

EFFECTS OF A PHYSICAL ACTIVITY EDUCATIONAL PROGRAM ON  
PARENTS SELF-EFFICACY FOR FACILITATING INDEPENDENT PHYSICAL  
ACTIVITY FOR THEIR CHILDREN WITH DISABILITIES

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## ABSTRACT

## EFFECTS OF A PHYSICAL ACTIVITY EDUCATIONAL PROGRAM ON PARENTS SELF-EFFICACY FOR FACILITATING INDEPENDENT PHYSICAL ACTIVITY FOR THEIR CHILDREN WITH DISABILITIES

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Children and youth with disabilities have a higher risk of obesity than typically developing peers in part due to low physical activity levels. Increasing physical activity can increase children's' health related quality of life, psychological well-being, and contribute to the prevention or delay of chronic diseases. One way to increase physical activity is by getting parents involved as facilitators of activity but they do not always have the skills to do so. Therefore, the purpose of this study was to investigate the effects of a 5-session physical activity educational program on parental self-efficacy for facilitating independent physical activity for their children with disabilities. Participants included parents of children between the ages of six and 22 who has a disability and participated in a one week educational program that aimed to provide them with the knowledge and skills necessary to facilitate that physical activity. Self-efficacy was measured through a questionnaire and a paired-samples t-test to determine the effect of a 5-session physical activity educational program on parents self-efficacy. However, the program did not have a significant effect on the parents self-efficacy. Due to the nature of recruiting parents from existing physical activity programs, future research should

examine the effects of this program on the self-efficacy for parents who are not actively engaged in physical activity programs with their children with disabilities.

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## INTRODUCTION

Childhood obesity is a serious issue as many resulting health and social consequences often continue into adulthood (Foxhall, 2006). Physical inactivity rates are increasing among children in the United States, with 80% of children in the United States failing to meet the minimum moderate-to-vigorous physical activity guidelines, and 14% are entirely inactive with inactivity rates higher among children with disabilities than children without disabilities (Davison & Lawson, 2006; Katzmarzyk et al., 2016; US Department of Health and Human Services [USDHHS] 2010; Katzmarzyk, et al. 2016). Promoting adequate levels of physical activity among people with disabilities is important because being physically active improves health related quality of life, psychological well-being, and contributes to the prevention or delay of chronic diseases (Rimmer, Riley, Wang, Rauworth, & Jurkowski, 2004; Durstine et al., 2000).

Policies and programs what include individualized methods that have shown to be effective in meeting the needs of all members of the community are more effective in facilitating physical activity engagement of participants (USDHHS, 1996). During childhood and adolescence, on such method is in inclusion of families in physical activity engagement. Families play an important role in influencing children's health behaviors including physical activity as parents teach skills (e.g. identifying opportunities to be active, and ways to monitor safety of outdoor physical activity environments) and instill beliefs (e.g. encouraging their children to engage in physical activity)in their children that can help shape favorable attitudes and behaviors towards physical activity (Davison,

Cutting, & Birch, 2003; McElroy, 2002). Parents also organize and fund children's involvement in physical activities, and model health behaviors (Davison et al., 2003; Frankel et al., 2012). However, parents also experience barriers for facilitating physical activity opportunities for their children with disabilities including lack of time, knowledge on how to adapt activities, and accessible programs as well as cost of available programs (Rimmer et al., 2004; Shields & Synnot, 2016).

Through health promotion programs, parents can facilitate their knowledge and skills of physical activity (Bandura, 2004). Self-efficacy and the ability to recognize and overcome barriers have been identified some components that can support an individuals ability to engage in a specific behavior, like physical activity (Anderson, Wojcik, Winett & Williams, 2006). Incorporating knowledge of how to facilitate physical activity and individualized activities to apply this knowledge into a targeted health promotion program may improve parents perceived self-efficacy and barriers to facilitating physical activity engagement for their families (Kahn et al., 2002).

## PURPOSE

The purpose of this study is to investigate the effects of a 5-session physical activity educational program on parents self-efficacy for facilitating independent physical activity for their children with disabilities. The researcher hypothesizes that when parents participate in this physical activity educational program, they will increase their self-efficacy for facilitating physical activity participation for their children.

## LITERATURE REVIEW

### Benefits of Physical Activity For Children With Disabilities

Many children in the United States are not meeting the current national physical activity guidelines (USDHHS, 2008) of 60 minutes of daily moderate to vigorous physical activity. Children with disabilities tend to engage in less physical activity and more sedentary time than their peers without disabilities (Khen & Kroll, 2009; Ogu, Umunnah, & Nwosu, 2016). High proportions of sedentary time increases an individual's risk for numerous chronic conditions such as coronary heart disease, diabetes, high blood pressure, obesity, osteoporosis, hypertension, and sleep apnea (Brown, Yore, Ham, & Macera, 2005; Khen & Kroll, 2009; Ogu et al., 2016; Panagiotopoulos, et al., 2011; Wiart, Darrah, Kelly, & Legg, 2015; Yao, Shapiro, & Liao, 2016). By participating in physical activity, children can experience not only physical benefits to combat chronic conditions but social and emotional, benefits as well (Lauruschkus, Nordmark, & Hallstrom, 2017; Tristani, Bassett-Gunter, & Tanna, 2017; Yao et al., 2016).

Regular physical activity participation increases enjoyment of activities, perception of athletic identity, social acceptance, opportunities for self expression, ability to form peer relationships, and social inclusion (Lauruschkus et al., 2017; Rimmer, Yamaki, Lowry, Wang, & Vogel, 2010; Tristani et al., 2017; Yao et al., 2016). Additionally, physical activity can improve individual quality of life by decreasing anxiety and depression, and increasing self-esteem and confidence (Lauruschkus et al.,

2017; Rimmer et al., 2010; Wickman, Nordlund, & Holm, 2018; Yao et al., 2016).

Parents have reported that they wanted their children to participate in physical activities for the social benefits, such as making friends, develop a sense of belonging, feel confident in asking peers to play, and have an outlet for tension release (Shapiro, 2003; Shapiro & Liao, 2016; Jaarsma, Dijkstra, Geertzen & Dekker, 2014).

#### Patterns of Parental Physical Activity Engagement

Families role model behavior patterns and create positive family dynamics to develop a healthy lifestyle for their children (Jeong, Kim & Lee, 2015; Miklankova, Gorny, & Klimesova, 2016). In this environment, children are learning the ideals and value systems of the adults in their lives which often translates to the child's own behavior (Miklankova et al., 2016). Parents, siblings, and other close relatives symbolize safety, stability, and protection for children which is important for the child to feel comfortable engaging in physical activity (Miklankova et al., 2016). Due to the amount of time children spend with their families, they become important facilitators of physical activity by establishing, encouraging, and providing opportunities to be physically active (Bois, Lalanne & Delforge, 2009; Bois, Sarrazin, Brustad, Trouilloud, & Cury, 2005; Miklankova et al., 2016). Children are more likely to engage in physical activity if their parents do making not only the support from parents but also their physical activity engagement important in increasing physical activity levels of the child (Bois et al., 2009; Bois et al., 2005; Miklankova et al., 2016).

## Barriers/Facilitators For Physical Activity

While parental support positively influences physical activity of their children, supporting physical activity is inhibited by transportation, payment of fees, and program availability (Bauer, Laska, Fulkerson, & Neumark-Sztainer, 2011; Greguol, Gobbi & Carraro, 2015; Vander Ploeg, Maximova, Kuhle, Simen-Kapeu, & Veugelres, 2012; Tristani et al., 2017). Parental supports for being physically active are lower, the more severe the disability, and thus creates a barrier to physical activity because parents are overprotective and concerned about injuries and are not aware or informed of all their child's physical possibilities (Greguol et al., 2015). As the ability to identify and overcome barriers is an important characteristic in changing and maintaining behaviors, engaging in programs that address parental barriers for facilitating physical activity opportunities for their child could be a viable way to increase engagement in activity.

### Parental Self-Efficacy

Parental self-efficacy for facilitating physical activity opportunities was identified as an important variable in understanding the relationship between the behavior of children with disabilities and the ability to produce a desired or intended result in the child's competences and perceptions about physical activity involvement (Bois et al., 2009; Hastings & Brown, 2002). Tsai & Fung (2009) found that most parents stopped integrating their child with a disability into a community recreation program the moment their child faced failure (e.g. negative social attitudes, discrimination for other

participants and their parents, lack of knowledge from the community, parental fear of harassment, and parents sense of entitlement and awareness of civil rights). This highlights the potential shortfalls of relying on community programs for physical activity opportunities for children with disabilities and the need for additional opportunities. By increasing parents self-efficacy for facilitating family based physical activity opportunities, it could allow for more opportunities for their child to engage in physical activity, resulting in increased physical activity levels and improved health (Tsai & Fung; Bois et al., 2009; Hastings & Brown, 2002).

#### Theoretical Framework

Individuals are motivated by goal orientations, task involvement or ego involvement; task involvement is motivated to master a skill, ego involvement get perceptions of capability through social comparison with other individuals (McCullagh, Matzkanin, Shaw & Maldonado, 1993; Nicholls, 1984). The theory of planned behavior (TPB) model can be helpful for providing insights into parental beliefs and behaviors toward supporting physical activity participation of their children with disabilities (Francis, Eccles, Johnston, Walker, Grimshaw, Foy & Bonetti, 2004; Jeong, Kim & Lee, 2015). The TPB measures an individual's intention to perform a behavior by assessing attitude (behavioral belief that he or she is in favor of performing a behavior, subject norm (normative belief, how much the individual feels social pressure to perform the behavior, and perceived behavioral control (control belief whether the person feels in

control of the behavior (Francis, Eccles, Johnston, Walker, Grimshaw, Foy & Bonetti, 2004; Jeong, Kim & Lee, 2015).

## METHODS

### Participants

The participants were parents who have children with disabilities who were involved in the Humboldt State University Family Fitness Program. Families were recruited from HSUfit, an inclusive physical activity program for children with disabilities and their typically developing siblings. Inclusion criteria consisted of having a child with a disability who was between the ages of six and 14 and the ability to speak English fluently.

### Instruments

Self-efficacy scale was used and has six items on a four point Likert Scale from very sure to not at all sure. The items include a lead in of “Please check the box that corresponds with how sure you are that...” followed by a specific situation (e.g. provide physical activity opportunities when you are feeling tired). A composite self-efficacy score was obtained by averaging the responses on all six items for a total score between one and four. Barriers were assessed through an eight item scale that lists potential barriers to physical activity (e.g. My child lacks places to go to be physically active) where parents will indicate whether the situation was a barrier for them and their child.

## Procedures

The parental physical activity educational program was a one week in person session where parents attended a one-hour session about skill building, overcoming barriers to physical activity and how to identify them, community mapping, nutritional interventions, utilizing homemade equipment, and creating individualized physical activity plans for their family. This program was administered by two graduate students in the Adapted Physical Education Masters program and will include both educational components and activities to apply that knowledge and practice skills. At the end of the program, parents had created family fitness goals and were provided with activity suggestions and instructions to help meet those goals. On the first day of the program, the parents completed the survey on barriers and self-efficacy, then complete the same survey at the end of the program to assess change in barriers and self-efficacy that may be associated with participation.

## Data Analysis

Changes in self-efficacy was assessed using a one-sample t-test. Descriptive statistics are presented in means and standard deviations.

## RESULTS

A paired-samples t-test was conducted to determine the effect of a 5-session physical activity educational program on parents self-efficacy in facilitating independent physical activity for their children with disabilities. There was no significant difference in the scores for the 5-session program ( $M=2.43$ ,  $SD=.75$ ) and self-efficacy ( $M=2.42$ ,  $SD=.86$ ) conditions;  $t(11)=-.10$ ,  $p = .92$ . This value is more than  $.05$ , which concludes that there is no statistically significant difference in self-efficacy between the pre and post assessments. These results suggest that the program did not have an effect on the parents self-efficacy. Specifically, our results suggest that a limited 5-session program was not enough to build parental self-efficacy.

## DISCUSSION

The present study predicted that if parents participate in a physical activity educational program, they would increase their self-efficacy to facilitate physical activity participation for their children with disabilities. However, the program did not seem to have an effect on the parents self-efficacy. This result coincides with previous research that showed no significant difference in physical activity related self-efficacy across multiple populations and 27 studies (Ashford, Edmunds, & French, 2010). Previous findings indicate that it is difficult to change self-efficacy for physical activity, the current study may have seen null results due to a variety of factors including the type of participants, the intervention content, and the intervention length. Most of the participants were parents that had a child that was older and already a part of programs to keep them physically active. This may indicate that they already had higher rates of self-efficacy to begin the program as they were already providing their children with physical activity opportunities thus, decreasing the likelihood of seeing a significant difference after the program. Instead of the parents looking at the program facilitators knowledge primarily; parents took the topics of community mapping, overcoming barriers, and homemade equipment and turned it into a discussion where the parents of the older children helped the younger parents gain insights of closed fenced parks, safe hiking trails, community resources, and handling certain behaviors. While valuable, this conversation prevented the program facilitators from providing their full expertise to the group which may have

prevented the discussion of more in-depth content which may have influenced self-efficacy of the group to a greater extent. Finally, the program was only a five-day program. Having a longer program may have provided more time to cover content and provide opportunities to practice the skills needed to improve physical activity facilitation self-efficacy. Having a longer duration of program would may have provided the opportunity to see differences in self-efficacy.

## CONCLUSION

In conclusion, though a program on parental self-efficacy has been studied previously this study was the first to focus primarily on parental self-efficacy with their children with disabilities being more physically active. Results proposed the importance of the different focuses in facilitating a parental program. Furthermore, the findings suggest our focus should not be limited to a small sample size rather a larger sample size, focus primarily on testing a larger sample size, focusing mostly on newer parents, recruiting from several school sites and community programs, more advertisements, an hour long meeting with parents contracted to commit their time in this study. Daily check ins with all the parents in the program, having a longer program that of two months, but still incorporating the topics of community mapping, overcoming barriers, nutrition, and home-made equipment.

## Future Research

Future research should include survey questions regarding the level of physical activity their child participates in, whether it is no physical activity, moderate physical activity or vigorous physical activity. Future research should also look into children's behaviors that may arise when a parent engages in physical activity with them. Once, the survey questions are gathered from the pre-test the instructors should then group each

parent based on the similarities of their experiences. Lastly, future researchers should set short term and long term goals to see if the parent and child are making progress.

#### Assumptions

For the purpose of this study it was assumed that parents would attend each day of the in-person program and the parents would answer the pre-and post survey truthfully. It was also assumed that the parents would participate in the physical activity guidelines provided with their children throughout the week.

#### Delimitations

For this program, only parents with children between the ages of six and 22 were recruited. The study took place in a small town in Northern California which meant having a smaller sample population.

#### Limitations

Limitations included parents not truthfully completing the survey, and parents not showing up to all five sessions. Additionally, all measures were subjective as there is not an objective measurement for self-efficacy. Participants were recruited from an inclusive program called HSU Fit, parents participating in the program will have children already exposed to some physical activity.

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