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Erin Messinger

Southern Adventist University, erinmessinger@southern.edu

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A Comparison of Stability Balls versus Chairs in the Classroom:

Student Preferences and Behavior Management Outcomes

Erin Messinger

Southern Adventist University

Introduction

In a 5th grade classroom, students are given the choice of sitting on a regular four-legged chair at their desks, or using a large grey stability ball as a chair, also known as an exercise ball. What is the purpose of using these alternative chairs? A few teachers at this elementary school initiated the idea behind the use of stability balls as chairs. They had heard from other peers and credible sources that the stability balls could help students express their hyperactivity while sitting at their desks, and aid the teacher in managing student behavior. Not only did peers who had experimented with stability balls in their own classrooms suggest this idea, but it was also deemed credible by multiple research studies. Melissa Clayton and I wanted to measure how stability balls influenced behavior management in this 5th grade classroom and get the personal opinions of the students using them. We wanted to know – were the stability balls really effective for managing behavior and suited to the students' needs? We embarked on a two-week study to measure the effects and potential of stability ball use in the classroom.

Literature Review

Melissa and I were particularly interested in this study because it was supported by previous research. Research shows positive results for students who sit on stability balls in their classrooms. In Michelle Morris' class, her students are more likely to stay in their bouncy seats rather than wander around the classroom and focus more on their schoolwork (Shane, 2011). Another teacher found that his students had more energy during the day and seemed more prepared to learn (Cotant, 2008). The change from normal chair to stability ball, in some cases, has increased on-task behavior and improved attention levels. In one study, all of the students involved had improved attention and hyperactivity levels while sitting on stability balls – the greatest effect occurring for children who had significant difficulties paying attention before changing chair types (Erwin & Fedewa, 2011). Another source indicated that the majority of

students in a classroom were in support of stability balls. In this case, through written response, out of a total of 30 students, 26 responded positively to the exercise balls and 4 had negative responses. In this classroom, the teacher noted that her students were better able to focus for about 30-45 minutes than normally with chairs. This teacher continued to use stability balls as chairs in her classroom after the study was over (Schilling, Washington, Billingsley, & Deitx, 2003).

Another positive aspect of stability ball chairs is taken from a 4th grade classroom. Focus was increased for the students and the balls were seen as tools to help them succeed (Dungca, 2014). Angela Hanscom writes that, “Ironically, many children are walking around with an underdeveloped balance system today– due to restricted movement. In order to develop a strong balance system, children need to move their body in all directions, for hours at a time. Just like with exercising, they need to do this more than just once a week in order to reap the benefits (Strauss, 2014).”

Methodology

Curious about the effects of stability balls, Melissa and I decided to create our own experiment. We used a sample of students from a fifth grade classroom. The students numbered twenty-four in total. These students had the reputation of being unruly and hard to manage according to their previous teachers. To prepare for the study, we visited the teacher in her classroom, asked her permission to perform our research and talked about our ideas for the research project. We tossed around ideas of how we might measure behavior from students while sitting on regular chairs, or sitting on stability balls. She informed us of previous patterns that she had seen with her class regarding behavior, implications, and other teacher’s experiences with the exercise balls. She also mentioned that the students had started the school year sitting on stability balls and had been using them for two months. Since her class took a lot of energy to

handle, we did not want to intrude on her class time. In collaboration with the teacher, we decided to measure their behavior using the behavior management program she already had in place for the students as a class and individually. She gives the whole class a tally for good behavior, and takes away a tally when she notices negative group behavior. For individuals that are off task, they must pull a card. When a card is pulled, they lose a point.

Using her behavior management plan enabled us to perform the experiment without taking away her valuable class time. We conferred with her around this idea and decided that for two weeks we would measure the student's behavior and preferences regarding stability balls and regular chairs. We also decided that the students would be aware that the study would be taking place. During the first week, the students would sit on regular chairs. The teacher would measure their behavior using her class tally method, and individual card pulling. This information would be collected and given to us at the end of the two weeks. The students would sit on stability balls during the second week of the study. During this time, the teacher would also use the same method of behavior management for the class as a whole and as individuals. This information would also be collected and transferred to us at the end of the two-week study.

As part of our research, we also wanted to gather the opinions of the students regarding the differences between the stability balls and regular chairs, and how they felt about them in general. We created a survey of seven questions that the students could respond to (see Figure 2). We would visit the classroom and administer the survey ourselves at the end of the second week of the study. Not only did we want to document how student behavior was measured during the two weeks of observation, but also wanted to incorporate student feedback in order to gain further perspectives from their point of view.

To protect the rights and privacy of the participants, we sent a letter home to the parents of the students informing them of what would be taking place during the two-week experiment.

We also gained informed consent from each student by providing him or her with an informed consent form to sign. The informed consent paper also gave students the option to not participate in the study. All of the students complied to participate in the study.

Research Outcomes

The research study began with the students using chairs as their seats. They sat on chairs from Monday through Friday. During this time the teacher administered behavior management discipline with her students for the whole class and students individually. On Thursday of the first week, I found out that another teacher would be coming in the second week on Thursday and Friday to substitute. She also informed me that the students had been following an irregular schedule because of grandparent's day and other school activities. Knowing this information, we were able to recognize these implications present within our study.

The second week, the students sat on stability balls and the same procedure was followed, but behavior management was only recorded for Monday, Tuesday, and Wednesday since a substitute stepped in on Thursday and Friday. Since the information gathered during the second week only included three days, the teacher decided to give us the marks from the first week for the same three days. She did this in order to keep the data as consistent as possible under the given circumstances. At the end of the second week of the study, Melissa and I went into the classroom and administered the survey we had prepared for the students. We explained that we were the researchers behind the study, introduced ourselves, and explained how to fill out the survey. The students took the survey and we collected them afterwards. There was a slight complication with Question 6 because it was worded incorrectly, but we re-explained to the students how to answer it. Our contact with the students in this study was limited, although we were able to gather the data we needed, and formed the study to be this way as to not interfere frequently with the teacher's daily schedule.

Conclusion – Discussion of Findings

Behavior Management

From what we measured, using the behavior management plan of the teacher, the students as a whole behaved better as individuals with regular chairs than with stability balls. When the individual scores of the students using chairs were added up, their points equaled 13. The lesser the individual score count, the better the behavior was that day. When the individual scores of the students using stability balls were added up, their points equaled 20. Here we saw an example of stability balls as possibly being a negative factor for student behavior. However, we also realized that the data revealed too little about individual student behavior in order to see any solid correlation between that and the stability balls. The students as a class also earned more positive tallies with regular chairs than with stability balls (see Figure 1).

Student	Monday with Chairs	Tuesday with Chairs	Wednesday with Chairs	Monday with Balls	Tuesday with Balls	Wednesday with Balls
1						
2						
3						
4	-1					
5	-1			-1	-1	
6		-1	-1	-1	-1	
7						

8						
9						-1
10				-1	-1	
11						
12	-1			-1		
13	-1	-1		-3	-1	
14						
15						
16	-1	-2				
17	-1			-1		
18						
19						
20	-1			-1		
21				-2		-1
22						
23		-1			-1	-2
24						

Figure 1 Daily Student Points

Student Preferences

When reviewing the student surveys we noticed that the majority of the students enjoyed using the stability balls and believed that they were a positive factor in general (see Figure 3 & 4). The majority of students also saw the balls as a benefit to themselves, and not as a distraction for their neighbors. It was interesting to compare their point of view about the exercise balls with the background information we knew from the teacher about the difficulty of managing the balls in the classroom.

Question Number	Student Survey Questions
Q1	Do you prefer to sit on the stability ball chair or a regular chair?
Q2	Do you find the stability ball chair helpful to you while listening to your teacher?
Q3	Do you find the stability ball chair helpful to you while you are doing your schoolwork?
Q4	Do you think that the stability ball chair is a distraction for you?
Q5	Do you think that you using the stability ball chair is a distraction for your classmates?
Q6	Do you feel you behave better in class with a stability ball chair or a regular chair?

Q7 Do you find it distracting when your classmates are using the stability ball chairs?
 Figure 2 Student Survey Questions

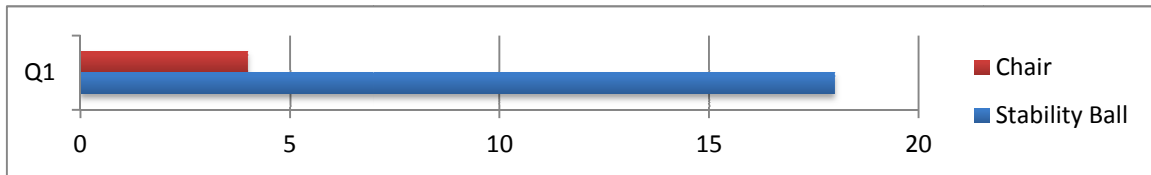


Figure 3 Chairs vs. Stability Balls

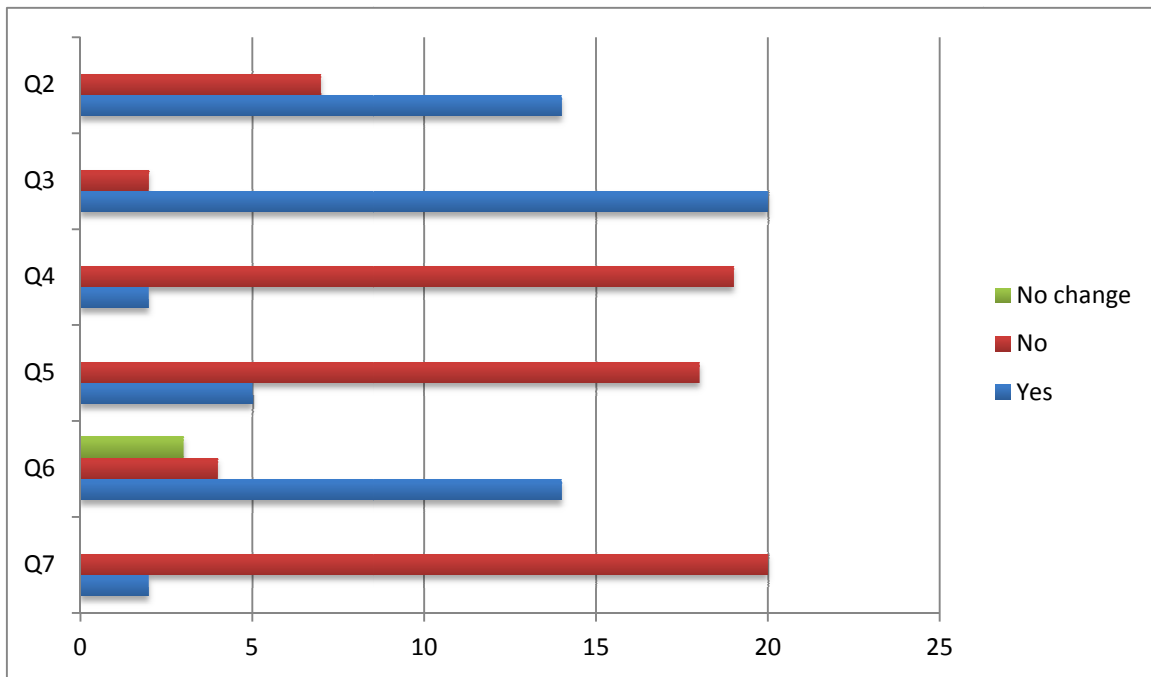


Figure 4 Questions 2-7

Limitations/Implications

Understanding that there were limitations in this study helped us realize what to modify for our next research project involving stability balls. Besides the implications listed previously that occurred during the study, the teacher had also mentioned that the balls were more of a nuisance because the students came in and out of the classroom often in transition between classrooms. This led to the stability balls rolling away from the desks. She also mentioned that students had preferences about the firmness or softness of the balls. If students were not pleased

with their choice of ball, time would be spent trying to trade with a classmate to find the right fit. This occurred because the other 5th grade class also used the same room and switched around the balls from their original locations in-between transitions.

Conclusion

This study showed us that in general, students preferred the stability balls over regular classroom chairs, but also revealed that not all cases of stability ball use are positive for both student and teacher. More time should be given for the next study, and being aware of the weekly schedule of the classroom would be helpful to avoid as little interruptions as possible. Although there were limitations present in the study, Melissa and I were still able to learn more about the use of stability balls in the classroom, student preferences, and how they may or may not affect classroom management. It remains to be seen, through more research, the true nature and reasoning behind the use of stability balls in the classroom.

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Appendix A

October , 2014

Dear Parent or Guardian,

We are presently involved in a research project on the use of stability balls as chairs in classrooms and their impact on classroom management and student ability to concentrate.

We would like permission for your child to participate in our study. Stability balls are already being used in your child's classroom and we will be observing the students and monitoring their behavior while they are using stability balls and while they are using traditional chairs. We will also be conducting a survey in which we ask the students how they feel about the stability balls and whether they feel that they help them to concentrate in class or if they are merely a distraction.

Your child and their responses will remain confidential. Neither the name of the school or the name of your child will be used in our research paper. The use of this information is primarily for our learning.

If you have any questions about our research or your child's participation please feel free to contact Erin Messinger at erinmessinger@southern.edu or Melissa Clayton at mmccauley@southern.edu .

Sincerely,

Melissa Clayton and Erin Messinger

Southern Adventist University
Department of Psychology and Education

Appendix B

October ,2014

Dear Student,

We are from Southern Adventist University and we are doing a research study on the use of stability balls as chairs in the classroom.

As a part of our study, we would like to ask you to complete a survey telling us about how you feel about using the stability ball chairs. We are looking specifically at how they affect classroom management and whether you, the student, feels they are helpful or not.

Being in this study will not harm you in any way. However, there are not benefits for you either. The study only helps us, as future teachers, to learn more about students and ways to increase their learning.

You are not required to participate in this study. At any time you have the right to say that you no longer want to participate.

Your parents have been asked if you can be in this study and even if they say yes, you still do not have to participate.

Your information and your responses to our questions will be kept private. We will not be using your names or the name of your school in our research paper.

If you have any questions, please let your teacher know and she can contact us.

Sincerely,

Melissa Clayton and Erin Messinger

Please mark one.

I understand the study and I agree to participate.

I do not agree to participate in the study.

Printed Name: _____

Signature: _____

Appendix C
Student Survey

Please circle your response.

1. Do you prefer to sit on the stability ball chair or a regular chair?

Stability Ball

Chair

2. Do you find the stability ball chair helpful to you while listening to you teacher?

Yes

No

3. Do you find the stability ball chair helpful to you while you are doing your schoolwork?

Yes

No

4. Do you think that the stability ball chair is a distraction for you?

Yes

No

5. Do you think that you using the stability ball chair is a distraction for your classmates?

Yes

No

6. Do you feel you behave better in class with a stability ball chair or a regular chair?

Yes

No

7. Do you find it distracting when your classmates are using the stability ball chairs?

Yes

No