CHANGING PARENTAL PERCEPTIONS OF CHILDREN WITH DISABILITIES PHYSICAL CAPABILITY IN PHYSICAL ACTIVITY THROUGH A FAMILY FITNESS PROGRAM

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ABSTRACT

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Children with disabilities are not participating in enough physical activity to meet the recommendations for health benefits. Parental perceptions of their child's physical competence has a role in influencing physical activity levels. Parental perceptions can be improved through observations of their children in successful physical situations. Therefore, the purpose of this study was to analyze change in parental perceptions of their child's physical competence after participating in a family-centered physical activity program. Five parents with a child aged six to 21 years with a disability participated in this study. Parental perceptions were assessed with the Perceived Competence Scale for Children, which included seven questions and was scored using a four-point likert scale. A one-sample t-test revealed that there was no change in parental perceptions of their child's physical competence after participating in this study. This result could have been due to lack of engagement in the family centered program or already high perceptions of competence. Future researchers should continue this line of research with a larger sample population, parents of children who do not regularly participate in local physical activity

programs for children with disabilities, and utilize more contact with participants during the physical activity program.

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INTRODUCTION

Childhood is a developmental period where individuals acquire the building blocks to establish physical activity patterns that carry into adulthood and improve their health across the lifespan (Bois et al., 2009). The U.S Department of Health and Human Services (HHS, 2008) recommends at least 60 minutes daily of physical activity for children aged six to 17, despite these recommendations the Center for Disease Control and Prevention (2017) reported that many children do not meet these recommendations (Centers for Disease Control and Prevention [CDC], 2017; Janssen & Leblanc, 2010; U.S. Department of Health and Human Services [HHS], 2008). Moreover, physical activity is significantly lower in youth with disabilities compared to their typically developing peers (Bedell et al., 2013). Among children, regular physical activity has been shown have physical and emotional benefits including strengthening bones and muscles, improving cardiovascular health, and maintaining healthy body weight, reducing anxiety and depression, and improving emotional and psychological well-being (CDC, 2017; Lauruschkus, Nordmark, & Hallstrom, 2017; Rimmer, Rowland, & Yamaki, 2007; Tristani, Bassett-Gunter, & Tanna, 2017).

Physical activity engagement is an important factor in childhood and adolescence as regular physical activity engagement promotes social, emotional, mental, and physical growth and development while helping prevent diseases associated with sedentary living, such as obesity, cardiovascular disease, and high blood pressure (Baksjøberget, Nyquist,

Moser, & Jahnsen; 2017; CDC, 2017; Cuenca-Garcia, Ortega, Ruiz, Gonzalez-Gross, Labayen, Jago, Martinez-Gomez. et al., 2012; HHS, 2008; King et al., 2003; Lauruschkus et al., 2017; Loprinzi, Lee, Andersen, Crespo, & Smit, 2015; Schreuer, Sachs, & Rosenbaum, 2013). The high prevalence of obesity for all children in America is even higher among children with disabilities, in part due to children with disabilities having fewer opportunities for physical activity compared to their peers without a disability (Erkenlenz, Kobel, Kettner, Drenowatz, & Steinacker, 2014; Rimmer et al., 2007; Rimmer, Yamaki, Lowry, Wang, & Vogel, 2010). Researchers have reported that obesity has a direct correlation for future chronic diseases, such as type two diabetes, hypertension, hyperlipidemia, nonalcoholic fatty liver disease, orthopedic complications, and sleep apnea (Panagiotopoulos, Ronsley, Al-Dubayee, Brant, Kuzeljevic, Rurak & Masse, 2011).

Rimmer et al. (2007) reported the need to establish early interventions focused on increasing physical activity levels for young people as healthy habits developed in childhood are more likely to remain during adulthood (Rimmer et al., 2007). One possible way is to get parents involved with physical activity, as parents have a strong role in physical activity promotion for their children (Gustafson & Rhodes, 2006; Tristani et al., 2017). These roles include providing transportation, paying for fees, encouraging their child, and even participating alongside them (Tristani et al., 2017). Parents perceptions of their child's physical activity and movement competency can also influence their child's physical activity engagement levels (Tristani et al., 2017). Baksjoberget et al. (2017) stated that involving parents of children with disabilities in

fitness programs may create additional opportunities for their child to increase skill development along with physical activity levels: furthermore these opportunities may provide the child with the necessary skills to participate within the home environment, community, and school system to work on skill. Parents know their children very well and may be willing to pay for their child to receive recreation services; however not all parents possess the skills and knowledge needed to communicate with the recreation providers about how to meet the needs of their child (Schleien, Miller, Walton, & Pruett, 2014). Providing a family fitness program that includes the parents will help better their own understanding of physical activity and engagement and provide resources for parents to apply at home with their children with disabilities to increase the child's physical activity.

Purpose Statement

The purpose of this study was to analyze change in parental perceptions of their child's physical competence after participating in a family-centered physical activity program.

Research Hypothesis

The researcher hypothesized that after engaging in the FitFam program with their children, parents will increase their perceptions of their child's physical competence.

REVIEW OF LITERATURE

Physical Activity and Children with Disabilities

The role physical activity plays in children's lives is crucial as it has benefits for their physical, psychological, and social health development (Bois, Sarrazin, Brustad, Trouilloud, & Cury, 2009). Physically, children who are more active tend to have lower blood pressure, improved musculoskeletal health and cardiovascular health, and a healthy body weight compared to children who engage in more sedentary time (Baksjøberget et al., 2017; Bois et al., 2009; Lauruschkus et al., 2017; Martinsen & Stephens, 1994; Ogu, Umunnah, & Nwosu, 2016; Suter & Hawes, 1993; Tristani et al., 2017; Weiss & Duncan, 1997). Psychologically, physical activity relieves anxiety and depression, and improves overall psychological well-being (Baksjoberget et al., 2017; Lauruschkus et al., 2017; Martinsen & Stephens, 1994; Tristani et al., 2017; Weiss & Duncan, 1997). Socially, physical activity can teach children how to negotiate with peers, form and keep friendships, solve conflicts, develop leadership qualities, increase self-esteem, provide opportunity for self-expression, increase social interactions and integration, increase social acceptance, and enhanced social inclusion (Baksjoberget et al., 2017; Bois et al., 2009; Lauruschkus et al., 2017; Tristani et al., 2017; Wickman, Nordlund, & Holm, 2016).

Compared to their typically developing peers, children with disabilities have an increased chance of living a sedentary life (Ogu et al., 2016). Physical activity decreases

the likelihood of developing secondary health problems associated with a sedentary lifestyle, and while physical activity is beneficial for all children it may be more beneficial for youth with disabilities (Fowler et al. 2007; Sentenac et al., 2011; Tristani et al., 2017). The associated and secondary health conditions with a primary disability can create barriers to physical activity by undermining independence and limiting opportunities to be physically engaged and active (Rimmer et al., 2007). Other barriers to physical activity for youth with disabilities include the physical environment, access to accessible facilities and programs, instructors having minimal knowledge on creating an inclusive and safe environment for participants with disabilities, and overprotective parents (Rimmer et al., 2007).

Parental Support

Children with disabilities are typically engaged in physical activities and programs by themselves, with other children with disabilities, or with their parents (Aitchison, 2003; Emerson & McVilly, 2004; Tsai & Fung, 2009). Parental social support has been reported as an essential factor for children participating in physical activities as children tend to adopt behaviors from their parents; therefore, when parents participate in physical activity their child is more likely to participate in physical activity as well (Jeong, Kim, & Lee, 2015; Miklankova, Gorny, & Klimesova, 2016; Shen et al., 2016; Tristani et al., 2017). Parental support also affects children's belief in their own ability and/or psychomotor competency (Yao, Shapiro, & Liao, 2016). Parental influence and support for their children's engagement in physical activity can be influenced by

factors such as lack of accessible facilities and programs, expense, time, transportation, and overprotection (Erkelenz et al., 2014; Schleien et al., 2014).

Parental support of child's physical activity is crucial as they are the key providers for opportunities for physical activity outside of school and a culture that regards physical activity in a positive light (Buchanan, Miedema, & Frey, 2017). Children are influenced by their parents through observation and social learning processes; thus, if parents have a positive view of physical activity, encourage engagement, and are active themselves then the child is more likely to hold these same views on physical activity (Bois et al., 2009; Yao et al., 2016). Children with parents who had high levels of commitment to physical activity and sport participation had a threefold increase in participation compared to children with disabilities whose parents had lower levels of commitment (Tristani et al., 2017). Improving parental engagement and perceptions of their child's physical activity level is crucial to signing their children up for the right physical activities and/or programs due to their awareness of their child's movement competency and capabilities. Parents will not sign their children up for community recreation teams/programs or encourage physical activity because they fear their child will get hurt. This stems from a lack of understanding about their child's physical activity and movement competency; knowing their children's physical capabilities can help parents enroll their kids in the right program and know how to support them at home to be more physically active (Schleien et al., 2014).

Parental Perceptions of Child's Physical Activity and Movement Competence

Researchers have shown a correlation between the parents' perception of their child's competence and the child's self perceived physical competence (Bois et al., 2009; MacCallum & Austin, 2000). Parents may have different appraisals of their child's capabilities and competencies, making one parent more influential in shaping their child's own self-perception (Bois et al., 2009). Additionally, Bois et al. (2009) found evidence that direct parental socialization influences their child's involvement in physical activity through physical activity modeling effects, while mothers involvement in physical activity had a stronger correlation to their child's perceived physical competence compared to fathers involvement, though both mothers and fathers perceptions of their child's competence were influenced in predicting their child's self-perceived competence. Parents perception of their child's physical activity and movement competence is crucial because one of the barriers to physical activity for children with disabilities are overprotective parents who worry about their child getting hurt participating in activities with their typically developing peers (Schleien et al., 2014). When parents are concerned about their child's safety and thus choose not to sign them up for physical activities and sports, their child misses out on critical physical activity opportunities. Since a large responsibility is placed on the parents to provide and encourage physical activity for their children with disabilities, resources should be shared with parents on how to encourage, incorporate, and increase physical activity at home with their children, especially because not all parents have a background in physical activity concepts (Tristani et al., 2017).

Family Physical Activity Programs

Families of children with disabilities often face a lack of program availability giving their children fewer opportunities to be physically active and participate in physical activity programs compared to their peers without disabilities (Jeong, Kim, & Lee, 2015). Brunton (2017) suggests that parent involvement in planning and executing adapted programming might be the missing link for providing a more sustainable physically active engagement among children with disabilities. Involving parents and families in physical activity programs allows for parents to learn more about their role in their child's physical activity engagement and self-perception as well as providing them more resources to aid in giving information about physical activity for children with disabilities (Tristani et al., 2017). Parents know their children better than anyone and have knowledge of what their child prefers, their personality, abilities, and needs (Schleien et al., 2014).

Positive parent modeling would greatly assist their children in developing a more positive relationship with physical activity, and participating in physical activity with parents and siblings could also influence the child's socialization (Bois et al., 2009). Parents want their child to be physically active, happy, and healthy, and children look to their parents for positive influences to guide their own actions and behaviors (Bois et al., 2009; Buchanan et al., 2017). One example of this is from the Panagiotopoulos et al. (2011) study on a family-centered program for children who were obese and during the ten-week program the children's weight gain slowed and there was a significant reduction in their body mass index (Panagiotopoulos et al., 2011). Parents have reported a desire for their child to be physically active even if they were not active themselves however,

one determining factor in providing physical activity opportunities is their perceptions of their child's physical competence (Baksjoberget et al., 2017; Bois et al., 2009; Buchanan et al., 2017), by creating a family fitness program the researcher will be able to analyze the changes in parent perceptions having engaged in physical activity as a family and supporting their children's physical activity.

Limitations

Possible limitations included parents not truthfully completing the survey, parents not doing the at home activities, and having a small sample population. The survey was subjective and was not as accurate as an objective test. Although all the children who participated had an intellectual/physical disability, each disability is different and may have affected the way parents perceived physical competence. Participants were recruited from a program called HSU Fit, parents who participated in the survey have children already exposed to physical activity.

Delimitations

For this study, only parents with children between the ages of six and 21 years were recruited. The study took place in a rural town in Northern California and means having a smaller sample population.

Assumptions

For the purpose of this study it was assumed that parents answered the survey truthfully. It was also assumed that the parents engaged in physical activity with their children, following the guidelines of the program, throughout the ten weeks.

METHODS

Participants

Inclusion criteria included families with a child with a disability and the ability to communicate in English. Of the nine pairs (i.e., parent and child) who agreed to participate in this study, four did not return post surveys, leaving five pairs who participated in this study. Each of the five pairs consisted of a mother and son. Participants were recruited during the Spring from HSU Fit in Northern California, which was a community based physical activity program for youth with disabilities and their typically developing siblings. Flyers with information about the family fitness program taking place during the Summer called FitFam Program were distributed to the parents at the beginning and end of HSU Fit sessions. Interested parents contacted the researcher to sign up for the program and research study. Informed consent was collected from the parents and assent from the children participating in the study. All research activities were approved by the Institutional Review Board before the study began.

Instrument

Parents completed a pre and post survey titled The Perceived Competence Scale for Children. The Perceived Competence Scale for Children was originally used to assess child's perceptions of their own abilities. However, the items had been previously adapted to capture the parents perspective with success (Leung, 2014). For the purpose of this study, the parent perspective adaptations were used. The pre-survey was given in

person on the first day of the in-person portion of the FitFam Program and the post-survey was given in person during the eighth week. The survey consists of seven questions scored on a four-point likert scale from "Not at all True" to "Very True." There were three questions that were reverse coded to protect against bias in reporting. A composite score was obtained by averaging the score from all seven items for a final score between one and four with four indicating more favorable parental perceptions.

Procedure

The FitFam Program had two components, the first was a one-week program where parents met face-to-face with a graduate student from Humboldt State University to learn about providing different physical activity opportunities at home and in the community for their child. During this component of the program, parents were engaged in conversation and skill building on overcoming barriers to physical activity, finding accessible options in the community, making physical activity plans, and facilitating physical activity for their family. On the first day of the in-person program, parents completed the pre-survey on their perceptions of their child's physical activity and movement competency. This one-week, in-person component was followed by an independent component which consisted of a seven week period where families tracked their daily physical activity engagement out in the community and at home. During the seven weeks, parents were sent a weekly reminder via email, text, or phone call based on their preference by another researcher, to promote continued participation in the program.

After the eighth week, parents were given a post-survey asking the same questions pertaining to their child’s physical activity and movement competency.

Data Analysis

A one-sample t-test was used to interpret the difference between the pre and post scores for parental perceptions of their child's physical competence.

RESULTS

A paired sample t-test showed no significant difference in parental perception from the pre survey (M= 2.65, SD= .501) to the post survey (M= 2.70, SD= .643), p= .915. The mean difference between the pre and post scores was -.04, with a 95 percent confidence interval ranging from -1.08 to 1.00.

DISCUSSION

The purpose of this study was to analyze change in parental perceptions of their child's physical competence after participating in a family-centered physical activity program. The researcher hypothesized that after engaging in the FitFam program with their children, parents would increase their perceptions of their child's movement competence. However, the results of this study indicate that there was no change in parental perception of their child's movement competence from pre to post testing. The hypothesis was adopted based on the family-centered design of the study. When parents engage in physical activity with their children it will allow them to directly observe their child in physical settings and gauge their motor competence. Additionally, when families engage in activity together, parents act as physical activity role models for their children (Bois et al., 2009), which encourages the children's engagement. The final aspect of the FitFam program that the researchers believed would contribute to improved parental perceptions was the physical activity program provided to the families to engage in over the seven-week independent portion of the study. These programs were designed and implemented for the child to be successful in physical activity settings and build skills towards reaching goals. With increased interaction in physical activity opportunities designed for child success and thus more opportunity for the parents to observe their child being successful in physical settings, parental perceptions would improve based on previous evidence.

Hurley and Burt (2015) examined parental perceptions of motor competence after their child with developmental disabilities engaged in a bicycle riding program. The purpose of their study was to capture parental perception of their children's physical competencies, physical activity experiences, and any changes in perception through their children learning cycling skills. Parent perceptions about their child's physical activity experiences were assessed through pre and post program focus groups. Results indicated that parents improved their perceptions of their child's physical competence after the cycling program, especially in those who did not believe that their child would learn to ride a bike when the program started. Both Hurley and Burt's (2015) study and the present study included parents of children in very similar age groups with children ages seven-21 and six-21 respectively. Additionally, both studies utilized a pre-post design with a physical activity-based program that the children had not participated in previously. Despite these similarities, there were some distinct differences between the studies that could have contributed to the differences in results.

Hurley and Burt (2015) had a larger sample size of 14 parents, whereas the present study had a smaller sample size of five parents. With smaller sample sizes, it is more difficult to detect a significant difference in outcomes therefore, the difference in sample sizes may have contributed to the difference in results. There was also a difference in the type of study that was done. FitFam program was quantitative, whereas Hurley and Burt's study was qualitative, it is possible that Hurley and Burt (2015) would not have had significant differences if they measured parental perceptions quantitatively. Additionally, the children who learned how to ride a bike did not know how to ride a bike

before the program, however the FitFam program may have only included activities that the children could physically already do. If the parents were already aware that their child could perform the tasks then the likelihood of changing their perceptions decreases compared to the program involving novel tasks. The FitFam program had a reduced chance of changing parental perceptions as well due to parents acknowledging low fidelity to the program. Parents may not have engaged in successful physical activity opportunities with their child to the extent that the program intended to provide because parents did not follow through with the prescribed program.

CONCLUSION AND RECOMMENDATIONS FOR FUTURE RESEARCH

Five parents and their children with disabilities participated in this study examining changes in parental perceptions after engaging in a seven-week family centered physical activity program. The program included a one-week in person component where the children participated in structured physical activity for three hours, five days a week and the parents participated in five 30-minute education and skill building sessions on facilitating independent physical activity opportunities for their families. The intention of this program was to influence parental perceptions through cooperative engagement in physical activity and observing their children in successful engagement opportunities. Though this research study did not find changed parental perception of their child's movement competency, it is still an important area to research. Parents provide critical support for their children to engage in physical activities and when they have more positive perceptions of their child's physical skills, parents tend to provide more support for physical activity opportunities (Bois et al., 2009; Hurley & Burt, 2015). This indicates that identifying and utilizing avenues to improve parental perceptions of their child's physical competence is critical for physical activity engagement among youth. Future researchers should continue this line of research with a larger sample population, parents of children who do not regularly participate in local physical activity programs for children with disabilities, and engaging in activities that are novel to the families rather than activities that children have already shown competence in.

REFERENCES

Aitchison, C. (2003). From leisure and disability to disability leisure: Developing data, definitions and discourses. *Disability & Society, 18*(7), 955-969. doi: http://dx.org/10.1080/0968759032000127353

Baksjøberget, P .E., Nyquist, A., Moser, T., & Jahnsen, R. (2017). Having fun and staying active! Children with disabilities and participation in physical activity: A follow-up study. *Physical & Occupational Therapy in Pediatrics, 37*(4), 347-358. doi: 10.1080/01942638.2917.11281369

Bedell, G., Coster, W., Law, M., Liljenquist, K., Kao, Y. C., Teplicky, R., ... & Khetani, M. A. (2013). Community participation, supports, and barriers of school-age children with and without disabilities. *Archives of Physical Medicine & Rehabilitation, 94*(2), 315-323. doi: https://doi.org/10.1016/j.apmr.2012.09.024

Bois, J. E., Sarrazin, P. G., Brustad, R. J., Trouilloud, D. O., & Cury, F. (2005). Elementary schoolchildren's perceived competence and physical activity involvement: The influence of parents' role modelling behaviours and perceptions of their child's competence. *Psychology of Sport & Exercise, 6*(4), 381-397. doi: https://doi.org/10.1016/j.psychsport.2004.03.003

Bois, J. E., Sarrazin, P. G., Brustad, R. J., Trouilloud, D. O., & Cury, F. (2005). Elementary schoolchildren's perceived competence and physical activity involvement: the influence of parents' role modelling behaviours and perceptions

of their child's competence. *Psychology of sport and exercise, 6*(4), 381-397. doi: https://doi.org/10.1016/j.psychsport.2004.03.003

Brunton, L. K. (2017). Clinicians are the missing link to sustainable community-based physical activity participation for children with disabilities. *Physical & Occupational Therapy in Pediatrics, 37*(4), 359-361. doi: 10.1080/01942638.2017.1327750

Buchanan, A.M., & Miedema, B, & Frey, G. C. (2017). Parents perspectives of physical activity in their adult children with autism spectrum disorder: A social-ecological approach. *Adapted Physical Activity Quarterly, 34*(4), 401-420. doi: https://doi.org/10.1123/apaq.2016-0099

Centers for Disease Control and Prevention (CDC). (2017). *Physical activity facts.* Retrieved from https://www.cdc.gov/healthyschools/physicalactivity/facts.htm

Cuenca-Garcia, M., Ortega, F. B., Ruiz, J. R., Gonzalez-Gross, M., Labayen, I., Jago, R., … & Manios, Y. (2014). Combined influence of healthy diet and active lifestyle on cardiovascular disease risk factors in adolescents. *Scandinavian Journal of Medicine & Science in Sports, 24*(3), 553-562. doi: 10.1111/sms.12022

Emerson, E. & McVilly, K. (2004). Friendship activities of adults with intellectual disabilities in supported accommodation in Northern England. *Journal of Applied Research in Intellectual Disabilities, 17*(3), 191-197. doi: 10.1111/j.1468-3148.2004.00198.x

Erkelenz, N., Kobel. S., Kettner, S., DrenowatZ, C., & Steinacker, J. M. (2014). Parental activity as influence on children's BMI percentiles and physical activity. *Journal*

of Sports Science & Medicine, 13(3), 645-650. Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4126304/

Fowler, E. G., Kolobe, T. H., Damiano, D. L., Thorpe, D. E., Morgan, D. W., Brunstrom, J. E., ... & Rose, J. (2007). Promotion of physical fitness and prevention of secondary conditions for children with cerebral palsy: section on pediatrics research summit proceedings. *Physical Therapy, 87*(11), 1495-1510. doi: 10.2522/ptj.20060116

Gustafson, S., & Rhodes, R.E. (2006). Parental correlates of physical activity in children and early adolescents. *Sports Medicine, 36*(1), 79-97. doi: 10.2165/00007256-200636010-00006

Hurley, K. S., & Burt, T. L. (2015). Development of physical competence through motor skill acquisition for children and youth with disabilities: Parental perceptions. *Health Psychology Report, 3*(1), 1-12. doi: 10.5114/hpr.2015.47623

Janssen, I., & Leblanc, A. G. (2010). Systematic review of the health benefits of physical activity and fitness in school-aged children and youth. *International Journal of Behavioral Nutrition and Physical Activity, 7*(1), 40. doi: 10.1186/1479-5868-7-40

Jeong, M., Kim, S., & Lee, E. (2015). Parents' beliefs and intentions toward supporting physical activity participation for their children with disabilities. *Adapted Physical Activity Quarterly, 32*(2), 93-105. doi: http://dx.doi.org/10.1123/APAQ.2013-0106

King, G., Law, M., King, S., Rosenbaum, P., Kertoy, M. K., & Young, N. L. (2003). A conceptual model of the factors affecting the recreation and leisure participation of children with disabilities. *Physical & Occupational Therapy in Pediatrics, 23*(1), 63-90. doi: 10.1080/J006v23n01_05

Lauruschkus, K., Nordmark, E., & Hallstrom, I. (2017). Parents experiences of participation in physical activities for children with cerebral palsy-- protecting and pushing towards independence. *Disability & Rehabilitation, 39*(9), 771-778. doi: 10.3109/09638288.2016.1161841

Loprinzi, P. D., Lee, I. M., Andersen, R. E., Crespo, C. J., & Smit, E. (2015). Association of concurrent healthy eating and regular physical activity with cardiovascular disease risk factors in US youth. *American Journal of Health Promotion, 30*(1), 2-8. doi: http://doi.org/10.4278/ajhp.140213-QUAN-71

MacCallum, R. C, & Austin, J. T. (2000). Applications of structural equation modeling in psychological research. *Annual Review of Psychology, 51*(1), 201-226. doi: https://doi.org/10.1146/annurev.psych.51.1.201

Martinsen, E. W., & Stephens, T. (1994). Exercise and mental health in clinical and free living populations. In R. K. Dishman (Ed.), *Advances in Exercise Adherence* (pp. 55-72). Champaign, IL, England: Human Kinetics Publishers.

Miklankova, L., Gorny, M., & Klimesova, I. (2016). The relationship between the family's socioeconomic status and physical activity level of pre-school children. *Trends in Sport Sciences, 23(*4), 193-202. Retrieved from https://humboldt-illiad-

oclc-org.ezproxy.humboldt.edu/illiad/illiad.dll?Action=10&Form=75&Value=197574

Ogu, O. C., Umunnah, J. O., & Nwosu, K .C. (2016). Disability types, self-efficacy, and attitude to participate in physical activity in children with disabilities: A pilot study. *Palaestra, 30*(4), 25-32. Retrieved from https://www.researchgate.net/profile/Okey_Ogu/publication/311570743_DISABILITY_TYPES_SELF-EFFICACY_AND_ATTITUDE_TO_PARTICIPATE_IN_PHYSICAL_ACTIVITY_IN_CHILDREN_WITH_DISABILITIES_A_PILOT_STUDY/links/584d626908aecb6bd8c7307d.pdf

Panagiotopoulos, C., Ronsley, R., Al-Dubayee, M., Brant, R., Kuzeljevic, B., Rurak, E., & Masse, C. (2011). The centre for healthy weights- Shapedown BC: A family-centered, multidisciplinary program that reduces weight gain in obese children over the short-term. *International Journal of Environmental Research & Public Health., 8*(12), 4662-4678. doi: 10.3390/ijerph8124662

Rimmer, J. H., Rowland, J. L., & Yamaki, K. (2007). Obesity and secondary conditions in adolescents with disabilities: Addressing the needs of an underserved population. *Journal of Adolescent Health, 41*(3), 224-229. doi: 10.1016/j.jadohealth.2007.05.005

Rimmer, J. H., Yamaki, K., Lowry, B. M., Wang, E., & Vogel, L. C. (2010). Obesity and obesity-related secondary conditions in adolescents with

intellectual/developmental disabilities. *Journal of Intellectual Disability Research, 54*(9), 787-794. doi: 10.1111/j.1365-2788.2010.01305.x

Schleien, S. J., Miller, K. D., Walton, G., & Pruett, S. (2014). Parent perspectives of barriers to child participation in recreational activities. *Therapeutic Recreation Journal, 48*(1), 61-73. Retrieved from https://search.proquest.com/openview/0814f257aa5c3e0ed024928201dccc61/1?pq-origsite=gscholar&cbl=5997

Schreuer, N., Sachs, D., & Rosenbaum, S. (2013). Participation in leisure activities: Differences between children with and without physical disabilities. *Research in Developmental Disabilities, 35*(1), 223-233. doi: 10.1016/j.ridd.2013.10.001

Sentenac, M., Arnaud, C., Gavin, A., Molcho, M., Gabhainn, S. N., & Godeau, E. (2011). Peer victimization among school-aged children with chronic conditions. *Epidemiologic Reviews, 34(*1), 120-128. doi: https://doi.org/10.1093/epirev/mxr024

Shen, B., Centeio, E., Garn, A., Martin, J., Kulik, N., Somers, C., & McCaughtry, N. (2016). Parental social support, perceived competence and enjoyment in school physical activity. *Journal of Sport and Health Science*. doi: 10.1016/j.jshs.2016.01.003

Suter, E., & Hawes, M. R. (1993). Relationship of physical activity, body fat, diet, and blood lipid profile in youths 10-15 yrs. *Medicine & Science in Sports & Exercise, 25*(6), 748-754. Retrieved from http://europepmc.org/abstract/med/8321114

Tristani, L. K., Bassett-Gunter, R., & Tanna, S. (2017). Evaluating internet-based information on physical activity for children and youth with physical disabilities. *Adapted Physical Activity Quarterly, 34*(1), 55-71. doi: http://doi.org/10.1123/APAQ.2016-0012

Tsai, E. H. & Fung, L. (2009). Parents' experiences and decisions on inclusive sport participation of their children with intellectual disabilities. *Adapted Physical Activity Quarterly, 26*(2), 151-171. doi: https://doi.org/10.1123/apaq.26.2.151

U.S. Department of Health and Human Services [UHHS]. (2008). *2008 Physical activity guidelines for Americans.* Retrieved from https://health.gov/paguidelines/guidelines/summary.asp

Weiss, M. R., & Duncan, S. C. (1997). The relationship between physical competence in youth sport: Theory, research, and enhancement strategies. *The Encyclopedia of Sports Medicine,* 364-382.

Wickman, K., Nordlund, M., & Holm, C. (2018). The relationship between physical activity and self-efficacy in children with disabilities. *Sport & Society, 21*(1), 50-63. doi: 10.1080/17430437.2016.1225925

Yao, W., Shapiro, D. R., & Liao, C. (2016). Parents motivation for participation in physical activity for children with impairments. *European Journal of Adapted Physical Activity, 9*(1), 15-26. Retrieved from http://www.eujapa.upol.cz/index.php/EUJAPA/article/view/183/76

APPENDIX

Survey Questions

SECTION ONE: The following section includes statements about what you think about the physical competence (i.e. ability to successfully perform physical activity) of yourself and your child.

Please check the box that corresponds with how true this statement is about your child.		**Not at all true**	**Not very true**	**Sort of true**	**Very true**
1.	My child does well at physical activity	☐	☐	☐	☐
2.	My child does poor at physical activity	☐	☐	☐	☐
3.	My child picks up new physical activities easily	☐	☐	☐	☐
4.	My child is good enough at physical activity	☐	☐	☐	☐
5.	My child would not likely be chosen first for sports teams because of their movement skills	☐	☐	☐	☐
6.	My child would rather watch then do physical activity	☐	☐	☐	☐
7.	My child has good movement skills	☐	☐	☐	☐

Results of Paired Sample T-Test Statistical Analysis

	Mean	N	Std. Deviation	Std. Error Mean
Pre	2.6571	5	.50102	.22406
Post	2.7000	5	.64365	.28785

	Mean	Std. Deviation	Std. Error Mean	Lower Bound	Upper Bound	t	df	Sig.
Pair One	**-.04286**	**.84152**	**.37634**	**-1.08775**	**1.00203**	**-.114**	**4**	**.915**