THE EFFECTS OF MOTIVATIONAL CLIMATE ON SKILL ACQUISITION AND MOTIVATION FOR PHYSICAL ACTIVITY IN CHILDREN WITH INTELLECTUAL DISABILITIES

By

Lucas Henry Govan

A Thesis Proposal Presented to

The Faculty of Humboldt State University

In Partial Fulfillment of the Requirements for the Degree

Master of Science in Kinesiology: Teaching/Coaching

Committee Membership

Dr. Jill Pawlowski, Committee Chair

Dr. David Adams, Committee Member

Drew Petersen M.A., NSCA CSCS, RSCC, USAW, Committee Member

Dr. Christopher Hopper, Committee Member

Dr. Taylor Bloedon, Graduate Coordinator

May 2019

ABSTRACT

THE EFFECTS OF MOTIVATIONAL CLIMATE ON SKILL ACQUISITION AND MOTIVATION FOR PHYSICAL ACTIVITY IN CHILDREN WITH INTELLECTUAL DISABILITIES

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Increasing physical activity participation among children with disabilities is critical for developing healthy lifestyles. Motivation can influence the amount of physical activity a person participates in. Establishing motivational climates that emphasize individual progress and outcomes can result in improvements of affective responses of engaging in an activity which, in turn, can increase the likelihood of continued participation. While the relationship between motivational climate and mood has been researched in children without disabilities, little research has been done on the impact of motivational climates for children with disabilities. Therefore, the purpose of this study is to examine the effect that a motivational climate has on gross motor skills. Motivational climate the structure of the social environment with regard to the way that it influences individuals' motivation and motivational processes. In achievement goal theories it is typically described in terms of the extent to which the environment is oriented towards promoting task mastery and learning goals or social comparison and performance goals (Lochbaum & Stevenson, 2014). is defined by has on a child with an intellectual disability as it relates to physical activity. Participants for this study will include five children with disabilities recruited from an adapted physical activity program. Participants will be prompted in either a skill acquisition or outcome orientation

motivational climate by the researcher before being asked to perform a task in an ABA sequence. Child's enjoyment of the task and successful completion will be assessed and compared between the two motivational climates using a visual analysis.

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INTRODUCTION

Students with intellectual disabilities tend to get overlooked when it comes to physical activity participation leaving them with a lack of opportunities to develop basic motor skills and understanding of how the body works (Fuchs,Fuchs,, & Kazdan, 1999). Children who have an intellectual disability are 86% more likely to participate in either little or no physical activity compared to a person without an intellectual disability (Robertson, Emerson, Baines, & Hatton, 2017). One of the main reasons for this lack of physical activity is due to a lack of motivation as a result of applying ineffective motivational strategies or not using motivational strategies at all (Kanfer & Ackerman, 1989; Morgan & Carpenter, 2002). There are two distinct motivational climates, skill acquisition and goal outcome motivation. Both strategies have been shown to be effective in general educational and physical activity settings for children without disabilities, however more research is needed to understand the effects of motivational climate for children with disabilities in physical activity settings (Kanfer & Ackerman, 1989; Morgan & Carpenter, 2002).

Skill acquisition motivation is defined as the ability to learn, develop and control skills to perform better in sports and physical activity settings (Newell, 1991). For example, if a child needs to complete three successful phases of a movement to kick a soccer ball (i.e. approach, strike, follow-through), the motivational climate will primarily be focused on the accomplishments of those three phases rather than the result of the kick (i.e. the ability to move the ball in the appropriate direction). Comparatively, goal

outcome motivation primarily focuses on the result of the kick rather than the technique used on the ball (Newell, 1991). This means that even though a child may not successfully complete all three phases of the kicking movement, the child will receive positive feedback as long as the ball ends up in the intended target area. In previous studies, motivational climate has demonstrated positive outcomes, such as an increase in physical activity, as well as, increased enjoyment levels (Valentini & Rudisill, 2004). Therefore, the purpose of this study is to examine the effect of motivational climate on gross motor skills of a person with an intellectual disability. The researchers hypothesize that by creating a more goal outcome oriented motivational climate for children with intellectual disabilities, they will demonstrate more enjoyment of performing the skill, as well as,an increase of successful completion of the skill.

LITERATURE REVIEW

Present Level of Physical Activity in Children with Disabilities

Being physically active increases the life expectancy and improves many aspects of a person's life including mental, physical, and social health (Robertson, Emerson, Baines, & Hatton, 2017). Compared to children without disabilities, children with disabilities are three times more likely to develop a chronic disease or illness that is correlated with low physical activity levels (Sothern, Hunter, Suskind, Brown, Udall Jr, & Blecker, 1999). Children that live a more physically active life tend to be at lower risk for chronic disease, have a healthier body mass index, and improved mental and emotional health (Lochbaum & Stevenson, 2014). Mental health can deteriorate or even fail to develop properly without the implementation of physical activity (Kanfer & Ackerman, 1989). This lack of physical activity can lead to anxiety, depression, nervousness, low self-esteem, panic attacks, and eating disorders (Sothern, et al.,1999). As a result, the combination of no physical activity and the toll of poor mental health can be a burden to a child's development, thus hindering their ability to live a healthy lifestyle. Therefore a preventative factor for all of these health risks is regular physical activity. In addition, creating an adherence to physical activity is more likely to benefit the participants community that surrounds them (i.e. friends and family) by starting to participate in higher levels of physical education (Fuchs, Fuchs, & Kazdan, 1999).

Motivational Climate

A positive motivational climate increases a person's physical activity levels, metacognition, and other process-oriented factors (Langan-Fox, Armstrong, Balvin, & Anglim, 2002). By going through a program that establishes a positive motivational climate, participants demonstrated a higher adherence to progressive exercise, improved attitude, task orientation, and preface for taking on challenging tasks (Morgan & Carpenter, 2002; Sothern et. al, 1999). In addition, motivation can be a driving force for a person to persist and succeed or fail a task; however, outside factors, such as emotions and environmental barriers, may cause the motivational climate to shift and require a different kind of strategy to be applied (Langan-Fox et al., 2002).

METHODS

Participants

Five children between the ages of six and 14 who had an intellectual disability will be recruited for this study. Participants in the study will be enrolled in the Humboldt State FitFam Program which included a 5- day adapted physical activity program for children with disabilities. Children were able to effectively communicate in English to participate in this study.

Instrument

The data of how much the participant is motivated is tracked using verbal questions with pictorial responses as well as the use of verbal and visual teaching strategies that the participants can identify as being how much they enjoyed doing the activity. The pictorial response choices consisted of five faces that depict a range of facial expressions to indicate levels of enjoyment. The responses from the participants were recorded by the researcher.

Skill acquisition was recorded by a checklist system. This checklist was tracked and recorded the number of successful attempts a participant had during an activity. Success was tracked based on both process (i.e., phases of movement, outcome measurements).

Procedures

Before participating in the study, consent forms were signed by the parents and verbal assent will be obtained from the child. The Humboldt State University FitFam Program was a week long program that consists of five different sessions. Each session focused on a certain theme of skills (e.g. throwing, catching, kicking, balancing, provide last skills.) and included fitness activities, skill acquisition, and cooperative games. Motivational climates were presented on alternating days following an ABA format. The sequence of presentation was randomized for each participant by having each participant or the researcher (just be clear who is drawing) randomly drawing a letter to establish the initial climate.

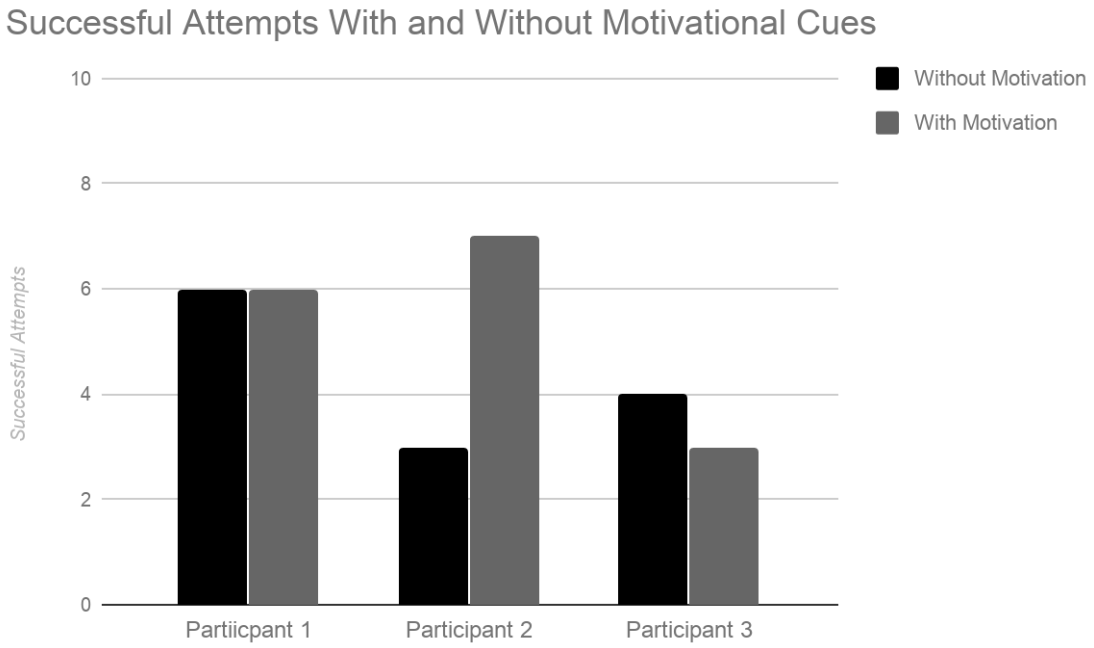
During these sessions, the researcher created a motivational climate for the participant via verbal prompting of the gross motor skills and encouragement, as well as, provide feedback through verbal cues. For example, to create a goal outcome climate, the researcher emphasized the outcome of the task by instructing the child to concentrate on the outcome rather than the steps in performing the task. Visual cues of the what the final outcome looked like was demonstrated by the researcher so that the participants will be prompted on what the final outcome should look when applying the correct steps to complete the skill. With successful completion of the task, the researcher provided positive verbal feedback to reinforce the goal climate with the participant. To establish a skill acquisition climate, the researcher instructed the child to think about the process of completing the skill rather than the outcome of the skill and emphasize the importance of performing the skill correct form a motor functioning standpoint. This climate was reinforced by providing feedback for the child on what aspects of the motor skill they completed correctly and what aspects they did not complete correctly with feedback on how to improve the skill form a motor standpoint. Once each participant finished a task, they were asked to grade their enjoyment level and the researcher will assess task success.

Data Analysis

Change in enjoyment and skill acquisition is presented through graphical depiction of ABAB designs. Microsoft Excel was utilized to create these graphs. Success rates will also be provided to describe study outcomes.

RESULTS

The bar graph above depicts the three participants that accurately recorded data during both trials. Participant one had six successful attempts (60% success rate) without any sort of motivation or prompting. During trail two, participant one had six successful attempts (60% success rate) with motivation implementation as well as verbal prompting. Participant two had only two successful attempts (20% success rate) during the first trial. However, with motivational cues introduced, they were able to complete seven attempts successfully (70% success rate). Participant three completed 4 attempts successfully showing a 40% success rate on the first trial without motivation. During participant 3's second trial, when motivation was introduced, they complete three attempts successfully which is a 30% success rate. In conclusion the participants averaged 4.3 successful attempts (43% success rate) without any sort of motivation, while averaging 5.3 successful attempts (53% success rate) when receiving motivation before each attempt at a skill.



Alternative Text

This bar graph shows the successful attempts of gross motor skills when receiving motivation versus not receiving motivation.

DISCUSSION

Over the course of the study, data collection was hindered by several factors. First, the program was understaffed causing the researcher to reduce the number of participants in the study. In hindsight, the best option for the researcher should have to been to designate an aid to each participant and have the test subject go through the lists of tests together on one day without motivational methods being implemented, and then come back the next day and introduce the motivational strategies and compare the data recorded to the first day.

Additionally, increasing the duration of the program from one week to two weeks would allow the researcher could collect all the data himself by testing one subject each day, and have the first week of the program serve as the control and the second week serve as the experimental condition.

As it relates to the literature, the study both confirmed claims as well as contradict them. As for the children's present level of performance, all participants in the study showed a present level of physical activity that was lower than their age group. When doing informal questioning, two out of the three participants explained that a majority of their physical activity comes from doing programs such as HSU Fit and the Fit Fam Program. Although these programs provide adequate physical activity for participants of all ages and abilities, they unfortunately do not continue on a year round basis lacking the necessary hours needed to consider a child's physical activity level to be healthy. Thus

leading to an increased risk of chronic illness, cardiovascular disease, and lower life expectancy. Other studies have shown the with the support of a mastery motivational climate to improve obese and overweight children's participation in physical activity, subjects enjoyment and commitment to physical activity improved P=.222 (Griffin, Meaney, & Hart, 2013).

However, the literature for Motivational Climate and Achievement Goals showed to be inconclusive when compared to the data gathered from the study. Motivational Climate was tested because a motivational climate emphasizes the improvement of a personal motor skill in the physical domain (Braithwaite, Spray, & Warburton 2011). Motivational Climate was inconclusive mainly due to the fact that the participants at the time of the data gathering were more focused on eating rather than completing the physical activities being asked of them. This made creating an effective motivational climate to have an impact of the achievement goals difficult. There was little to no improvement to outside factors, such as emotions, improved attitude and task orientation like the research induced. According to a study by Liukkonen, Barkoukis, & Jaakkolal, where the researchers studied motivational climate interventions in physical education, they showed a small positive effect for test subjects that were exposed to motivational climates. The achievement goals proved to be another variable that study contradicted towards the research.

In addition, having a designated time to test the subject would have been ideal. The original time to test the subjects was during their lunch time which unfortunately

turned out to be poor planning seeing that a majority of the subjects either did not have the energy to participate in the study or were not willing to participate in the study. By setting a more appropriate time to pull the students out for their trials (i.e. immediately after the warm-up routine) participants may have a higher willingness to participate in the study rather than being asked to take time out of their lunch time to do so. One study, that looked at behaviors towards physical activity in children grades K-2, showed that regularly scheduled physical activity during their designated physical education time, rather than it being break time or recess time, had an increase of steps per minute ($p=.002$) (Wadsworth, Robinson, Rudisill, & Gell, 2013). By having participants, that already already had low motivation levels to begin with, shorten their break time lessened their likelihood of being more physically active over the course of the study.

CONCLUSION

In conclusion, there needs to be further research done with a larger pool of participants to research a definitive conclusion. A positive motivational climate may still play role in a child with an intellectual disabilities successful attempts in completing a physical activity task. Having a larger pool to pull participants from as well as having a designated time and data recorder for each participant would aid in a more accurate reading. Further research needs to be done to prove any significant evidence that shows that a positive motivational climate through studies and analysis of literature.

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