

The Effects Of Intrinsic and Extrinsic Motivations on Academic  
Performance of Seventh Grade Students

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**Abstract**

The purpose of this study was to examine the difference between intrinsic and extrinsic motivation on academic performance of 7<sup>th</sup> grade health students. The population of this study came from University School, which was a K-12 laboratory school enrolling 499 students, 267 included girls and 232 included boys. The sample consisted of 7<sup>th</sup> grade students between the ages of 13 and 14 year olds in a health class. There was a total of 16 students of which 10 were girls and 6 were boys. Two units, which were similar in comprehension and difficulty, were selected for this study. First unit was taught using extrinsic motivation strategies and second was taught using intrinsic motivation strategies. At the end of each unit the students were administered a unit test and data were recorded. Both test scores were compared for difference. The results showed no significant difference in overall test scores when students were taught using extrinsic and intrinsic strategies. Similarly, no significant difference was found when boys and girls were compared. However, the overall mean score of intrinsic motivation was slightly higher. The results suggest that teaching using intrinsic motivation strategies may be beneficial to students than using extrinsic motivation.



Date: 12.08.14

From: The Institutional Review Board (IRB) at Milligan College

Re: The Effects of Intrinsic and Extrinsic Motivation on Academic Performance of Seventh Grade Students

Submission type: Initial Submission

Dear Bettina Chirica,

On behalf of the Milligan College Institutional Review Board (IRB), we are writing to inform you that your study 'The Effects of Intrinsic and Extrinsic Motivation on Academic Performance of Seventh Grade Students,' has been approved as expedited. This approval also indicates that you have fulfilled the IRB requirements for Milligan College.

All research must be conducted in accordance with this approved submission, meaning that you will follow the research plan you have outlined here, use approved materials, and follow college policies.

Take special note of the following important aspects of your approval:

- Any changes made to your study require approval from the IRB Committee before they can be implemented as part of your study. Contact the IRB Committee at [IRB@milligan.edu](mailto:IRB@milligan.edu) with your questions and/or proposed modifications.
- If there are any unanticipated problems or complaints from participants during your data collection, you must notify the Milligan College IRB Office within 24 hours of the data collection problem or complaint.

The Milligan College IRB Committee is pleased to congratulate you on the approval of your research proposal. Best wishes as you conduct your research! If you have any questions about your IRB Approval, please contact the IRB Office and copy your faculty advisor if appropriate on the communication.

Regards,  
The IRB Committee

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### **Introduction**

In order for students to be successful there has to be a drive behind it causing them to want to learn. There are two types of motivation children can possess. One is extrinsic motivation which is motivation obtained from an outside force. This could be in the form of students getting candy or a prize for doing what he or she was supposed to do. It can be the desire for affiliation where teachers and parents praise students for their good work. The second type is intrinsic motivation. It is motivation that comes from within a student. Curiosity sparks this type of motivation that allows the student to learn because they are actually interested in the topic (Moldovan, 2014).

Studies have shown that both types of motivation are effective. Powerful extrinsic rewards weaken intrinsic motivation. However, if students know from the beginning they will receive an external reward, they become less interested. Choice plays a big role in student engagement. A study led by Landen and Willems showed that students who had to pick their favorite activity during free choice time had become less interested because it became a requirement. The students who did not have a limit on which activity to do during free choice showed a higher interest in the activity at hand. This demonstrated that in order for students to spark interest from within, they have to have choice and get an input on how they go about the learning process (Landen and Willems 1979).

Sparking intrinsic over extrinsic motivation in students is crucial to keep their interest in learning throughout the years. According to Gottfried, "Children who have well developed intrinsic motivation are more likely than others to demonstrate strong conceptual learning, improved memory, and high overall achievement in school" (Gottfried, 1990). This is because students are engaged and enjoy what they're doing.

The want to learn correlates with the self-determination theory. Students want to satisfy the need for developing competence, the need for relatedness, and the need for autonomy. This drive creates meaningful connections with others. This can be done in the form of group projects. They also want to initiate and be in control of their own actions. Being able to do this will create intrinsic motivation for students (Deci, Vallerand, Pelletier & Ryan, 1991). Being able to promote intrinsic motivation is key in the learning process for students. Taking content and making it appealing to students draws their attention. It helps students with their overall well-being and makes the time go by faster. According to Chafouleas and Bray, happy children contribute to a positive environment making the overall feel of the classroom and school better for other students and teachers (Chafouleas and Bray 2004).

However, extrinsic motivation has its positives as well. Teachers in Tennessee have to teach based upon the Common Core Standards. Sometimes those standards are written in a very dry way that makes it hard to plan a lesson that sparks the attention of students from the get go. In order to motivate students to pay attention, teachers often use external rewards as a quick fix and attention grabber. Also in the study of Moldovan as mentioned earlier, results showed that over the two month span, extrinsic motivation overall sparked the interest both in grades studied. Although there was some growth intrinsically, extrinsic motivation still reigned. Even after the two-month time span extrinsic motivation prevailed. Extrinsic motivation overall has shown to be a significant benefit (Moldovan 2014).

### **Statement of the Problem**

We know that students learn best when they are engaged in a lesson. Motivation helps them achieve success. Both accounts of extrinsic and intrinsic motivation have made impacts on students. Based upon research both types of motivation work. Although extrinsic motivation makes quick progress on students, intrinsic motivation builds learning in the long-term aspect. Some teachers find it easier to give a student a reward in order to get them to accomplish a task. At the same time, some teachers believe giving students choice and allowing them to have an input in their learning will spark motivation from within without any type of outside reward. Hence, the problem of this study is to examine the effects of intrinsic and extrinsic motivation on academic performance on 7<sup>th</sup> grade students.

### **Statement of Purpose**

The purpose of this study was to determine which type of motivation, extrinsic or intrinsic, has a greater impact on academic performance on 7<sup>th</sup> grade students.

### **Significance**

Researchers have found that students learn more when they are motivated. Although extrinsic motivation ruled to be true at the beginning of the study conducted by Moldovan on elementary school students, there was a greater increase in intrinsic motivation by the 4<sup>th</sup> grade class than the 1<sup>st</sup> grade. It is not stated whether the age of the pupils played a role. As students get older into the middle grades, would intrinsic motivation be beneficial or not? Even so, overall extrinsic motivation had a higher significance than intrinsic in the study (Moldovan, 2014). Like Moldovan, Gottfried stated that students who are engaged are learning. However it is not specified whether this entitles extrinsic or intrinsic motivation as either one could draw the attention of the

student (Gottfried, 1990). On the other hand, Marshall had a different viewpoint. According to him, having positivity, choice, and reflection helps teachers to create a responsibility system that motivates students to be held accountable for their actions because it links to emotion. When this happens students are on task and follow procedures because they know it is what is expected of them to do. This is a form of intrinsic motivation (Marshall 2005). Along with Marshall, Landen and Willems have found that even if an activity may be a student's favorite, it no longer serves interest if it is presented in a way that is no longer a choice. It is crucial that choice comes from the student to derive greatest intrinsic motivation (Landen and Willems 1979). Both types of motivation can make an impact on students, but there is not enough research as to which type would make more of an effect on 7<sup>th</sup> grade students based upon academic achievement.

Teachers assess students in order to see what they have learned. By doing this research, teachers will be more clear as to which type of motivation will have a higher impact on actual student learning. Teachers can use this information and plan lessons by using either extrinsic or intrinsic motivation to engage students. The findings will be valuable to all teachers since many are trying to get the Common Core Standards across and are not sure which motivation may have a higher impact on students, specifically for middle school.

### **Limitations**

Limitations to this study were as follows:

1. The sample for the study came from one class and was not randomly selected.

2. There are different learning styles of students that may help them learn one way better over the other (bodily-kinesthetic, auditory, visually, etc.)
3. Data collection instrument was not tested for reliability and validity.

### Definitions

**Middle school aged students** refers to students in fifth through eighth grades.

**Academic performance** refers to how well students did on a test with 100% being the best.

**Common Core Standards** refers to the state standards required by Tennessee for teachers to teach to students.

**Intrinsic motivation** refers to the ability to want to do or learn something from within.

**Extrinsic motivation** refers to the ability to want to do or learn something because a reward is given.

### Overview of the Study

The purpose of this study was to determine which type of motivation, extrinsic or intrinsic, has a greater impact on academic performance on 7<sup>th</sup> grade students. Chapter one includes the introduction, statement of the problem, statement of purpose, significance, limitations, definition of terms, and overview of the study. Chapter two consists of a review of literature that is pertinent to this study. The research methods used in this study are detailed in chapter three. Chapter four presents the finds of the study. Finally chapter five includes a summary of the finds, conclusions of the study, and recommendations for future research.

## Chapter 2

### Review of Literature

Motivation in itself is not a new concept. Teachers and educators have been striving for ways to get students to enjoy learning materials for a long time. Different schools use different methods of motivating students whether the focus is more on intrinsic, extrinsic, or a combination of both types to bring student success. The reason teachers even attempt to motivate students is to get them to learn. Learning goes beyond the walls of the classroom. If teachers can find a way to spark interest in students to learn, whether for the moment or for life, then they are making a difference in a child's life forever. Researchers have looked at two types of motivation, one that comes from within known as intrinsic motivation, and one that comes from external features called extrinsic motivation (Moldovan 2014). Both can have a huge impact on a student's learning. The goal is to find out if one type of motivation has a stronger effect than the other or if both have an equal effect on students.

#### Understanding Motivation

According to chapter 6 in *Motivation and Personality* by Maslow, motivation is a human drive to satisfy a type of need. This may be in the form of intrinsic, extrinsic, or both types of motivation (Maslow 1954). This motivation controls human behavior in its intensity and quality (Landy, & Conte, 2014). Achieving motivation is measured in ones willingness to be successful and mastering difficult tasks in relation to academic

performance (Tella, 2007). By understanding the background of motivation, the researcher can build off of existing information and alter it to fit their study.

### **The Need to Know**

The reason this study is to be conducted is to give teachers an overall idea of which type of motivation works best so it can be implanted in middle school classrooms everywhere. The ultimate goal of a teacher is to bring about success in a student. This would make him or her an effective teacher. In order to be an effective teacher, he or she must see growth in student achievement and engage students in the process of learning (Anfara, & Schmid, 2007). In today's world, success in school is defined by academic scores whether that is through report cards, ACT, SAT, or test scores. By conducting a study on the same unit and comparing test scores of the control and experimental group, the researcher will be able to get a better understanding of which type of motivation, extrinsic or intrinsic, works better for 7<sup>th</sup> grade students. Incorporating Gardner's Multiple Intelligences Theory will help in trying to motivate students.

### **Relationship of Intrinsic Motivation on Academic Performance**

Intrinsic motivation is the basic force from within a person that sparks a drive (Deci and Ryan 1985). Relating this to students, it is what causes them to learn new material on their own. This type of initiative is sparked when an interest is made that intrigues a student to learn more because he or she wants to without any type of external rewards. Intrinsic is a form of motivation that is categorized through a personality variable called achievement (Sturman, 1999). It builds life long learners through

curiosity. This type of curiosity becomes concrete if it is combined with the beliefs and values of a culture. If a student feels the need to explore something it is because it excites him or her to the point of doing it for pleasure. This causes happiness and interest to occur simultaneously and unconsciously. If the source motivation comes from within and satisfaction is present from the activity, then it is considered intrinsic motivation (Moldovan, 2014). Teachers can help bring out this type of motivation through positivity, choice, holding students accountable, and using some of Gardner's Theories of Multiple Intelligences.

The first topic deals with being positive. Students do better when a matter is presented to them in a way that makes them feel good. Feelings are closely related to intrinsic motivation because how a student perceives a certain idea relates to how well he or she will want to engage in it. Instead of criticizing a student for something he or she has done wrong, focus on the things that were performed well (Marshall, 2005). By doing this, more emphasis is placed on a student remembering a behavior that was praised during a scenario causing that same behavior to more than likely reoccur.

Secondly choice should be given to students because it gives autonomy and makes them feel empowered versus overpowered. It can be a guide for making correct choices by allowing options. It can diffuse emotional tension and allow for less pressure to be placed on the student (Marshall, 2005). A study was conducted on 5<sup>th</sup> graders over the course of 2 weeks regarding choice during free time. In this study the control group



was able to choose any activity he or she wanted while the experimental group had to pick their previously selected favorite activity. Using a likert scale, the results showed higher interest in the activity from the control group because students were given a choice. Even though the experimental group performed their selected favorite task each time, it was not as interesting to them since it was no longer offered as a choice (Landen, & Willems, 1979). The same can be applied to 7<sup>th</sup> graders. Materials should be presented in a way that allows students to make their own decisions while still being related to the topic at hand.

Third, teachers should create a type of responsibility system. In order to bring out independence and have student hold themselves accountable, a hierarchy needs to be taught. At the top of the hierarchy democracy is present. Here students develop self-discipline, demonstrate initiatives, display responsibility, and internal motivation occurs. Giving students a job or a role within the classroom or on a project makes them feel important knowing others depend on them. Below it stands cooperation and conformity. In this category the student is considerate and complies but conforms to peer pressure and is motivated externally. This is where a student adapts to peers' behavior but can be put back on track when told to do so by an authority figure. The bottom two levels are not acceptable as they include bullying and anarchy. Although both top levels are considered acceptable, the ideal level is democracy because it shows a student taking initiative for responsibility because it is the right thing to do on their own without getting something in

return. There are times when teachers have to help guide students into making the right choices, but ultimately it is the student's decision which path to take (Marshall, 2005).

### **Relationship of Extrinsic Motivation on Academic Performance**

Extrinsic motivation is a method of getting a student to do something by giving him or her a reward whether physically or affirmation emotionally. Telling students they will get a piece of candy or a certain prize if they make a certain grade or reach a certain goal motivates them to accomplish the task; however, it is usually only to receive a reward and not for the purpose of learning itself. Besides a physical reward, students will sometimes strive to get a certain grade in order to please parents. These may give praise through compliments or giving them an item. This type of motivation does not necessarily mean students are interested or care about what they are learning. Most students will do the bare minimum to accomplish this reward then deviate away from learning about the topic (Moldovan 2014).

Even though extrinsic motivation can alter a student's natural drive to learn, it can have its benefits. First of all, if a student has to learn a task that he or she is simply not interested in, providing some type of reward can motivate the student to focus and do their best. These rewards have to be tied in to the task at hand. This gives students a reason to attempt making an effort in the learning process. In the study performed by Cooper and Jayatilaka, extra credit points were given if the report had quality and the student was present for the task. These extra credit points were added onto the required assignment. Teacher digression was given on what consisted of the term "quality".

Typically it meant the student wrote in complete sentences and had shown to put in a lot of effort (Cooper, & Jayatilaka, 2006). In the study mentioned, students performed the task not because they felt intrinsically motivated but rather because they felt obligated to do it to receive a decent grade. The extra credit points that were supposed to be the variable for extrinsic motivation did not play out in the intended way because it was not appealing enough for the students. A researcher needs to keep in mind when using external rewards that it must fit the targeted age group as well grasp their attention in the first place.

A second study was conducted that included a difference between intrinsic and extrinsic motivation. A survey was given to students based upon their experience. Based on the study of Moldovan, extrinsic motivation prevailed in the short-term aspect of things. Extrinsic motivation statistically scored higher because students wanted to please parents by getting good notes and grades sent home. Fear of not pleasing them by not mastering this certain type of grade caused students to continue in the regular learning process although it did not spark their interest as much. On the other hand, students who were given didactic games showed a higher increase of intrinsic motivation in the long-term, but the significance was still not higher than the impact extrinsic motivation had on them (Moldovan, 2014). Based on this study, one can conclude to use extrinsic motivation when searching to grab quick student attention and intrinsic motivation when seeking to create a life-long interest in a specific subject.

Giving external rewards can be beneficial if it relates to increasing more academic interest. According to a study conducted by Marinak and Gambrell giving rewards can be

helpful if it is for the preferred behavior. For example rewards should be given in the sense of extra reading time or books instead of something nonrelevant like a pizza party. Rewarding students with a pizza party for reading just has them wanting to read for a pizza party and not for other academic interests (Cole 2014). Rewarding for other academics causes students to learn about more unknown things thus increasing their knowledge.

### **Correlation of Intrinsic and Extrinsic Motivation on Academic Performance**

Intrinsic and extrinsic motivation can be related. Sometimes it takes a form of external reward for a student to realize he or she really did enjoy the learning was required. Without that initial push, the student may have never been introduced to new material. A study was conducted to find the effect of reading comprehension on U.S. and Chinese students and the effect intrinsic and extrinsic motivation had on them. The study occurred by administering a reading test and two questionnaires regarding reading motivation and reading amount. The results were consistent for both ethnicities showing that this can apply to all students. Curiosity, involvement, and challenge were all to strike intrinsic motivation. Recognition, grades, social, competition, and compliance were all factors sparking extrinsic motivation. The results showed that intrinsic and extrinsic motivation were correlated. Students read for multiple reasons. Children may read because they are actually interested in the book or because their parents push for them to read. From this study, “intrinsic motivation was directly associated with narrative comprehension, while extrinsic motivation contributed comprehension through its close

connection to intrinsic motivation” (Wang, & Guthrie, 2004). Students felt as if they were being rewarded through understanding the context of the material. Without these external factors, curiosity and the joy of learning something new would have never been found.

### **Types of Motivation**

One study conducted by a middle school science teacher in India involved place-based inquiry. This means that students learn through experiences within their environment rather than textbooks. Sixty students from four schools were selected based on their interest, motivation, and commitment. Thirty of those students were in the experimental group while the other thirty were in the control group. The experimental group was given a curriculum based upon their environment. The pre and post-test showed significant differences on the level of environmental knowledge, behavior, attitude, and skills. The experimental group scored significantly higher overall (Switzer, 2014). If this was applied to any other middle school setting, results should be fairly similar. This is because students learn in multiple ways through their environment. Gardner’s Multiple Intelligences are based off different techniques teachers can apply in a student’s environment. He performed interviews and brain research on hundreds of people, including stroke victims, prodigies autistic individuals, and so-called “idiot savants.” Gardner claims that all human beings have multiple intelligences in certain amounts. These intelligences are located in different parts of the brain and can either work independently or together. These intelligences can be nurtured and strengthened, or ignored and weakened. According to Gardner, we can improve education by addressing

the multiple intelligences of our students. They include: linguistics, logical-mathematical, spatial, bodily-kinesthetic, musical, interpersonal, intrapersonal, naturalist, and existential intelligences (Lunenburg, F.C., & Lunenburg, M.R., 2014). Linguistics deals with words in relation to their sounds and meanings. Teachers can use this by discussing orally books and writing pieces. Using computers and multimedia can help students who are strong in linguistics bring out their motivation. Applying this to a 7<sup>th</sup> grade health class students can research a topic and create a report by using Microsoft Word or Powerpoint. Logical-mathematical refers to number patterns and reasoning. Teachers can apply this by using cause and effect relationships scenarios when discussing a topic. Looking for patterns in the environments such as the classroom, community, and home help in finding relationships. In a health class teachers can look at how the environment has remained consistent or changed over a certain period of time and relate this to the reasoning of why a phenomena happens. Using drawings, graphics, pictures, and videos help students who are visual-spatial. This can be defined as ones ability to perceive the visual-spatial world accurately and to perform transformations on one's initial perceptions. If lecturing, teachers should include many visuals, videos, and color coded sections that a student can physically see. This can be done in the form of Powerpoints or hand outs that include pictures and sections of information based into specific colors. Students may be able to connect material to a real-life scenario in the form of drawing pictures or using Venn-Diagrams to categorize information. Bodily-kinesthetic includes learning in a surrounding that involves a lot of movement. Students would be moving

around through their environment. Their body would be in motion. Role playing is one method that teachers can use in health class by creating scenarios and letting students take part in decision-making skills. For example students could role-play the right and wrong way to maintain Earth's environment. Musical intelligence incorporates music into the environment. This includes abilities to produce and appreciate rhythm, pitch, and forms of musical timbre; and appreciation of the forms of musical expressiveness. Teachers can help students with this intelligence by playing music in the background. Music can be processed by the brain and related to a feeling (Phillips-Silver 2009). By using this external manipulation, it can help in sparking intrinsic motivation if the student coincides the music to a positive feeling. Teachers can incorporate this by playing classical or naturalistic music. This ties in with naturalistic intelligence. Naturalistic intelligence is the ability to understand, relate to, categorize, classify, comprehend, and explain the things encountered in the world of nature. This includes music of birds, rain, or the beach. It can also be by having plants in the classroom. This could be incorporated in a 7<sup>th</sup> grade middle school health class by having a unit on environmental health and creating a recycling clean up project or picking up trash outside of the school. Students would be learning of ways to benefit nature and even be out in it. The last two types of intelligences that could be applied to the research question include interpersonal and intrapersonal intelligences. Interpersonal is working through interactions with other people. Intrapersonal people learn best through cooperative group work. However on the contrary, intrapersonal people work best alone dealing with ones own feelings, strengths,

and weaknesses. These people like to do a lot of reflections. Giving a rubric where evaluation can take place before submitting a piece of work can be very beneficial because it gives time for one to look back and make changes. Students can keep a journal and write down their own feelings towards a project or assignment. This helps to release any negative feelings and boost confidence for positive ones.

In conclusion, by using both external rewards and finding ways of motivating students based upon their interests and intelligences, a more concrete evidence will be found that shows which type of motivation works best for 7<sup>th</sup> graders. Using external rewards mentioned from the literature review in the form of giving a grade, extra credit, or verbal recognition may spark extrinsic motivation. On the contrary, using some of Gardner's Multiple Intelligences may spark intrinsic motivation. The researcher may find that one type of motivation is just as significant as the other when relating to academic success. Looking at what has previously been studied and applying it to the experiment can conclude new updated data from the research. This can then be taken and inference to work on other students within the same age group.

### **Chapter 3**

#### **Methodology and Procedures**



Finding ways to motivate students to succeed has always been a goal of every educator. Although some evidence exists as to which type of motivation works best on students, intrinsic or extrinsic, there is little to suggest which type may work best specifically on 7<sup>th</sup> graders. If we are to truly find the best methods of helping our students learn these difficult state standards and be hooked on the excitement of learning for life, it is important to find out which route to take when looking at motivating our children. The purpose of this research was to determine whether intrinsic or extrinsic motivation has a greater impact on academic performance of 7<sup>th</sup> grade students.

### **Population**

The population for this study came from University School, a charter school that was established in 1911. Charter schools are public schools operated by independent, non-profit governing bodies. In Tennessee, public charter school students are measured against the same academic standards as students in other public schools. It is a part of a K-12 laboratory school that is academically oriented and college preparatory focused. The school enrolls a total of 499 students. Of those, 267 are girls and 232 are boys. In order to be a part of University School, a lottery takes place and a student's name is placed on a waiting list. Priority is given to those whose parent/guardian is a full-time faculty or staff member. Next in order are siblings of students already enrolled. Third priority is for residents of Washington County. The final priority group is for students residing outside of Washington County. Once a student is selected from the lottery, then an interview process has to take place between the principal, assistant principal, teacher, student, and parent/guardian.

The state report card for 2013-2014 included University School as a reward school for performance. The school is predominately white with 462 students. There are 18 African Americans, 14 Asians, 3 American Indian, and 2 Native Hawaiian. It won the Tennessee Value-Added Assessment System (TVAAS) award that indicated how effective a school is at helping its students learn. For 2014 University School received the 'Silver' medal award, ranked 5<sup>th</sup> in Tennessee, and was the highest ranking school in Northeast Tennessee. University School also received a National ranking of #695 out of 19,411 public high schools eligible for the rankings.

### **Sample**

The sample for this study consisted of 7<sup>th</sup> graders in a health class. The sample comprised of 16 students of which six were boys and ten were girls. This sample was randomly selected based upon students who signed up for a health class elective. The sample composition included fifteen Caucasian students and one Asian student.

### **Data Collection Instruments**

Using the same unit, students were taught a lesson on environmental health using extrinsic and intrinsic factors then tested for an academic grade. The two scores were compared to see which type of motivation caused an overall higher score for the class. The two units, which were similar in comprehension and difficulty, were selected for study. The first unit was taught using extrinsic motivation strategies. The strategies included use of lecture, PowerPoint, and videos designed by the researcher. At the end of the unit, a unit test was given. The second unit was taught using intrinsic motivation strategies included the student researching a health profession career based upon a list of required questions and preparing a PowerPoint presentation for their peers. At the end of

the unit the students were administered a unit test and data were recorded. Both test scores were then compared.

### **Procedures**

Before the study began, permission was sought from the principal of the school. When the permission was granted, sample was selected. The sample consisted of a 7<sup>th</sup> grade health class with 6 boys and 10 girls. After sample was selected the study was implemented. The researcher selected two units, which were similar in comprehension and difficulty. The first unit was taught using extrinsic motivation strategies, which consisted of lecture, PowerPoint, and video. This strategy was the traditional way. The students were rewarded for their efforts. At the end of the unit the students were administered a unit test. The second unit was then taught using intrinsic motivation strategies, which included choice of research around a health profession career. Then students were able to teach peers about their selected profession through a PowerPoint presentation. At the end of the unit the students were administered a unit test. The two test scores were compared at the end to assess which type of motivation had a higher impact on academic motivation.

### **Research Questions and Related Hypotheses**

Two research questions were addressed for this study.

- **Research question 1.** Is there a difference in overall class test scores for this study when taught using extrinsic motivation strategies and when taught using intrinsic motivation strategies?

- **Research hypothesis 1.** There will be a difference in overall class test scores for this study when taught using extrinsic motivation strategies and when taught using intrinsic motivation strategies.
- **Null hypothesis 1.** There will not be a difference in overall class test scores for this study when taught using extrinsic motivation strategies and when taught using intrinsic motivation strategies.
  
- **Research question 2.** Is there a difference between boys and girls when they are taught using extrinsic motivation strategies?
- **Research hypothesis 2.** There will be a difference between boys and girls when they are taught using extrinsic motivation strategies.
- **Null hypothesis 2.** There will not be a difference between boys and girls when they are taught using extrinsic motivation strategies.
  
- **Research question 3.** Is there a difference between boys and girls when they are taught using intrinsic motivation strategies?
- **Research hypothesis 3.** There will be a difference between boys and girls when they are taught using intrinsic motivation strategies.
- **Null hypothesis 3.** There will not be a difference between boys and girls when they are taught using intrinsic motivation strategies.

## Chapter 4

### Data Analysis

There are two types of motivation that drive students to be successful. They include extrinsic and intrinsic motivation. Extrinsic motivation is caused when students receive an external object or caused from an outside force, and intrinsic motivation is driven from within a student. The purpose of this study was to determine effects between intrinsic and extrinsic motivation on academic performance of 7<sup>th</sup> grade students.

### Collection of Data

Data for this study were collected from a sample of 7<sup>th</sup> graders, 6 boys and 10 girls, in a health class. The sample was half taught a unit first using extrinsic motivation and were tested at the end. The second half of the unit was taught using intrinsic motivation factors and tested at the end of the unit. The two test scores obtained from the extrinsic and intrinsic test were compared to determine if there was significant difference between the two strategies. The demographic profile for the participating students is displayed in Table 1.

Table 1

Demographic Profile of Students Participating

<u>Gender</u>	<u>Frequency (f)</u>	<u>Percent (%)</u>
Male	6	37.5%
Female	10	62.5%
<b>Total</b>	16	100%

### Research Questions and Related Hypotheses

Two research questions were used to guide the analysis of data. Data were analyzed using .05 level of significance.

**Research Question 1:** Is there a difference in overall class test scores for this study when taught using extrinsic motivation strategies and when taught using intrinsic motivation strategies?

**Research Hypothesis 1:** There is a difference in overall class test scores for this study when taught using extrinsic motivation strategies and when taught using intrinsic motivation strategies.

**Null Hypothesis 1:** There will not be a difference in overall class test scores for this study when taught using extrinsic motivation strategies and when taught using intrinsic motivation strategies.

To answer research question 1, mean scores for students when they were taught using intrinsic motivation and when they were taught using extrinsic motivation. The mean score for intrinsic was 96.60 with a standard deviation of 3.25 and the mean score for extrinsic was 94.87 with a standard deviation of 7.41. Research question 1 was associated with Research hypothesis 1: There is a difference between student scores when they are taught using intrinsic motivation strategies and when taught using extrinsic motivation strategies. To determine if the mean difference was statistically significant, t-test for paired mean was conducted. The results indicated no significant difference between the two strategies ( $t(14)=.949, p=.359$ ). Therefore the null hypothesis was retained. The results displayed are in Table 2.

Table 2

Paired Sample T-test on Intrinsic and Extrinsic Motivation					
Motivation	M	SD	df	T-value	Sig.
Intrinsic	96.60	3.25	14	.949	.359
Extrinsic	94.87	7.41			

**Research Question 2:** Is there a difference between boys and girls when they are taught using extrinsic motivation strategies?

**Research hypothesis 2:** There will be a difference between boys and girls when they are taught using extrinsic motivation strategies.

**Null hypothesis 2:** There will not be a difference between boys and girls when they are taught using extrinsic motivation strategies.

To answer research question 2, mean scores for students when they were taught using extrinsic motivation was computed. The mean score for boys was 91.00 with a standard deviation of 9.11 and the mean score for girls was 98.25 with a standard deviation of 3.24. Research question 2 was associated with Research hypothesis 2: There is a difference between boys and girls student scores when they are taught using extrinsic motivation strategies. To determine if the mean difference was statistically significant, t-test for independent means was conducted. The results indicated no significant difference between genders ( $t(13)=2.113$ ,  $p=.055$ ). Therefore the null hypothesis was retained. The results displayed are in Table 3.

Table 3

Independent T-test for Boys and Girls on Extrinsic Motivation					
Gender	M	SD	df	T-value	Sig.
Boys	91.00	9.11	13	2.113	.428
Girls	98.25	3.24			

**Research Question 3:** Is there a difference between boys and girls when they are taught using intrinsic motivation strategy?

**Research hypothesis 3:** There will be a difference between boys and girls when they are taught using intrinsic motivation strategies.

**Null hypothesis 3:** There will not be a difference between boys and girls when they are taught using intrinsic motivation strategies.

To answer research question 3, mean scores for students when they were taught using intrinsic motivation. The mean score for boys was 95.86 with a standard deviation of 3.29 and the mean score for girls was 97.25 with a standard deviation of 3.28.

Research question 3 was associated with Research hypothesis 2: There is a difference between boys and girls student scores when they are taught using intrinsic motivation strategies. To determine if the mean difference was statistically significant, t-test for paired mean was conducted. The results indicated no significant difference between the genders ( $t(13)=.819$ ,  $p=.428$ ). Therefore the null hypothesis was retained. The results displayed are in Table 4.

Table 4

Independent T-test for Boys and Girls on Intrinsic Motivation					
Gender	M	SD	df	T-value	Sig.
Boys	95.86	3.29	13	.819	.714
Girls	97.25	3.28			



## Chapter 5

### Summary of Findings:

This chapter includes a summary of the findings, recommendations for further research, and implications of the study. This research study was based on the review of literature using intrinsic and extrinsic motivation on students relating to their academic performance. In addition, this chapter is also based on the data analysis described in Chapter 4.

Responding to research question 1: Is there a difference in overall class test scores when taught using intrinsic and extrinsic motivation, a paired sample t-test was ran. The test showed no significant difference in overall class test scores even though intrinsic motivation had a slightly higher mean than extrinsic motivation. One reason why the results were not significant could be because the study lasted one semester. Secondly these results suggest that it does not make any difference whether we use extrinsic or intrinsic motivation for students' learning. However during intrinsic motivation teaching students appeared to be on task, engaged, and interested in the learning process. Their scores appeared higher than when using extrinsic motivation. When students were taught using extrinsic motivation strategies, they appeared to be bored, uninterested, and struggling to stay awake.

Responding to research question 2: Is there a difference between boys and girls when taught using extrinsic motivation strategies, an independent t-test was ran. The test showed no significant difference between boys and girls class test scores when taught using extrinsic motivation strategies even though girls scored a higher mean. Again the results suggest that gender does not matter how the students perform when using extrinsic

motivation strategies. This may suggest that boys and girls enjoy using the same area of the brain for learning when they are taught using extrinsic motivation strategies. The external rewards appeared in the same way to both boys and girls.

Responding to research question 3: Is there a difference between boys and girls when taught using intrinsic motivation strategies, an independent t-test was ran. The test showed no significant difference between boys and girls class test scores when taught using intrinsic motivation strategies even though girls scored a higher mean. Although the results were not significant, girls could have related better to the topic causing them to draw a higher interest than the boys. The drive that comes from within a person is the intrinsic motivation (Moldovan, 2014). Using linguistics, visuals, and bodily-kinesthetic, based off of Gardner's Multiple Intelligence Theory, the girls could have appealed to the process of these learning styles more so than the boys causing them to perform better on assignments and scoring higher on the test (Lunenburg, F.C., & Lunenburg, M.R., 2014).

### **Conclusion:**

The results of this study did not reveal significant results between intrinsic or extrinsic motivation on academic performance of seventh grade students. Similarly, it did not show a significant difference between boys and girls when taught using intrinsic motivation strategies on academic performance. Also it did not show a significant difference between boys and girls when taught using extrinsic motivation strategies on academic performance. Overall intrinsic motivation showed a slightly higher mean over extrinsic motivation on academic performance of seventh grade students. Girls overall showed a slightly higher mean over boys both when testing for intrinsic and extrinsic motivation strategies.

**Recommendation:**

1. Future research should include a wider range of schools still including seventh grade health students to get a better idea of other results in a similar setting.
2. Future research should include expanding the study over the course of at least a year to have a longer time to use intrinsic and extrinsic techniques.
3. Future research should be expanded by using intrinsic and extrinsic motivation techniques in all seventh grade classes, including but not limited to: language arts, science, math, social studies, etc., to compare the results.
4. Although this research did not yield significant results, literature review indicted extrinsic motivation would prevail short-term effect because external rewards can be used for a quick fix, but intrinsic motivation would prevail long-term because it allows students to learn based on their interests.

**Implications:**

1. Students should be taught using more intrinsic motivation strategies by giving them choice and allowing selection from topics that spark their attention because it engages them in the learning.
2. Teachers should incorporate intrinsic motivation strategies in their lessons because it scored overall higher than extrinsic motivation strategies. Using different methods to complete an assignment would help draw in different interests of students.
3. Since intrinsic motivation had a higher mean in overall class test scores, teachers should make tasks related Gardner's Multiple Intelligence theories in order to spark the desired intelligence for engagement.

4. Since intrinsic motivation had a higher mean in overall class test scores, schools should use discipline methods that promote a responsive classroom when following rules and procedures. Using positive discipline, redirection, and proactive approaches help students intrinsically.

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