

The Impact of Student Choice on Elementary and Middle School Physical Education

A Synthesis Project

Presented to the

Department of Kinesiology, Sport Studies, and Physical Education

SUNY Brockport, State University of New York

In Partial Fulfillment

of the Requirements for the Degree

Master of Science in Education

(Physical Education)

by

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December 14, 2022

SUNY BROCKPORT
STATE UNIVERSITY OF NEW YORK
BROCKPORT, NEW YORK

Department of Kinesiology, Sport Studies, and Physical Education

Title of Synthesis Project:

The Impact of Student Choice on Elementary and Middle School Physical Education

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Instructor Approval

12/14/22

Date

Accepted by the Department of Kinesiology, Sport Studies, and Physical Education, The College at Brockport, State University of New York, in partial fulfillment of the requirements for the degree Master of Science in Education (Physical Education).

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12/14/22

Date

Acknowledgments

I'd like to start off by thanking my wife, Lyndsi, for supporting me in countless ways throughout the past 10 years and more specifically the past two years of graduate school. Of course, I want to thank my parents, Mom, Dad, Vern and Christina, for working tirelessly throughout my life to provide me with opportunities that were unrealistic for them growing up. Next, thank you to my three siblings, Kyle, McKiah, and Caleb, who have driven me and given me reasons to continue to challenge myself and grow. I want to thank the professors who gave me confidence and guidance through my undergrad, specifically Dr. Shonna Snyder, Dr. Ken Baker, and Sara McNeely. Lastly, I want to thank every passionate educator from kindergarten to graduate school who not only taught me how to be an educator but have given me someone to look up to.

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Abstract

For decades the concern of child and adolescent health has progressively increased. Physical educators have the responsibility to not only teach students how to effectively be physically active, but also find the best strategies to help encourage and motivate students to be active in physical education as well as outside of school. This literature review shows that providing students with various types of student choice is one way physical educators can help students find joy in physical activity to promote lifelong learners. While student choice may not lead to consistent increases in physical activity it is shown in this review to lead to consistent increases in student motivation and engagement. The purpose of this synthesis was to review the literature on the impact of student choice in elementary and middle school physical education.

Keywords: physical education, student choice, physical activity, motivation, engagement

Chapter 1 - Introduction

It is widely known that the health of children and adolescents in today's society is continuously deteriorating. According to the Center for Disease and Control Prevention [CDC] (2022), children and adolescents should be getting at least 60 minutes of moderate to vigorous physical activity each day, but this often is not the case. Less than 25% of children are fulfilling this recommendation, and this physical inactivity can lead to serious health concerns, even at a young age. Lack of physical activity can lead to overweight or obese children, increase the risk for type 2 diabetes, as well as an increased risk for several cancers (CDC, 2022). This lack of physical activity is not only impacting children's physical health, but their academic performance also seems to be negatively impacted. Children that are physically active are receiving better grades, they have better attendance, and they tend to be better behaved in school (Michael et al., 2015). Physical education is an essential time where students should be physically active. It is essential for physical educators to find ways to motivate their students to be fully active in class as well as outside of school.

The time spent in physical education can positively impact children's daily physical activity as well as promote lifelong active participation. However, there are many factors that can lead to student boredom, a lack of motivation, and ultimately a lack of student participation (Ward, et al., 2008). Finding what students prefer to do in the physical education setting and addressing the needs of all students may increase motivation to participate in class as well as outside of school (Kleitsch & Kulinna, 2020).

In recent years, many physical educators have increased their focus on Self-Determination Theory (SDT) to promote student engagement. According to this theory, physical

activity is more intrinsically motivating when the individual is able to make their own decisions and regulate them on their own (Rupprich et al., 2016). Giving the students opportunities to make choices within their curriculum as well as simple activity choice may not only lead to increased physical activity and intrinsic motivation, but also other positive behavioral outcomes (Ward et al., 2008).

There are many different choices that can be provided to students, curricular negotiation as well as instructional choice (Kleitsch & Kulinna, 2022). Guadalupe and Curtner-Smith (2020) conducted a study that focused on both the process of curricular negotiation as well as the impact that negotiating had on the students and the teacher. They found that this negotiation process which allowed students to make decisions about what they were learning, staying within a given framework, led to a much greater experience for a large proportion of the students in physical education (Guadalupe & Curtner-Smith, 2020). Though this negotiation can be a difficult process at first, with practice it can be done with relative ease (Guadalupe & Curtner-Smith, 2020) Curricular negotiation is just one way that teachers and students can work together, but everyday instructional choices can be presented to students as well.

Providing students with choices on rules, choosing their own groups, selecting a competitive level and even deciding on size or color of equipment are choices that can be left to the students with hope that it leads to an increased student interest (Kleitsch & Kulinna, 2022). Kleitsch and Kulinna (2022) found that during units where instructional choices were given to the students, they preferred to have choice over having no choice. Not only did they prefer this option but it also increased their enjoyment, attitude and physical activity in class. According to Rupprich et al. (2016) a class that was taught using a student-centered teaching

strategy spent nearly 50% of the class engaged in moderate-to-vigorous physical activity (MVPA), whereas the class that was taught by a more controlling teacher were only engaged in MVPA for 41.7% of the class. These examples may show that providing students with choices, big or small, can lead to increased physical activity, motivation, and other positive behaviors that physical educators are looking for.

Statement of the Problem

The shrinking population of students meeting the recommended 60 minutes a day of MVPA is a concern that must be addressed. This lack of physical activity is continuing into adulthood and leading to many health concerns (Kleitsch & Kulinna, 2022). Physical educators have an opportunity to encourage children to participate in regular physical activity and most attempt to do so. Most physical education pedagogies have been teacher-centered and a direct approach. This teaching method is beginning to be critiqued because it is not allowing the students to have a voice in their learning process, it privileges adult interests and forces students to conform to one standard (Guadalupe & Curtner-Smith, 2020). In addition to this, critics also find that physical educators who teach a direct style of teaching are underestimating the students' ability to think on their own, understand their bodies, and analyze their own physical fitness needs (Guadalupe & Curtner-Smith, 2020). The overall repetitiveness of units is continuously leading to student boredom and lack of motivation which causes a decrease in student engagement and participation (Ward et al., 2008).

Physical educators must find creative ways to increase student competence, social support, and enjoyment to ultimately impact students in a positive way during their physical education class. Students have a strong desire to be autonomous, or make their own

independent decisions, so physical educators must find appropriate ways to allow for students to have a voice in their learning (Ward et al., 2008).

Purpose of the Study

The purpose of this synthesis project is to review the literature on the impact of student choice in elementary and middle school physical education.

Operational Definitions

1. Autonomy- When students chose to do an activity on their own (Kleitsch & Kulinna, 2022).
2. Self-Determination Theory (SDT)- Theory that states when students are more intrinsically motivated to do something they are more likely to do it (Ward et al., 2008).
3. Curricular negotiation- Discussions with students to decide on specific units and content learned in the unit (Guadalupe & Curtner-Smith, 2020).
4. Instructional choice- When the teacher allows the students choice in aspects of class like rules, equipment modifications, groups, partners, etc (Kleitsch & Kulinna, 2022).

Research Question(s)

The following research questions in this study will be:

1. How does student choice impact students in physical education?
2. What are the different strategies that teachers use to provide students with choice?

Delimitations

1. Participants in this review of literature were children in kindergarten through eighth grade.
2. Participants in this review of literature were a part of a physical education setting.

3. Articles used in this review of literature were peer reviewed and published between 2008 and 2023.

Chapter 2

Methods and Procedures

The purpose of this synthesis project is to review the literature on the impact of student choice in elementary and middle school physical education. To obtain the critical mass for this paper the SUNY Brockport Drake Library database, EBSCO, was used. Because this holds so many databases, searching by the Physical Education subject lowered the number of applicable databases. The databases searched within the EBSCO database were Education Source as well as SPORTDiscus. One search was done within the SPORTDiscus database, whereas three searches were done within the Education Source database. Google scholar was also used to assist in finding studies mentioned in existing research found in the database searches.

The first search in Education Source, three key words or phrases were put in the search boxes were activity choice, elementary school, and physical education. This search yielded 111 results, so more limiters were needed to reduce the time spent searching through these articles. Limiters that were used were restricting the article publication dates from the years 2012 to 2023 and checking the box to have only peer reviewed articles displayed. These limiters reduced the number of articles down to 53. While searching through these 53 articles, two articles were found to be useful in the critical mass of this paper.

The next search in Education Source had minor differences. The limiters of the publication dates and the peer reviewed articles remained the same, but the key words used were: choice, middle school, and physical education. This search yielded 45 peer reviewed articles published between the years of 2012 and 2023. Of these 45 articles, three were used in the critical mass of this paper.

The third search and the only search outside of Education Source took place in the SPORTDiscus database. This search had the same limiters as the previous, but the key words used were: choice, middle school, and physical education. This search yielded 31 results. Though there were several quality articles, no new articles were found to use in the critical mass of this synthesis paper.

The fourth and final search was again with the Education Source database. To start the search the keywords used were: self-determination theory, physical education, and choice. This yielded 84 results and was reduced to 20 results when adding the limiters of only peer reviewed articles and the date range of 2012-2023. Of the 20 articles shown, some were duplicates of already used articles, but one new study was found to add to the critical mass.

To find the remaining four articles needed in this paper, the studies already found in the databases were used. Reading these six articles gave insight of other quality articles that could be used in the critical mass of the paper. When an article was referenced in an existing study, that article title was put into google scholar to locate it. This did yield one study that was done in 2008 but was a quality study with essential findings for the purpose of this paper.

The articles obtained in the databases previously mentioned were gathered from several professional journals. The journals utilized included: Journal of Teaching in Physical Education, The Physical Educator, Asian Journal of Exercise and Sports Science, Journal of Physical Activity and Health, International Journal of Physical Education, Physical Education and Sport Pedagogy, Sport, Education and Society, Curriculum studies in health and physical education. Each one of these journals helped obtain one scholarly article for this paper except

for Journal of Teaching in Physical Education. This journal was the most used by providing three articles for the critical mass.

Within the 10 articles used for the critical mass a total of 1277 students were participants in the studies. Of the 1277 total participants, 362 of them were in grades pre-kindergarten to fifth grade, this comprised three of the 10 articles. The other seven articles included 915 participants that were in sixth to eighth grade. For the purpose of this paper pre-kindergarten to fifth grade was considered elementary school and sixth to eighth grade was considered middle school.

For the studies included in this paper data was collected in many ways. Questionnaires and surveys were often used to gather feelings from the students whereas, pedometers and accelerometers were often used to gather data on students' physical activity levels. Several studies used qualitative data where the use of interviews and journals were used. With all this data gathered there were many ways the researchers analyzed the data into valuable information. Within the articles the analytics included: descriptive analysis, t-tests, analysis of variance (ANOVA), Pearson's Product-Moment correlations, Cronbach's alpha, simultaneous multiple regression analysis, as well as path analysis. The two most common ways to analyze data in these studies were descriptive analysis and ANOVA, or variations of ANOVA. The qualitative studies used all the data collected from interviews, field notes and journals to develop common themes in the data and ultimately draw conclusions for the current research and future research.

The process of locating quality, scholarly research produced the critical mass to begin to understand the overall impact of choice on elementary and middle school physical education students.

Chapter 3 - Review of Literature

The purpose of this chapter is to present a review of literature on the impact of student choice in elementary and middle school physical education. To narrow down the focus, the topics that will be reviewed include the impact on middle school students and elementary school students when given a type of instructional choice, as well as the overall impact on students and the learning environment when given the opportunity to negotiate the curriculum. There is a significant concern on children and adolescents' health in this country. Physical educators need to find ways, big or small, to increase student motivation, physical activity, and create a positive learning environment when they are in the physical education setting. If the literature proves that choices in physical education led to positive outcomes, educators should be provided with this information for everyday use in their learning environment.

Instructional Choices

There can be many different approaches for a physical educator to provide students with instructional choices. Examples of these include allowing students to decide on certain rules or equipment in an activity or deciding who and how many students they work with, or deciding at what level they would like to perform the activity (Kleisch & Hodges Kulinna, 2022). This teaching strategy can also often be referred to as autonomy-supportive teaching, where students are given a sense of self-control and choice in their learning environment (Rupprich et. al., 2016).

Impact on Middle School Students

Providing a solid teacher-student relationship through autonomy-supportive teaching has gained popularity in the physical education setting. Rupprich et al. (2016) focused their research on 101 middle school students and how autonomy-supportive teaching would impact their activity levels in physical education. Students metabolic equivalent of task (MET), moderate physical activity, moderate-to-vigorous physical activity (MVPA) and steps over three months of PE were assessed. A second variable, students' perceived autonomy, was also measured at the beginning and the end of the intervention using the German version of the Basic Psychological Needs Scale in Sport. Of the 101 students, 53 were placed in the intervention classes and 48 were placed in the control classes. Over the three months the students that were in the intervention group received a teaching strategy that involved offering choices, providing a meaningful rationale, and responding to students' questions, and acknowledging students' perspectives. Whereas the students in the control group were a part of a more direct style of teaching where the teacher told the students exactly what they were to be doing and neglected students' perspectives. At the end of the study accelerometer readings were analyzed to yield the results for this study.

The researchers hypothesized that students taught by the autonomy-supportive teachers would show more physical activity (PA) than the students who were led by the more controlling, direct teacher. They also assumed that the students in the intervention group would show higher autonomy than the control group (Rupprich et al., 2016). Overall, their hypothesis was on the right track. Results showed that the intervention group was more active than the control in two out of the three sessions. Regarding student autonomy, there was a

small increase in the intervention group, but it was not statistically significant. This research shows autonomy-supportive teaching may have an impact on student PA as well as student autonomy. One important aspect of this study was that the teachers that were a part of the autonomy-supportive intervention group also received a three-hour training on effective supportive teaching strategies prior to the study to aid them in the teaching strategy.

Similarly, Ward et al. (2008) used the idea of increasing autonomy, by providing 122 seventh and eighth grade girls with choices in physical education (PE) to analyze the impact on their motivation as well as their PA in PE. In this study the participants were involved in two 7-day fitness units that were separated by a 3-week volleyball unit to eliminate repetition and boredom. One of the fitness units was a choice cardiovascular (CV) unit and the other was a no-choice CV unit. Activities such as rope jumping, aerobics, kickboxing, jogging, social brisk walking, and several others were provided for the students. When the students were in the no-choice CV unit they were put into teams by the teacher and were told which activities they had to participate in. But, during the choice CV unit, they were not put into teams and were allowed to choose what provided activity they would participate in. Through instruments such as pedometers, Situational Intrinsic Motivation Scale (SIMS) and a Sport Motivation Scale (SMS) the students' motivation and PA were analyzed comparing each unit.

The findings of this study conducted by Ward et al. showed that motivation was consistently higher in the group participating in the choice unit. Ward et al. also found that going from choice in unit one to no-choice in unit two significantly decreased the motivation of the 122 seventh and eighth grade girls. Interestingly, results showed no significant differences in pedometer step counts. For this study the participants were not demonstrating more PA

regardless of choice or no-choice which is opposite of their initial hypothesis. They note that this may be due to the teacher's expectation of effort no matter their motivational level for the unit.

In relation to Ward et al., Xiang et al. (2013) performed a study to examine the relationship between instructional choices in PE and student engagement. For this study there were 92 middle school students enrolled in six schools in Hong Kong. These 92 students were asked to complete a questionnaire, independently, during their physical education class. They were encouraged to ask questions if they did not fully understand something and were reminded that their PE teacher would not have access to their truthful responses. On this questionnaire students were asked to rate each item on a 5-point scale in regard to their feelings on instructional choices and student engagement. The instructional choice questionnaire items focused on how the students perceived the amount of choice their teacher gave them. An example of an item on this part of the questionnaire is, "In my physical education classes my teacher allows students to choose their partners". The scale ranged from 1 (not like him/her) to 5 (very much like him/her). The other part of the questionnaire focused on the students' perceptions of how well they engaged in their PE class. An example from the questionnaire focusing on student engagement states, "I work hard to do well even if I do not like something we are doing". The student would rate a 1 if they thought that statement was not like them, up to a 5 where they thought that statement was very much like them.

Through analysis of these 92 middle school students questionnaires Xiang et al. found that students that perceived that their teachers allowed them to have choices in PE were more likely to engage in that PE class. In more detail they found that cognitive choices, such as

allowing students to ask questions, and procedural choices, such as allowing students to choose when to start or stop activities, led to the greatest engagement. Organizational choices, such as allowing students to choose their teams, did not prove to be a positive predictor of student engagement for these middle school students.

Quite similarly Agbuga et al. (2016) focused on the relationship between perceived instructional choices, student autonomy needs satisfying and engagement in 246 middle school students. The researchers of this study wanted to further understand how perceived cognitive, organizational, and procedural choices related to students' autonomy need satisfaction and engagement in PE. Much like Xiang et al., the use of questionnaires was used to gather information straight from the students. These questionnaires were on a 5-point scale, ranging from 1 (not at all true) to 5 (very true). Items were on the questionnaire that focused on students' perceived instructional choices, such as "In my physical education classes my teacher allows students to solve problems individually". An item on the questionnaire that was more directed towards student autonomy need satisfaction includes "I have some choices in what I do." Lastly, an item on the questionnaire may focus on student engagement, such as "I try hard to do well in class". While completing these questionnaires students were carefully monitored, assured that only the researchers would have access to their responses, and encouraged to ask questions if clarification was needed. When all of the data was collected, several analytic tools were used to answer the questions raised by the research team.

Overall, their results showed that instructional choices supported autonomy need satisfaction and enhanced student engagement in the 246 middle school physical education

students. Students that felt they had choices provided by their teacher were more likely to engage cognitively, behaviorally, and emotionally.

Meester et al. (2020) used a different, unique approach, but also focused on the impact of choice among 277 middle school students. Meester et al. performed a video-based investigation to examine the effects of choice and positive feedback on need satisfaction and autonomous motivation. The 277 middle school students were randomly assigned into four experimental conditions: choice and positive feedback, no-choice and positive feedback, choice and no positive feedback, or no-choice and no positive feedback. Instead of these students actively participating in these four conditions, videos were made to replicate the condition in a physical education setting, the students watched their assigned video, then were asked to fill out a questionnaire. For example, if a student were assigned the condition choice and positive feedback, they watched a video of a physical education setting where the student participating received choice and positive feedback. Participants were then asked to imagine being the student in the video while completing their questionnaire. Scenarios where the students had choice included different warm-up options and choosing who they wanted to work with. Whereas no choice videos showed the teacher deciding the warm-up and who the students worked with. In the no positive feedback condition, the teacher in the video would simply give corrective feedback telling the student only what they needed to improve on. Unlike the positive feedback condition where the teacher would combine a positive statement with a reminder on how to improve the movement. Much like previous studies, this one also included a 5-point scale questionnaire ranging from one (not true at all) to five (completely true). This

questionnaire had items focusing on need satisfaction and frustration as well as motivation for PE.

The research team hypothesized that students would anticipate more satisfaction and motivation when receiving choices and a lack of choice may lead to more autonomous frustration. The results proved their hypothesis to be correct, when given the option of choice as well as providing the student with positive feedback leads to increased student autonomy and satisfaction as well as having a positive impact on students' motivational experiences in PE. This unique study performed by Meester et al. continues to prove the positive impact that instructional choice can have on middle school physical education students.

Impact on Elementary School Students

Instructional choices can be utilized at the middle school level as well as the elementary physical education environment. Much like several other studies, Kleitsch and Hodges Kulinna (2022) focused their study on providing instructional choices, but in this case, it was to 50 fifth grade students. The purpose of their study was to determine if student instructional choice increased enjoyment, motivation, physical activity, and attitudes in PE. This was a six-week study where one PE class participated in a three-week no-choice volleyball unit followed by a three-week choice hockey unit. The other physical education class in this study started with a three-week choice volleyball unit followed by a three-week no-choice hockey unit. Similar instruments were used in this study as previous studies, for example the SIMS was used to measure students' situational motivation, and pedometers were used to measure PA. Qualitative measures were also used to collect data in this study. The physical education teacher took field notes and conducted student interviews to gain further insight on students'

feelings towards the two units. The Physical Activity Enjoyment Scale (PACES) was a tool also used to measure enjoyment of a physical activity. This instrument is a questionnaire on a 5-point scale, much like several other studies used. When conducting this study, the choice groups received many more choices on warm-ups as well as choice on activities and what groups they wanted to participate with. The no-choice group was all teacher-chosen and teacher-led, students lacked options to pick from.

The results of this study show many similarities as studies that were done with older, middle school physical education students. According to Kleitsch and Hodges Kulinna there was an increase in enjoyment as well as motivation in the choice unit in comparison to the no-choice unit. There also were significantly more steps in the choice hockey unit in comparison to the no-choice hockey unit.

In the student interviews there were a lot of mixed feelings from students that would be valuable to any physical educator. In regard to choice of partners or teams, some students stated that they would prefer the teacher to pick groups so they got to become friends with more students whereas some students felt they wanted to have a choice to be sure they got to work with someone they could get along with. Almost every participant in the interviews stated that they would prefer to have choice in the instructional activity. Some reasoning from the students included thoughts that choice increases motivation to play and participating in an activity they are good at could lead to increased PA. One student stated, “We should have more choices to be more entertained”. When physical educators hear these thoughts coming straight from the students mouth it should be taken into consideration when developing teaching strategies.

In a similar study, Erwin et al. (2013) focused their study of 292 third through fifth graders on the relationship among level of autonomy provided and children's self-determination for physical activity levels in elementary physical education. This study also had students participating in choice and no-choice units, but they added in the variable of team and individual activities. In the five-week study the participants experienced four lesson types: team choice, team no-choice, individual choice, and individual no-choice. The team sports lessons focused on skill practice, but when provided choice students could choose activities such as which station they wanted to work in. Whereas the no choice lesson, teachers displayed more of a command style of teaching, telling students where they had to start and how to progress through the lesson. The individual lessons were similar, but an individual sport was used, for example, tennis. Again, students completed the SIMS to assess their situational motivation and they used pedometer as well as accelerometers to assess their PA.

The results of this study have several similarities as other studies of its type, but also some notable differences worth discussing. Unlike many other studies, this study showed no differences in motivation throughout the four different lessons. When Kleitsch and Hodges Kulinna conducted their similar study they found motivational differences, as well as many of the middle school studies reviewed. This should be noted and discussed in the following chapter. In regard to PA, Erwin et al. found that the fewest number of steps were in the individual no-choice lesson, possibly due to the nature of the lesson, and the greatest number of steps were in the team no-choice and team choice, again, possibly due to the nature of the lesson. The lesson type that yielded the largest amount of time students spent in MVPA was the team no-choice and individual choice lessons. There could be many reasons for these

differences. This study suggests that it could be that these specific students are more intrinsically motivated, meaning no matter the lesson type they will find motivation. Regarding the step counts, there are many variables, the greatest one being the nature of the lesson, this individual activity was tennis, and the team sport was soccer, but changing these activities could drastically change the students PA.

Unlike Kleisch and Hodges Kulinna or Erwin et al., Sanders et al. allowed their participants with choice in both conditions, but they focused on the comparison of giving high amounts of choice and low amounts of choice to their young participants in a less structured physical activity period. The purpose of their study was to assess the physical activity behaviors of children in a 30-minute period for active play as well as their “liking” of the activity period. In this study the 20 participants, aged 4-8, participated in a high choice condition as well as a low choice condition. While participating in this study they wore an accelerometer to measure how active, or non-active they were. They were also asked to indicate their “liking” of the condition by using a visual analog scale. This scale on the far left was labeled “Do not like it at all” and on the right was labeled “Like it very much”. Students were asked to draw a line on the scale to indicate how they felt about the specific condition they experienced. The high choice condition had a total of eight different physical activity options and the participants were able to have free access to all of them. In addition to the active equipment there were also some sedentary activities set up, for example coloring sheets, that the students were also able to use. The low choice condition only had two physical activity options and the same sedentary activities set up.

Sanders et al. found that students were more active during the high choice activity period, and they liked that condition more than the low choice condition. Although they were

more active in the high choice condition, they were demonstrating MVPA over 50% of the time in both conditions and they spent significantly more time being physically active than they spent participating in the sedentary activities. A very unique result from this study was students in the low choice condition, when becoming bored, found different ways to use the equipment provided and began to create their own physical activities to make this condition more enjoyable for them. Again, the literature showed that giving students more autonomy increased physical activity and much like Kleitsch and Hodges Kulinna they found that even at this young age students liked having more choices.

Curricular Negotiation

A different type of choice that can be offered to students in physical education is referred to as curricular negotiation. In curricular negotiation the teacher and the students create an environment where they build aspects of the curriculum together, of course led by the state and national standards (Guadalupe & Curtner-Smith, 2019). This process is not an easy one for the teacher or for the students but may yield results worth looking into for physical educators.

Guadalupe and Curtner-Smith published research in 2019 and 2020 focusing on this strategy of curricular negotiation, each study was a little different and had some different results because of this. Guadalupe and Curtner-Smith (2019) conducted their study on one seventh grade class that consisted of 32 boys and no girls. This was an 18-lesson unit where the curriculum was negotiated between the teacher and the 32 boys. Following standards, the boys were able to work together to make decisions on their goals for the lessons and how they would learn. The purpose of this study was to investigate the impact of this strategy on the

boys in a qualitative fashion. Similar to this research, Guadalupe and Curtner-Smith (2020) conducted a study where they had the same purpose, the same number of lessons were negotiated with the students and teacher, but this study was done with a class of 45 mixed-gender seventh grade students.

Coincidentally, each study conducted by these researchers had a similar framework. With some guidance the students were able to build their own curriculum, they were able to participate in this curriculum, and throughout the whole process data was collected mainly using qualitative measures. Many observations and field notes took place, there were informal interviews, reflective journals, critical incident journal, formal interviews, simulated recall interviews as well as focus groups (Guadalupe & Curtner-Smith 2019; Guadalupe & Curtner-Smith 2020). With all of this data compiled in each study, the research team drew many conclusions.

Many results noted were very positive, especially in the social aspect of physical education. Guadalupe and Curtner-Smith (2019) found in the study with all boys the process began to give the less athletic boys more of a voice in their PE class. There were many observations that showed these boys being more engaged and displaying more enjoyment while in PE. Also, the typically dominating boys started to show fewer negative views of their peers and have more positive behaviors and interactions (Guadalupe & Curtner-Smith, 2019).

When conducting this study with the mixed-gender group, the researchers again got some great data on the positive implications of curricular negotiation. Guadalupe and Curtner-Smith (2020) found that boys and girls relationships improved significantly, and they began to overcome the negative effects of hegemonic masculinity in PE. They also found that in the

beginning of the study students seemed shy to share their opinions, but overtime students became less shy and more willing to share. Also, similarly to Guadalupe and Curtner-Smith (2019) they found that the lower skilled students began to reconnect with their peers and the class. These results give great value to physical educators because they are coming right from the students that participated.

Both studies by Guadalupe and Curtner-Smith yielded some great results and again show a unique way of giving students a voice in their learning environment. But they faced challenges in these studies also. The most noted challenge came from the teachers of these PE classes, both teachers struggled to step back and guide discussions and decisions instead of making the decisions themselves (Guadalupe & Curtner-Smith 2019; Guadalupe & Curtner-Smith 2020).

Summary

When reviewing the literature for the purpose of this paper, three categories were formed: the impact of instructional choice on middle school students, the impact of instructional choice on elementary school students, and the impact of curricular negotiation. Through that review there were a lot of similarities and just a few differences found. It seemed that motivation and physical activity were the main focuses of the research, but more results, such as social aspects emerged. Each study consisted of different variables, different methods or procedures and different participants, but each piece of literature provided an increased understanding and knowledge for the physical educator.

The need for physical educators to find unique, new, and fun ways to get their students involved in activity is critical for students to be lifelong learners. Not every student responds

well to direct instruction from their teachers. Giving options with a more autonomy-supportive teaching style can give the students the feeling of more control leading to a more positive experience for them, their peers, and the teacher. With an increased push for this, including professional development, teachers may feel more comfortable to build teacher-student relationships and allow the students to navigate their learning experience with the guidance of the physical educator.

Chapter 4 - Results, Discussion and Recommendations

The purpose of this chapter is to present the results of the review of literature on the impact of choice in elementary and middle school physical education and how these results align with the purported research questions which guided this synthesis project. In addition, recommendations for future research as it relates to choice in elementary and middle school physical education are presented.

The results of this review of literature revealed that choice for students can have a positive impact in physical education and can be presented to students in different ways. The following conclusions were made. First, there are several different positive teaching strategies that give students choices. These include giving students instructional choices, such as picking their partners or picking what station to start at, or teachers can work with students to give them curricular choices, such as picking what activities they are going to do to cover state standards. Second, giving students choice, both instructional and curricular, can lead to an increase in motivation, enjoyment, and typical physical activity. Allowing students to feel like they have a voice in their education leads to an overall positive impact on the physical education learning environment.

Discussion

Interpretations

As part of this literature review, several research questions were posed. The first research question investigated how student choice impacts students in physical education. The results of this literature review show various positive outcomes from providing students with choice. For example, when Ward et al. (2008) conducted research with seventh and eighth

grade girls they found that when students participated in a choice unit their self-determination was much greater than when the girls participated in a no-choice unit. The increased feeling of autonomy for the girls lead to higher levels of self-determination in this research. Kleitsch and Hodges Kulinna (2016) found several positive effects when providing choice in a volleyball and hockey unit to fifth grade students. They found through qualitative and quantitative measures that students enjoyed PE more when they had choice, their intrinsic motivation increased, and their step count in class increased. Though this study was a rather small sample size of only 50 students, there was a clear desire from the students to have instructional choices and the results show several positive effects. This study was not the only study that showed an increase in physical activity through increased choice. Sanders et al. (2016) also found that providing students with more choices led to over 20% more physical activity. Agbuga et al. (2016) used questionnaires to find that providing instructional choices were positively related to overall student engagement in PE. These middle school participants demonstrated a high desire for autonomy and when they felt they were in an autonomy-supportive environment they perceived their engagement would be greater.

According to the literature, curricular negotiation, a more unique way to give students a voice in their learning, can also have a positive impact on the students in PE. Guadalupe and Curtner-Smith (2020) found that through the process of curricular negotiation students began to build stronger relationships, lower-skilled students started participating more, and students had more confidence to share their ideas in PE as well as in other classes.

The second research question examined the different strategies that teachers use to provide their students with choice. The literature showed many quality strategies that physical

education teachers can use to provide students with choice in their learning. Xiang et al. (2013) broke down the idea of providing instructional choices into three categories: cognitive choices, organizational choices, procedural choices. Teachers can provide choices in all three of these categories to yield the benefits of instructional choice. Examples of instructional choices used by Kleitsch and Hodges Kulinna include allowing the students to decide on rules or equipment for games, choosing who they want to work with, choosing the color of equipment, and selecting what difficulty level they want to start on for the activity. These are all great strategies that can be used by any physical educator to implement more choice in their day-to-day teaching. Curricular negotiation is another strategy that provides students with choice. Guadalupe and Curtner-Smith conducted research where the teacher learns how to build a curriculum with the voices of the students instead of the teacher doing this by his/herself. Though this strategy takes much more time and effort it builds strong relationships and impacts the learning environment in a positive way.

Implications

When reviewing the literature on choice in physical education it is fairly clear that most researchers have come to similar conclusions. Providing students with choice, even as young as kindergarten, has a positive impact on physical education. Whether students are more motivated to participate, more self-determined, or more physically active, it is vital to know that the impact is positive throughout the current research. As physical educators these conclusions can help lead to a better physical education experience for students.

Not all studies came to the exact same conclusions, however. For example, Erwin et al. (2013) did not find that situational motivation increased during their choice unit, whereas many

other studies did find motivation to increase with choice. But overall, the conclusions found in this literature review are very comparable with the current research.

These results show that the most common way of teaching physical education, direct teaching, may not be the most effective. The direct teaching method focuses on telling the students exactly what to do, when to start, and when to stop. Whereas a more autonomy-supportive teaching method provides students with more choice in their education. There are barriers to allowing students choice, including the teacher having the feeling they do not have full control, but it is imperative for physical education teachers to understand the benefits of student choice and begin to implement them in their learning environment. Knowledgeable physical educators can provide professional development to pre-service teachers to increase their awareness of the importance of choice.

Recommendations for Future Research

In reviewing the data base on the impact of choice on elementary and middle school physical education students the following limitations were noted regarding the studies under review. It may be difficult for young students to fully communicate their feelings whether it be on a questionnaire, survey, or an interview. Also, they may just communicate what they think the researchers want to hear, not fully understanding that it's okay to have different opinions on the research. Another limitation was that most studies focused specifically on a characteristic of the students where more variables could have been impacted and recorded through student choice. The last limitation was that most studies were rather small and done in a short period of time.

Based on these limitations and other insights related to the literature the following recommendations for future research should be considered:

1. Future research should extend over longer periods of time. If researchers spend a whole year studying a choice-based physical education program the impact may be different.
2. Future research should use a qualitative approach to notice more possible impacts of choice, positive or negative.
3. Future researchers should build strong relationships with students before conducting the research so they are a trusted adult that students know they can tell their true feelings to.

Summary

The purpose of this literature review was to determine the impact of choice in elementary and middle school physical education. Delimiting variables were used to do an exhaustive data-based search which yielded 10 articles. These articles were then systematically used to determine the impact of choice in elementary and middle school physical education. Research revealed a number of findings.

Choice in physical education can be looked at in a number of different ways. Providing students with instructional choice can lead to students having increased physical activity, motivation, engagement, enjoyment, and self-determination. Curricular choice can lead to many of the same positive outcomes in addition to a more positive social environment for all students, no matter the skill level. Physical educators need to be aware that research shows a lot of positive outcomes from providing choice in physical education and although giving

students more freedom in their education can be difficult for many, student choice is something that should be strongly considered.

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**Appendix A
Article Grid**

Author	Title	Source	Purpose	Methods & Procedures	Analysis	Findings	Discussion/ Recommendations	Research Notes –
Jillian Ward, Carol Wilkins, Susan Vincent Graser, Keven Prusak	Effects of choice on student motivation and physical activity behavior in physical education	Journal of Teaching in Physical Education	Investigate the effect of increased autonomy on girls' self-determination, and to examine how increased autonomy affects activity levels in their physical education class	122 seventh and eighth grade girls participated in two 7-day fitness units, separated by a 3-week volleyball unit. One fitness unit was a choice unit and one unit was a no-choice unit. The no choice group were assigned teams and told what activities they needed to	To analyze the girls PA a Walk4Life LS 2015 pedometer was used. To analyze situational motivation a Situational Intrinsic Motivation Scale (SIMS) was administered twice, after each 7-day unit. A Sport Motivation Scale (SMS) was completed one month before the fitness unit and	Self-determination was higher in the choice unit. Girls who experienced the choice unit first then the no choice unit had the lowest levels of self-determination. There were no significant differences in step counts for students.	The greatest finding in this study is that a physical education environment that provides choice does lead to greater self-determination but not necessarily cause an increase in PA. When students experienced choice in the first unit and then no choice	Should teachers start to use more choice in activities that students seem to have less motivation for? This study does not show much of an increase in PA, maybe because this specific teacher has made it clear

				<p>complete for the class. The choice group was able to pick the activity they wanted to participate in and were not placed into teams.</p>	<p>after the unit using a likert scale. Pearson correlations were computed for the SMS and SIMS. Cronbach alpha was used to assess internal consistency. One way ANOVA was also used for statistical comparisons.</p>		<p>in the second unit is when there was the most drastic change in self-determination. It is recommended that this study also be done with boys as well in different types of units, not only girls in a cardiovascular fitness unit.</p>	<p>in the past that the students are expected to be active and does a nice job encouraging them to do so regardless of their self-determination level. Although giving choice may not lead to more PA in class it may lead to an increased interest in an activity and ultimately lead to more lifelong activity.</p>
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<p>Heather Erwin, Megan Babkes Stellino, Michael Beets, Aaron Beighle, Christine Johnson</p>	<p>Physical education lesson content and teacher style and elementary student's motivation and physical activity levels</p>	<p>Journal of Teaching in Physical Education</p>	<p>To examine the relationships among level of autonomy provided and student grouping for task lesson type and children's self-determination for PA levels in elementary PE.</p>	<p>292 3rd through 5th grade boys and girls participated in this five week study. In the five weeks they participants experienced four different physical education lesson types: team choice, team no choice, individual choice and individual no choice.</p>	<p>SMS was used the week before the study to measure their contextual motivation, it was also then completed by the students at the end of each of the four lesson types. Students in this study also completed the SIMS to assess situational motivation following each lesson. To assess PA students used pedometers as well as accelerometers.</p>	<p>There were no significant findings for situational motivation among any of the lesson types. In regards to steps, the fewest number of steps were in the individual no choice lesson, and the greatest number of steps were in the team no choice and team choice. Also, a larger percentage of time was spent in MVPA within the team with no choice and</p>	<p>This study showed that at the elementary age lesson types can relate to physical activity levels but motivation was not much of a factor in this study. This study believes that most elementary-aged students are already highly intrinsically motivated, so conducting this same study with an older age group may yield different results in</p>	<p>These results are quite different from Ward et al. (2008) though they are similar studies. Though it was not statistically significant girls were most motivated during the individual choice lesson, whereas the boys were least motivated in this lesson.</p>
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						individual choice.	relation to situational motivation. The boys in this study had the most steps in the team no choice lesson, where they were also most motivated and spent the most of their time in MVPA. The girls had no consistent patterns in steps, motivation and MVPA.	
Brianna Kleitsch and Pamela Hodges Kulinna	Tracking student outcomes through	The Physical Educator	To determine if instructional choice increased enjoyment	50 fifth grade students among two physical education classes were a part of this 6-	This study had both quantitative and qualitative analysis. Descriptive analysis was conducted for all	In regards to PA: students who had choice were more active than students without choice	This study showed that increased enjoyment occurred when instructional choices in	This study was a rather small sample size but shows differences in comparison

<p>instructional choices in physical education</p>		<p>, motivation, physical activity patterns, and attitudes and perceptions of PE class.</p>	<p>week intervention. Class one participated in a 3 week no choice volleyball unit, followed by a 3-week hockey unit where they had choices. Class two had choices in their 3-week volleyball unit and no choices in their 3 week hockey unit.</p>	<p>variables. <i>t</i> tests were administered for pre- and post-test differences in student views. Cronbach alpha was used to test internal consistency. Lastly, repeated-measures analyses of variance (RM-ANOVA) tested for differences by gender. The Physical Activity Enjoyment Scale (PACES) measured the enjoyment of PA. Situational Motivation Scale (SIMS) was used to measure</p>	<p>(hockey unit only). In regards to PACES, SIMS and attitudes, students had higher scores when they had the choice condition second. The boys also had higher scores in the PACES instrument in comparison to the girls. Interviews and field notes found students had a desire for instructional choices, sports participation and exercise/running in PE.</p>	<p>elementary PE, as measured by the PACES scale. This SIMS instrument showed that there was an increase in students' intrinsic motivation and a decrease in extrinsic motivation in the choice teaching condition, which is supported by the self-determination theory. This study showed that there were significantly</p>	<p>to Erwin et al. (2013). This study found that enjoyment, motivation, and PA increased with the choice lessons whereas, Erwin et al. found little changes in motivation and inconsistent findings in regards to PA. This study was very limited when it comes to PA but has very valuable</p>
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					<p>students' situational motivation. Pedometers were used only in the hockey unit to measure activity. The fourth and fifth-grade students' attitudes instrument was used to find students' attitudes toward PE. The physical education teacher took field notes and conducted student interviews.</p>		<p>more steps in the choice hockey unit compared to the no choice hockey unit. Many students also found that they enjoyed non-contact activities that were more social in nature.</p>	<p>qualitative data from the actual students about their feelings of instructional choices in PE.</p>
<p>Ping Xiang, Shihui Chen,</p>	<p>Instruct ional choices and</p>	<p>Asian Journal of Exercise</p>	<p>To examine the relationshi</p>	<p>92 middle school students responded to a</p>	<p>Descriptive statistics were used to provide the summary of</p>	<p>Cognitive and procedural choices were most positively</p>	<p>Teachers must be aware of the different types of</p>	<p>It appears that choices do impact student</p>

Zan Gao	student engagement in physical education	and Sports Science	p between instructional choices and student engagement in secondary PE	four-part questionnaire that assessed students' perceptions of instructional choices provided by their teachers and their engagement in PE.	all variables. Pearson product-moment correlations were calculated to identify significant relationships among three instructional choices and student engagement. Also, simultaneous multiple regression analysis was used to assess the predictive power of the three instructional choices in student engagement.	related to student engagement. Organizational choices failed to have a positive impact on student engagement in this study. Students that perceived that their teachers allowed them to have choices in PE were more likely to engage in PE.	instructional choices that are given to students, cognitive, organizational, and procedural. Middle school students see cognitive and procedural choices as motivation, but other grade levels may not feel the same way.	engagement but this study shows that the type of choices may affect the significance of the impact.
Gabriel Sanders	The effect	Journal of	To assess physical	20 children aged 4-8	Descriptive statistics and	Children demonstrated	Though the children were	Though one period had

<p>, Judith Juvancic-Heltzel, Megan William son, James Roemmich, Denise Fed a, Jacob Barkley</p>	<p>of increasing autonomy through choice on young children's physical activity behavior</p>	<p>Physical Activity and Health</p>	<p>and sedentary activity behavior while young children played in a gymnasium setting.</p>	<p>participated in a 30-minute activity time in a gymnasium where they had a high choice condition and a low choice condition. The high choice condition had eight physical activity options as well as several sedentary activities. The low choice condition only had two physical activity options and the same sedentary choices. The children's</p>	<p>ANOVA. Accelerometers were used to analyze the children's physical activity and intensity. These counts were converted into metabolic equivalents (METS). The amount of physical activity time and sedentary time were observed and timed using a stopwatch. The children indicated their liking of the HC or LC condition using a visual analog scale (VAS). This was a 10cm line where</p>	<p>6.3 METS over the HC option and only 5.6 METS during the LC option. Children liked both the HC and the LC condition, but the HC was more liked. Children spent significantly more time being physically active in comparison to sedentary time.</p>	<p>more active in the high choice period, both the HC and LC indicated children were in the MVPA criteria. Increasing autonomy increased physical activity intensity. Children in the LC setting started to create ways to use the equipment to develop their own games, showing that students enjoy having choice and autonomy. When children</p>	<p>more choices, both periods were choice periods. In regards to PA students in both settings were demonstrating MVPA as well as indicating that they liked having choices. At this age with little to no structure choice again seemed to have a positive impact on motivation and PA.</p>
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				physical and sedentary activity was studied. Their “liking” was also asked to indicate how much they liked the activity. After the 30 minute free time they were given the option to do 10 extra minutes.	the left side said “Do not like it at all” and on the right it said “Like it very much”.		were allowed to create their own activities in the LC condition, this may have made the condition more enjoyable.	
Bulent Agbuga, Ping Xiang, Ron McBride, Xiaoxia Su	Student perceptions of instructional choices in middle school physical	Journal of Teaching in Physical Education	To examine the relationships among the three types of perceived instructional choices, students’	246 middle school students participated in this study. The participants completed a questionnaire that included questions about their	Descriptive statistics, Pearson's Product-moment correlations and Cronbach alpha were calculated on the study variables. Path analysis was also used to answer	Instructional choices supported autonomy need satisfaction and enhanced student engagement in middle school PE. Students who felt they	The need for autonomy can be supported by providing the students with choices. This study also indicated that providing instructional choices were	This is another middle school study that shows when students feel like they have control of their learning they

	education		autonomy need satisfaction and engagement in middle school PE.	perceived instructional choices, autonomy need satisfaction and engagement. All items in the questionnaire were on a 5-point scale, from “not true at all” to “very true”.	the questions regarding relationships among perceived instructional choices, autonomy need satisfaction and engagement.	had choices were more likely to engage cognitively, behaviorally and emotionally.	positively related to students’ engagement.	are more engaged, not only physically but cognitively and emotionally as well.
H. Rupprieh, B. Langer, R. Raue, R. Jager, E. Knisel	Students’ physical activity and teachers’ motivational styles in	International Journal of Physical Education	To examine the impact of autonomy-supportive teaching on students’ physical activity levels	101 middle school students, 53 in the intervention classes and 48 in the control classes, participated in this study testing the impact of	Analysis was conducted focusing on PA levels and basic need satisfactions being met. A one-way ANOVA test was performed to determine the group's satisfaction.	In session one and three the intervention group demonstrated higher METs, MVPA and steps than the control group, but in session two the results showed the	This study shows that students did display more physical activity when they were in the 90-minute autonomy-supportive classes. However, not	This study was done on middle schoolers and we see that with an autonomy-supportive teaching, instead of controlling most of them

	<p>physical education</p>			<p>autonomy-supportive teaching on students PA and perceived autonomy. The teachers in the intervention group were given training on autonomy supportive teaching. The first and last lesson the students completed the Basic Psychological Needs Scale in Sport. They also used an accelerometer to measure their physical activity levels.</p>		<p>control group demonstrating higher numbers in these categories. The students in this study also showed very little increase in autonomy when comparing the pre and posttest of the intervention and control group. Though there was a small increase in autonomy it is not statistically significant.</p>	<p>all students were meeting the 50% MVPA recommendation, there were outliers. This study failed to increase perceived autonomy from moderate to high autonomy in both the intervention group and control group. The teachers in this study only did a 3-hour training on autonomy-supportive teaching, perhaps that was not</p>	<p>are displaying increased activity. But, when there are increased choices and students have a voice in their class, some are still not as physically active as recommended. There are of course many factors that play a role in students' activity, not only choices. The results of this study could be significantly</p>
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							enough training?	different by only changing the unit provided.
An De Meester, Femke Van Duyse, Nathalie Aelterman, Gert-Jan De Muynck and Leen Haerens	An experimental, video-based investigation into the motivating impact of choice and positive feedback among students with different	Physical Education and Sport Pedagogy	To examine the effects of choice and positive feedback on need satisfaction and autonomy motivation .	277 middle school students motor skills were tested a month or two prior to the experimental stage. Students were randomly assigned on of the four experimental conditions (choice/positive feedback, no choice/positive feedback, choice/no positive feedback, no	A series of MANOVA analysis took place.	The results of this study indicate that choice increased students' autonomy, satisfaction, as well as decreased experiences of frustration.	According to this experiment, offering choices as well as providing positive feedback can impact students' motivational experiences during PE.	This in addition to several other studies have the common theme that providing choice can lead to increased motivation and satisfaction in PE. This is a unique study because the students did not actually experience the different conditions,

	motor competence levels			choice/no positive feedback). Four videos were made to replicate the four conditions in a PE lesson. The students watched their assigned video and filled out a questionnaire.				they watched them in a video and empathized with the students in the video.
Tasha Guadalupe and Matthew Curtner-Smith	“It’s nice to have choices :” influence of purposefully negotiation the curriculum on the	Sport, Education and Society	To describe the process of curriculum negotiation and the influence of negotiating the curriculum on the students	Forty-five seventh grade students participated in this qualitative study which included an 18-lesson unit where students collaborated with the teacher to negotiate what	In phase 1 of analysis, they focused on the process of curriculum negotiation, and in phase two they focused on the impact this negotiation had on students and the teacher. Codes and categories were	It was found through the data collection that learning to negotiate the curriculum can improve the relevance and the experience for the students. Throughout the 18 lessons, students	The process of this study was not easy for this teacher, or the students. But qualitatively they found that there could be some significant benefits for the teacher and the	This is a unique way to give students choices that go beyond what they want to do as a warm-up or who they want their partner to be. With the guidance of a

	<p>students in one mixed-gender middle school class and their teacher</p>		<p>and teacher</p>	<p>was being taught and how it was being taught. Essentially, these students were able to make decisions about what they were learning, with some restrictions and guidance. Seven data collection strategies were used throughout the study: non-participant observation, informal interviews, reflective journal, critical incident</p>	<p>created to create ideas and broad principles.</p>	<p>became more confident in giving their opinions and became less shy. A significant finding was that boys' and girls' relationships improved significantly, beginning to overcome the negative effects of hegemonic masculinity. Lower skilled students also began to reconnect with their peers and the class.</p>	<p>students. This sharing of power took time and had many imperfections, but built stronger relationships throughout the class, between peers and teacher-student relationships.</p>	<p>properly trained teacher, they were able to have much greater choices and ultimately increase their experience in PE, no matter skill or gender. This study did not focus on PA, adding that may be another way to show the importance of this idea of curricular negotiation.</p>
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				journal, formal interview, stimulated recall interviews and focus groups.				
Tasha Guadalupe and Matthew Curtnew-Smith	“She was really good at letting us make decisions:” influence of purposefully negotiating the physical education curriculum on	Curriculum studies in health and physical education	To investigate the impact of purposefully negotiating the curriculum on a boys’ middle school PE class.	32 boys in one seventh grade PE class participated in this 18-lesson unit where the curriculum was negotiated between the teacher and 32 boys. Speedball, soccer, and floor hockey were the units that were negotiated. The boys were able to make decisions on	In this qualitative study there were two stages in the analytic process. The first involved locating data to begin to answer the research questions. The second, analytic induction and constant comparison were used to categorize the data into key themes.	This negotiation process began to give non-masculine boys in the class more of a voice. There were some observations of these boys being more engaged and displaying more enjoyment in PE. More masculine and dominating boys started to soften their negative views of their peers	This process led to a more equitable form of physical education for all students. Though this is a more complex and challenging way to provide students with choice, it can help students who are typically not successful in PE feel that they have a voice in their learning and in	Future research may want to use different methods of data collection to get more of an idea of student motivation and/or student overall physical activity. This research is very similar to previous research but is limited to

	<p>one teacher and a boys' middle school minority class</p>			<p>their goals and their learning.</p>		<p>and have more positive behaviors and interactions.</p>	<p>the environment.</p>	<p>only boys in this case. The units chosen in this study were very competitive in nature, less competitive activities may yield different results.</p>
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