preventative occupation-based interventions. Interventions were aimed to help children learn appropriate ways to express their emotions while providing occupational enrichment (Bazyk & Bazyk, 2009).

The education intervention was also utilized in two of the studies (Bazyk & Bazyk, 2009; Larson et al., 2021). With the use of activity-based interventions, children view education as being more fun compared to traditional education techniques (Bazyk & Bazyk, 2009). Larson et al. (2021) implemented 45-minute sessions that consisted of football drills and health education lessons. Bazyk & Bazyk (2009) also used activity-based interventions to educate children on appropriate ways to express their emotions. Both studies' results yielded an indication of increased health knowledge when using activity-based interventions (Bazyk & Bazyk, 2009; Larson et al., 2021).

Clinical Bottom Line

The purpose of this critically appraised topic paper was to review the current literature supporting the implementation of activity-based health promotion programs in schools. Through the lens of the Ecology of Human Performance (EHP) model, each research article was assessed to learn more about the person, their context, and performance range created between the interaction of the person and their context (Dunn, 2017). The EHP model also focuses on therapeutic interventions that are essential for the implementation of health promotion programs,

which include establish/restore, education, and prevention (Dunn, 2017). We used the EHP model to interpret the findings of these interventions within the study review (Dunn, 2017).

Through extended research, it has been indicated that there is a lack of studies done to fully answer the focus question "How does the use of occupational therapy directed, activitybased health promotion programs in the school curriculum impact the mental health, physical health, and overall well-being of children?" However, the results of the articles synthesized in this critically appraised topic paper indicate that activity-based health promotion programs positively influence the health and well-being of children within the school systems (Barlow et al., 2014; Bazyk & Bazyk, 2009; Darlington et al., 2018; Larsen et al., 2021).

Bazyk and Bazyk (2009) also explained the applicability of groups like HOPE to occupational therapy practice. The participants of these HOPE therapy groups engaged in various leisure activities that were structured and provided a positive environment where they could engage with peers (Bazyk & Bazyk, 2009). Occupational therapists may apply this to practice by implementing activity-based programs similar to this one that provide children with participation in activities that are meaningful and fun (Bazyk & Bazyk, 2009). Bazyk and Bazyk (2009) also mentioned the importance of creating the 'just right' environment that promotes cohesion between the participants. With this cohesion, the children will feel more comfortable expressing their emotions or feelings, which results in more efficient coping strategies (Bazyk & Bazyk, 2009). The HOPE therapy groups have shown the importance of programs similar to this one in order to enhance the mental health and occupational balance of our low-income youth (Bazyk & Bazyk, 2009).

Cultural considerations must be made when planning to implement an activity-based health promotion program within schools. Some considerations include the target populations values and beliefs, socioeconomic status, educational level, and the number of resources available in their environment (Darlington et al., 2018). The occupational therapist must be aware of the accessibility to different resources within the specific community in order to see if certain health promotion programs are plausible and appropriate for that population. Children may have different responses to the programs if they have different resources and experiences than those of the programs target population (Darlington et al., 2018). Bazyk and Bazyk (2009) targeted children of low socioeconomic status and created a specific program to target occupational deprivation. This specific program has not been implemented with a higher socioeconomic status group, but the results may differ (Bazyk & Bazyk, 2009).

Terminology surrounding the implementation of these programs plays an additional role in the outcomes and effectiveness of interventions, which should be heavily considered for clinical practice. Barlow et al., (2014) claimed that referring to the programs as "Mental Health Promotion" instead of "Mental Illness Awareness and Prevention" or "Suicide Prevention Programs" significantly impacted the effects of intervention outcomes. A systematic review of suicide prevention interventions found that some interventions increased suicidal ideation (Barlow et al., 2014). Therefore, available evidence indicates using positive labels, such as "promotion" as having a higher rate of paralleled positive outcomes compared to the negative undertone within the use of "prevention" (Barlow et al., 2014).

There are numerous individuals that may assist the occupational therapist with the implementation of these programs. One major stakeholder would be the families of the youth that are involved. The families or caring adults can provide contextual support to children within their home environment (School Mental Health Work Group, 2012). When the family can

promote the use of healthy habits in the home, this will increase the effectiveness and the overall impact that health promotion programs may have on the child (School Mental Health Work Group, 2012). Using healthy habits in various contexts also promotes the development of independence and social interaction skills (School Mental Health Work Group, 2012).

Another beneficial team member that should be used in the implementation of these programs is the schoolteacher. The occupational therapist may consult with the teacher to gather more specific information about the children (School Mental Health Work Group, 2012). This information will allow the therapist to create a more impactful program that is catered to the students (School Mental Health Work Group, 2012).

Occupational therapy practitioners possess the knowledge and unique skills that separate the profession from others, making occupational therapy a key driving force for implementation of health promotion programs. Regardless of the setting or population, the purpose of occupational therapy is to promote health and well-being through restoration, maintenance, or an overall improvement of function for individuals across the lifespan, from a client-centered lens (Reitz & Graham, 2019). In parallel to being a client-centered profession, occupational therapists view health promotion programs from a holistic view to increase the benefits and practicality of the programs by putting the clients at the center.



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