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**The Effect of Student Perception of Parent Involvement and Socioeconomic
Status on Academic Intrinsic Motivation**

by

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A Co-Authored Dissertation submitted to
The Graduate School at the University of Missouri-St. Louis
in partial fulfillment of the requirements for the degree
Doctor of Education with an emphasis in Educational Practice

May 2023

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Perception of Parent Involvement and SES on Academic Intrinsic Motivation

I would like to thank Rohan, Anaisha and Aayansh for their constant love and encouragement in this journey. Thank you to all the mentors, Dr. Charles Granger, Dr. Keith Miller and Dr. Helene Sherman and last but not least my research partner, Taylor, for supporting me throughout this process.

- PA

For Derek, Nash, and Eloise. The support and encouragement you all gave throughout this journey allowed me to succeed. A special thank you to Pallavi, my partner and friend.

- TMLLS

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

Abstract

Many teachers struggle to help students become intrinsically motivated in their school work. Research has shown that students who are intrinsically motivated tend to have higher academic achievement than students who are not (Mendoza, 2012). There are many factors that contribute to students' intrinsic motivation. Building on existing research, the relationship between perceived parental involvement and students' intrinsic motivation, as well as the relationship of perceived socioeconomic status and intrinsic motivation was investigated. A mixed methods research approach was used to determine a) the relationship between perceived parent involvement and students' intrinsic motivation, b) the relationship between perceived socioeconomic status and students' intrinsic motivation, and c) the relationship between perceived parent involvement and perceived socioeconomic status. Middle school students from a diverse urban school district were given a Likert scale survey with questions asking their perspective on parental involvement and socioeconomic status on their own intrinsic motivation. Students were also given open-ended questions on their perception of academic intrinsic motivation. Results show a slight relationship between having parental/guardian involvement and academic intrinsic motivation in course work. However, there was no relationship on perceived socioeconomic status and student academic intrinsic motivation.

Keywords: Intrinsic motivation, socioeconomic status, parental involvement

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

Table of Contents

Abstract	2
Table of Contents	3
Chapter 1 Introduction	5
Introduction	5
Background of the Problem	5
Statement of the Problem	5
Theoretical Framework	6
Self-determination Theory	7
Ecological Systems Theory	8
Achievement Theory	9
Social Cognitive Theory	9
Statement of Purpose	10
Research Questions and Hypotheses	11
Significance	12
Definitions of Terms	12
Limitations and Delimitations	13
Conclusion	13
Chapter 2 Literature Review	15
Introduction	15
Search Description	16
Theoretical Framework	16
Self-determination Theory	16
Social Cognitive Theory	17
Ecological Systems Theory	19
Achievement Theory	21
Review of the Research Variables	22
Intrinsic Motivation vs Extrinsic Motivation	22
Parental Involvement	23
Socioeconomic Status	26
Student Perception	28
Conclusion	29
Chapter 3 Methodology	31
Introduction	31
Research Design	31
Research Questions and Hypotheses	33
Setting and Sample Population	34
Instrumentation	34
Data Collection	35
Data Analysis	36
Ethical Considerations	38
Conclusion	38
Chapter 4 Findings and Results	40
Data Description	40
Research Questions and Hypotheses	40

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

Quantitative Analysis	41
Results	42
Qualitative Analysis	47
Findings	48
Conclusion	54
Chapter 5 Discussion	55
Introduction	55
Summary of Findings	56
Visual Interpretation of Results	57
Researcher Comments	58
Limitations and Delimitations	60
Implications for Practice	60
Recommendations for Future Research	61
Conclusion	62
References	65
Appendices	71
Appendix A – Student Survey	71
Appendix B – Student Assent Form	78
Appendix C – Parent Informed Consent Form	80
Appendix D – Distribution of Variables	82
Appendix E – Distribution of Variables Based on Income	85
Appendix F – Multiple Regression Analysis	87
Appendix G – Codes for Open Ended Q1	88
Appendix H – Codes for Open Ended Q2	90
Appendix I – Codes for Open Ended Q3	92

Chapter 1

Introduction

Introduction

Intrinsic motivation is a specific motivation in which an individual experiences satisfaction by discovering, exploring, learning concepts and solving problems rather than extrinsic rewards or benefits. The extrinsic motivators are offered in association, but not directly related to a task, such as good grades or acceptance into academic honors societies. Intrinsic motivation is also identified as a goal-oriented motivation (Woolley & Fishbach, 2018). Intrinsic rewards in an academic setting can help students become more motivated to study more, turn in work on time, and do well on assessments and assignments, which may lead to transfer those practices to other settings.

Background of the Problem

There are many factors that impact student motivation for achieving academic goals. While self-determination theory postulates that motivation can be considered a singular construct, it has been observed that behaviors are more likely to be influenced by an individual's experiences (Ryan & Deci, 2000). Ryan and Deci (2000) provide evidence that internal motivation is innately present to some degree in all individuals. When the right combination of factors and conditions are present, this trait can be developed and observable in any given student. These factors and conditions may include perceived socioeconomic status and perceived parental involvement as related to student academic success.

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

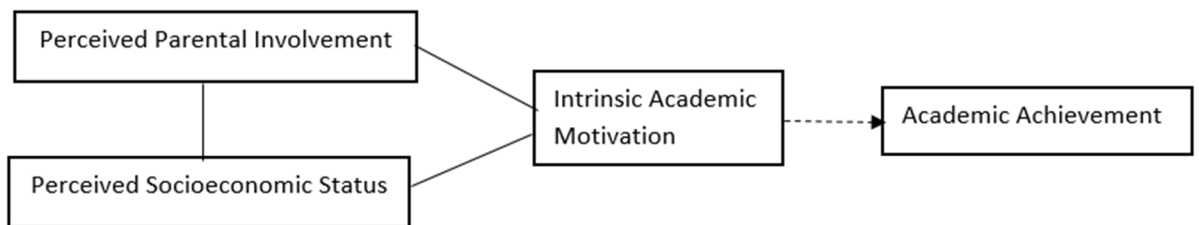
Statement of the Problem

When specific populations of students are labeled “at risk”, it becomes difficult for them to realize their intrinsic motivation (Ginsberg & Wlodkowski, 2019). Students identified as “at risk” tend to be from a lower socioeconomic status (Cedeño et al., 2016). This public school resides in an area with an average annual income of \$20,280 less than that of the United States average (Data USA, 2012). The low average annual income put the majority of the study population at a low socioeconomic status, with students labeled “at risk”.

Intrinsic academic motivation, socioeconomic status, and parental involvement have each clearly been connected to student achievement, but what role these three influences might play on each other, if any, remain obscure. Finding the variables that lead to the development of academic intrinsic motivation will fill this gap in research.

Figure 1.1

A proposed relationship of possible variables that may connect intrinsic academic motivation with academic achievement.



Note. The bold lines represent the variables under investigation and the dotted line represents the possible extension of the current research.

Theoretical Framework

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

There are four underlying theories that support studying the impact of parental involvement and socioeconomic status on student intrinsic motivation. Self-Determination Theory (Gagne & Deci, 2005), Social Cognitive Theory (Schunk & DiBenedetto, 2020), Achievement Motivation Theory (Elliot & Harackiewicz, 1996), and Ecological Systems Theory of Development (Leonard, 2011) each address and inform this study as it relates to environmental factors, like parental involvement and socioeconomic status, with academic intrinsic motivation.

Self-determination Theory

The relationship between the extrinsic factors which result in intrinsic motivation can be developed using self-determination theory (Gagne & Deci, 2005). Self-determination theory identifies two forms of motivation: autonomous motivation and controlled motivation. According to Gagne and Deci (2005), some tasks do not require external rewards to motivate an individual to complete them and are therefore defined as autonomous motivation. These tasks generate a feeling of satisfaction when completed. If external factors are required to motivate an individual to finish the task, such as monetary compensation, then it is referred to as controlled motivation. Gagne and Deci (2005) also stated that motivational variables can be predicted by aspects of social environment and individual differences in causality orientations. This means there are personal traits and environmental factors that contribute to how motivated an individual is in a given setting. The social environment can be classified as autonomy supporting

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

(intrinsically motivating), controlling (extrinsically motivating), or amotivating (lacking in any motivation) (Gagne & Deci, 2005).

Self-determination theory establishes the impact of possible external factors, like socioeconomic status and parental involvement, that contribute to students' perception of intrinsic motivation.

Ecological System Theory

Jack Leonard (2011) used Bronfenbrenner's ecological theory to identify the various factors that might cultivate a student's academic development.

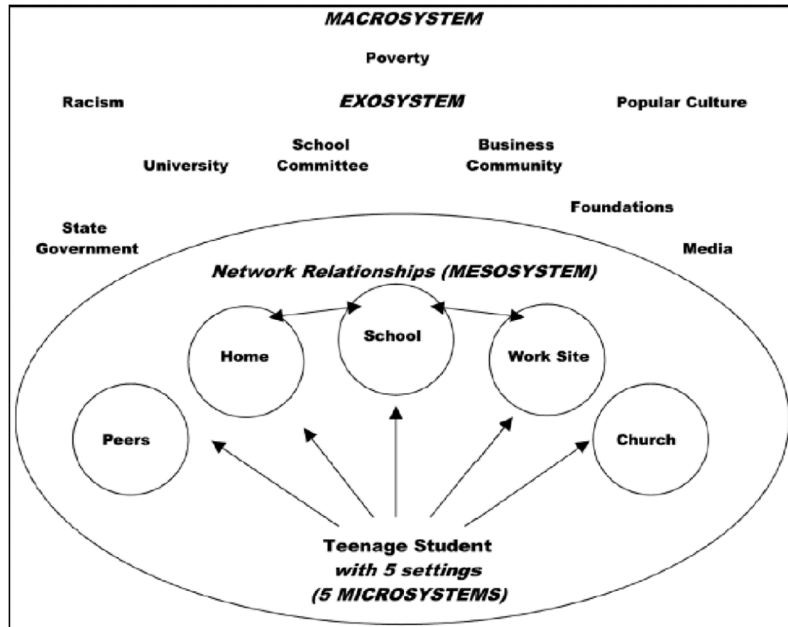
Ecological system theory suggests there are multiple levels of systems that an individual is a part of, and those systems can overlap. Ecological systems theory supports the importance of examining the relationship of perceived parental involvement and perceived socioeconomic status with the development of intrinsic motivation, as these can be identified as a part of the microsystems and macrosystems.

Figure 1.2 illustrates the five microsystems that impact the academic development of teenage students. The microsystems form a network supporting the academic growth of teenage students. Parental involvement is a part of the home microsystem, suggesting an important role in a student's development. In the macrosystem, poverty (socioeconomic status) creates an environment that affects the development of a student, as well.

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

Figure 1.2

Model of Ecological System Theory



From

“Using Bronfenbrenner’s Ecological Theory to Understand Community Partnerships: A Historical Case Study of One Urban High School,” by Jack Leonard, 2011, *Urban Education*, 46(5), p. 991

(<https://doi.org/10.1177/0042085911400337>). Copyright 2011 by SAGE publishing.

Achievement Motivation Theory

Achievement motivation theory looks at two types of performance goals individuals can set. These are either avoidance goals, where an individual is motivated to avoid a negative outcome, or achievement goals, where an individual is motivated to pursue a positive outcome. There is a positive correlation for achievement goals and intrinsic motivation (Elliot & Harackiewicz, 1996). A third type of goal described by this theory is mastery

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

goals. Mastery goals facilitate intrinsic motivation by fostering perceptions of challenge, encouraging task involvement, generating excitement, and supporting self-determination (Elliot & Harackiewicz, 1996).

The achievement motivation theory helps us to connect the behavior in the students that motivates them to the degree to which they will work towards a goal. When parental involvement and economic resources encourage a student's achievement goal setting, an increase in intrinsic motivation may be expected.

Social Cognitive Theory

Social cognitive theory (SCT) outlines three influences (personal, behavioral and environmental) on motivation and self-efficacy. Schunk and DiBenedetto (2020) elaborate on how each of those three influences are reciprocal to each other, as shown in Figure 1.3. Motivational influences are contained within personal processes, but they can be affected by behavioral and environmental processes as well (Schunk & DiBenedetto, 2020).

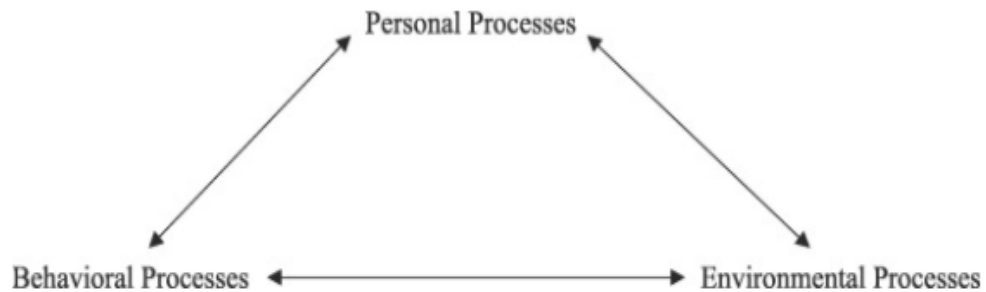
SCT helps to establish the relationship between personal factors, environmental factors and the behavior of a person. Personal factors, in tandem with environmental factors foster an intention in a student to complete a task in order to obtain a desired result. SCT demonstrates that students become more successful when they experience positive outcomes themselves, and when their peers experience positive outcomes (Schunk & DiBenedetto, 2020). Thus, a student experiencing positive outcomes is more likely to inspire positive outcomes from the students around them. The environmental factors, which

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

include both parental involvement and economic status, create an environment in which student's behaviors and attitudes are more likely to generate intrinsic motivation (Lee et al., 2021).

Figure 1.3

Model of Reciprocal Interaction



“Motivation and social cognitive theory,” by D. Schunk and M. DiBenedetto,

2020, *Contemporary Educational Psychology*, 60, p.2

(<https://doi.org/10.1016/j.cedpsych.2019.101832>). Copyright 2020 by Elsevier

Science.

Statement of Purpose

The objective of the current research is to determine if perceived parental involvement, perceived socioeconomic status and academic intrinsic motivation influence each other, and to what extent.

John Hattie spent more than a decade researching the effects of various influences on student achievement (Arnold, 2011). Each factor had a calculated effect size measuring the level of influence on student success (Visible Learning, n.d.). For reference, the lowest score is -0.90, which is the effect size of attention-deficit/hyperactivity disorder (ADHD), while the highest is collective teacher efficacy at 1.57. According to Visible Learning, motivation has an effect size of

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

0.42 on student achievement, socioeconomic status is measured at 0.52, and parental involvement is 0.50, suggesting all three have an independent impact on student achievement.

Research Questions and Hypotheses

In order to investigate the impact of parent involvement and socioeconomic status on students' perception of intrinsic motivation, the following research questions with their hypotheses were considered.

Research Question 1- What is the relationship between student perceived parent involvement and their academic intrinsic motivation?

Null Hypothesis 1: There is no significant relationship between perceived parent involvement and academic intrinsic motivation.

Directed Hypothesis 1: There is a significant relationship between perceived parental involvement and academic intrinsic motivation.

Research Question 2- What is the relationship between student perceived socioeconomic status and their academic intrinsic motivation?

Null Hypothesis 2: There is no significant relationship between perceived socioeconomic status and academic intrinsic motivation.

Directed Hypothesis 2: There is a significant relationship between perceived socioeconomic status and academic intrinsic motivation.

Research Question 3- What is the relationship between student perceived parent involvement and student perceived socioeconomic status?

Null Hypothesis 3: There is no significant relationship between perceived parent involvement and perceived socioeconomic status.

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

Directed Hypothesis 3: There is a significant relationship between perceived parent involvement and perceived socioeconomic status.

Significance

Intrinsic motivation has been studied at length and incorporated in several theories such as Self-Determination Theory, Social Cognitive Theory, Achievement Motivation Theory, and Ecological Systems Theory. These theories positively correlate intrinsic motivation with various types of success. In order to understand how to help students develop high intrinsic motivation, there must be more research on the contributing factors.

Definition of Terms

Intrinsic motivation (IM): The definition provided by Gagne and Deci (2005) is “Intrinsic motivation involves people doing an activity because they find it interesting and derive spontaneous satisfaction from the activity itself.” This definition requires that there is no outside influence motivating the individual, or if there is, it is independent of their own internal drive to succeed or accomplish the task.

Socioeconomic status (SES): The American Psychological Association defines socioeconomic status as “the social standing or class of an individual or group. It is often measured as a combination of education, income and occupation.” Education and income were chosen measures for socioeconomic status in the current research. These two measurements enable researchers to measure a relationship between SES and academic intrinsic motivation.

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

Parental Involvement (PI): Mendoza's 2012 study (as cited in Fan & William, 2012; Fishel & Ramirez, 2005) defined parental involvement as "any behavior or practice executed by a parent in order to participate in and benefit their child's academic lives." This definition broadly defines a variety of ways a parent can be involved. The only modification of the definition was to expand "parent" to include any adult in the home that is most involved in the student's schooling.

Student Perspective: There are many variations of the definition for student perspective (Gentilucci, 2004, p.134; Reece, 2013). Student perspective is defined as a student's view on their parent's involvement and socioeconomic status.

Intrinsic motivation is personal and unique to an individual in a given time and place. In order to gain a better understanding of how a student develops intrinsic motivation and the factors that impact them, these variables were measured as the perspective of each individual student.

Limitations

Limitations include using a sample of convenience. This sample may not be representable of all populations. A second delimitation is that students that are more intrinsically motivated may have been self-selected to participate in the survey since it was voluntary and not required.

Delimitations

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

The study uses the students' perspective of parental involvement and socioeconomic status on their own intrinsic motivation. No parent help was allowed on the surveys. This may lead to inaccurate measures for household income and parent education. A second delimitation is related to perspectives as they are subject to change. This decision was made to narrow the focus by keeping all variables measured by student perspective. A third delimitation was using an incentive to participate in the study, to increase the number participants.

Conclusion

The gap in present research suggests a need to connect contributing factors to the development of intrinsic motivation. Perceived parental involvement and perceived socioeconomic status have been previously identified as important factors in student achievement (Visible Learning n.d.). The theoretical framework suggests extrinsic factors support the development of intrinsic motivation. Intrinsic motivation has been linked to academic achievement by several studies (Smith & Darvas, 2017; Jungert et al., 2020). By measuring perceived parental involvement, perceived socioeconomic status, and academic intrinsic motivation of students, any relationship between these variables will be explored. Relationships found between these variables, may allow educators to use this information to equitably help students achieve academic success.

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

Chapter 2

Literature Review

Introduction

There are widely observed differences in levels of motivation among students in a classroom. Although many studies have examined the relationship between motivation and student achievement, few consider the factors that relate to the development of student intrinsic motivation. A few studies have found that there is a strong correlation between intrinsic motivation and academic success (Jungert et al., 2020; Lacaille et al., 2007). While intrinsic motivation is difficult for most students, it can be especially challenging for students to achieve intrinsic motivation when they are labeled “at-risk” (Ginsberg & Wlodkowski, 2019). A meta-analysis emphasized the lack of research on the link between intrinsic motivation and variations in performance based on demographic or environmental conditions (Cerasoli et al., 2014). It is important to identify the factors that contribute to the development of intrinsic motivation in a school setting so that all students can achieve academic success. In order to ascertain the extent to which there is a link between academia and demographic or environmental conditions, such as socioeconomic status and parent involvement, the following questions were asked:

1. What is the relationship between student perceived parent involvement and their academic intrinsic motivation?
2. What is the relationship between student perceived socioeconomic status and their academic intrinsic motivation?

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

3. What is the relationship between student perceived parent involvement and student perceived socioeconomic status?

Search Description

A thorough review of 51 sources provided the backdrop for determining the themes used to explore these questions. The themes include theoretical frameworks, intrinsic motivation, parental involvement, and socioeconomic status. These themes relate directly to the research questions. If a relationship between intrinsic motivation and other variables can be found, future studies may be conducted to create methods to address the hurdles students face when developing academic intrinsic motivation.

Theoretical Framework

Self-Determination Theory

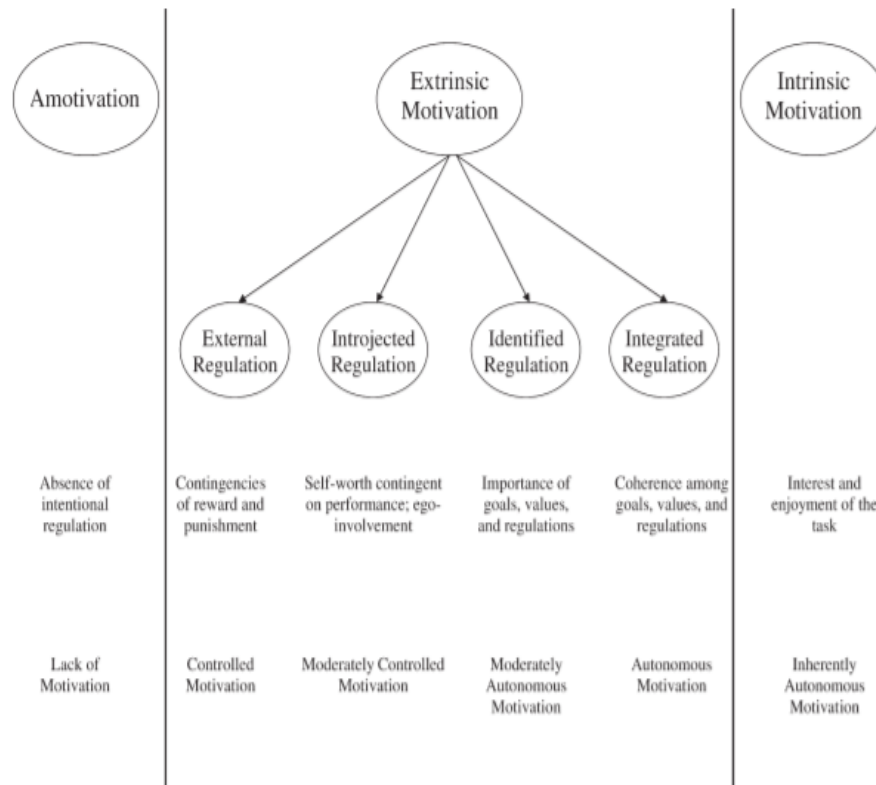
According to self-determination theory (SDT) (Gagne & Deci, 2005), both motivation and autonomy exist along a spectrum. Students experience varying levels of each, as shown in Figure 2.1. The range provides a continuum of which includes amotivation, extrinsic motivation, and intrinsic motivation (Gagne & Deci, 2005). Studies show that, over time, there is a positive association between intrinsic motivation and academic achievement (Lacaille et al., 2007; Taylor et al., 2014). It is essential to designate a clear distinction between intrinsic motivation and extrinsic motivation. Intrinsic motivation occurs when an individual participates due to personal interest or satisfaction (Gagne & Deci, 2005). Extrinsic motivation requires an extrinsic reward or consequence. Jungert et al. (2020) conducted a study which demonstrated that intrinsic motivation can

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

lead to higher academic performance when compared to extrinsic motivation. The study also considered the impact of the variables of teacher and parent enthusiasm and their influence on intrinsic motivation, concluding that they were significantly associated.

Figure 2.1

Self-Determination Continuum



From “Self-determination theory and work motivation,” by M. Gagné and E. Deci, 2005, *Journal of Organizational Behavior*, 26, p.336. Copyright 2005 by John Wiley & Sons, Ltd.

One limitation, as cited in Perera’s (2020) conference, Ryan and Deci (2000) mentioned that SDT might not be able to find the individual needs of students. This can be important for identifying various motivational processes that

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

benefit students. In the study, it also mentioned that it does not consider task relatedness as one of the factors of motivation, but it can be a great motivating factor for some adolescents (Perera, 2020).

Social Cognitive Theory

The proposition that learning can occur outside of formal environments was developed from social learning theory into social cognitive theory (SCT) (Stajkovic & Luthans, 2002). Parental involvement and socioeconomic status are external factors that could impact a student's intrinsic motivation. This idea is supported by SCT, which proposed three categories of influence to motivation and self-efficacy; personal influence, behavioral influence, and environmental influences. Personal influences include goals, values, and social comparisons (Stajkovic & Luthans, 2002). Behavioral influences include choice of activities, effort, persistence, achievement, and environmental regulation. Environmental influences include peer models, presentation of instructions, providing feedback and goals, linking external motivators, and providing opportunities for self-evaluation (Schunk & DiBenedetto, 2020). These three categories can overlap as influences on each other and motivational outcomes. For example, social comparisons include peer models. As students see peers from similar demographics model success, there is an increase in self-efficacy, which leads to more motivation (Schunk & DiBenedetto, 2020). This is consistent with one of the basic human capabilities, observation. According to SCT, there are five basic human capabilities: symbolizing, forethought, observational, self-regulatory, and self-reflective (Stajkovic & Luthans, 2002). Although all five basic human

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

capabilities can be connected to learning, self-regulation is directly related to intrinsic motivation. Stajkovic and Luthans (2002) also write that this capability leads to setting personal standards and evaluating one's own behaviors to influence further actions. This is interrelated with intrinsic motivation because it considers internal expectations and goals. These capabilities can also be responses to the environment around an individual, which would include students' perception of parental involvement and socioeconomic status.

There are limitations to the social cognitive theory. According to Wayne W. LaMort (2019), the theory assumes an automatic cause and effect relationship between changes in the environment and changes in a person. This is not always true, sometimes a person will not change. Another limitation is that the theory focuses on the interrelationships between the three factors (environment, behavior, person) and does not discuss if one could be more influential (LaMort, 2019). It would be important to know which one factor did influence a person more than another when categorizing experiences that contribute to various behavioral actions.

Ecological Systems Theory

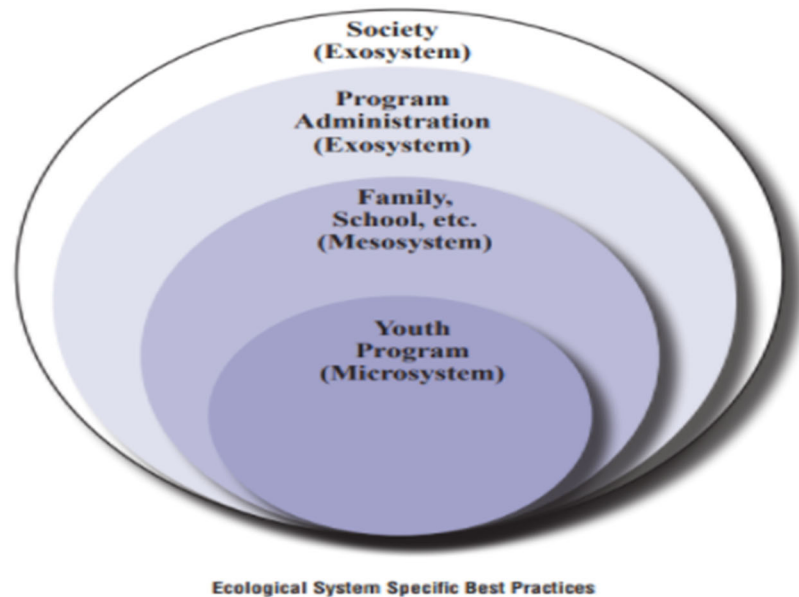
The third theory included in the framework is the ecological systems of development theory (EST) established by Urie Brofenbrenner (Duerden & Witt, 2010). According to this theory, the extrinsic factors that impact the development of intrinsic motivation could include parental involvement and socioeconomic status. EST emphasizes the different levels of environmental settings to which an individual is connected and the interactions in which the individual participates as

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

a part of those environmental settings. Those settings can even overlap, as seen in Urie Brofenbrenner's Ecological Systems Model shown in Figure 2.2 (Duerden & Witt, 2010).

Figure 2.2

An Ecological Systems Model



Note. This figure was produced by Brofenbrenner in 1979, and it shows the overlap between the system levels (as reprinted in Duerden & Witt, 2010). From "An Ecological Systems Theory Perspective on Youth Programming," by Duerden and Witt, 2010, *Journal of Park and Recreation Administration*, 28 (2), p.111. Copyright 2010 by Sagamore Publishing LLC.

Various studies have been done on each system; however, the current study focuses on the connection between the microsystem and mesosystem as they relate to parental involvement, family socioeconomic background and

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

intrinsic motivation in school. According to Bronfenbrenner's theory, as cited in Härkönen (2007), the microsystem is a setting in which the individual maintains direct contacts. These contacts would include parents, family members, teachers, friends, etc. These contacts can influence the behavior of the individual. The mesosystem demonstrates connections between these contacts in the microsystem (Duerden & Witt, 2010). This would include student perception on parental involvement and its relation to their own intrinsic motivation in school. The home and school microsystem interaction is critical to study, as they can be both supportive or conflicting of each other (Härkönen, 2007). The research question relating to perceived parental involvement and its impact on the intrinsic motivation of a student in school relies heavily on this concept.

According to Olivia Guy-Evans (2020), there are some limitations of Bronfenbrenner's Ecological Systems Theory. One of the limitations is that there is not much research on mesosystems. It does not specifically mention about the interactions of family and neighborhoods, and their impact on a child's development (Guy-Evans, 2020). This theory also assumes that to have proper child development, it is important that the child needs to be surrounded by a positive environment, but that is not always true. Some of the students are holistically developed in spite of being surrounded by a negative environment (Guy-Evans, 2020).

Achievement Motivation Theory:

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

Achievement motivation theory looks at behavior of achieving success or avoiding failure with achievement goals (Elliot & Harackiewicz, 1996) and focuses on the relationship between achievement goals and intrinsic motivation. There are three types of achievement goals, showing mastery over a task, performance demonstrating competence, performance avoiding failure. Both mastery goals and performance-achievement goals are positively related to intrinsic motivation, where performance-avoidance goals are negatively related to intrinsic motivation (Elliot & Harackiewicz, 1996).

Although this theory focuses on achieving success by setting the mastery goals and increasing the performance of the student, it does not consider the stress, anxiety and fear that can develop in students while pursuing academic success (Miller, 2018). A constant need to master the goal could create a creative roadblock, cognitive pushback and curb innovation in students.

When combined, the synergism of these four theories support and underscore the importance of the specific variables used. Self-determination theory defines intrinsic motivation and its importance. Social cognitive theory explains how intrinsic motivation is linked to learning by way of social influences, which include parental involvement and socioeconomic status. Ecological systems theory demonstrates how the different levels of environments are related, which is correlated to the influence of parental involvement and socioeconomic status as pertains to the academic intrinsic motivation of a student. Achievement motivation theory relates a student's behavior to their motivation towards completing a goal. When conditions, including parental involvement and

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

socioeconomic status, are favorable we might expect an increase in these goal-oriented behaviors and motivation.

Review of the Research Variables

Intrinsic Motivation vs Extrinsic Motivation

Intrinsic motivation can be described as the degree of individual participation since interest and satisfaction are derived from participation (Gagne & Deci, 2005). Other studies discuss high correlation between individual interest and intrinsic motivation (Smith & Darvas, 2017; Jungert et al., 2020). It is important to define intrinsic motivation because oftentimes motivation is discussed as a general term, encompassing qualities of both extrinsic motivation and intrinsic motivation. Extrinsic motivation is most often thought of as receiving a reward or consequence from participation. These could be tangible or intangible, but go beyond personal satisfaction. Without careful consideration, these extrinsic motivators can be harmful. Students can be led to believe school conditions, test scores, etc. determine their self-worth (Ginsberg and Raymond, 2019). Intrinsic motivation has a more positive correlation with academic achievement.

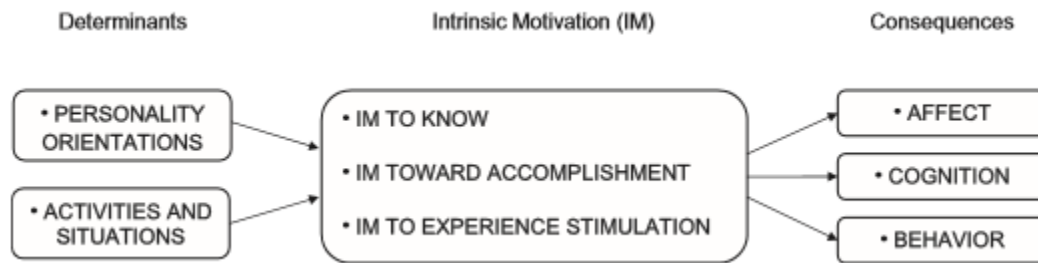
Figure 2.3 explains the causes of intrinsic motivation (determinants), which includes personality orientations and activities and situational factors. A student's preference for any activity or the experience from a particular situation will result in building inner drive in the student to be involved (maybe to know something, to accomplish something or to experience stimulation, or to avoid harm). The consequence of the IM results in creating various cognitive and

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

behavioral patterns in the student which can benefit or harm them in future, depending on what they are (Carbonneau et al., 2012).

Figure 2.3

Tripartite Model of Intrinsic Motivation



Note. From “Toward a Tripartite Model of Intrinsic Motivation,” by N.

Carbonneau, R. Vallerand, and M. Lareniere. 2012, *Journal of Personality*, 80 (5), p.1148. Copyright 2011 by Wiley Periodicals, Inc.

Parental Involvement

Parent involvement in academics has been identified as critical influence on children’s education, and observationally related to academic participation and success. Oswald et al. (2017), found higher levels of development in student cognition and language when there was an increase in parental involvement. When parents are involved with a student’s academics, there is a positive impact on their social-emotional development including self-esteem, emotional self-regulation, and self-perceptions of academic competence (Wang & Sheikh-Khalil, 2013).

Parental involvement can have a variety of definitions, however, here it is defined as “parents’ interaction with schools and with their children to benefit their children’s education success” (Hill et al., 2004, p. 1491). This specific

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

definition is simple and allows for multiple ways parents can be involved in their students' educational success. The only change made is that the term adult is substituted for parent. Research by Hill and Tyson (2009) suggests parental involvement is related to academic performance and engagement of students in middle and high school. Parents involvement can be categorized into two types: home-based involvement and school-based involvement. School-based involvement includes practices when parents make direct contact with schools. Practices in this vein include, but are not limited to, being present at general school meetings, talking with teachers (e.g., attending parent-teacher conferences, initiating contact with teachers), attending school events (e.g., open houses, science fairs), and volunteering at school (Pomerantz et al., 2007). Home-based involvement includes practices that take place outside of school, often in the home. These practices include assisting their student with school- related tasks, such as homework (e.g., creating an appropriate environment to study or helping students complete their homework), responding to a student's academic endeavors (e.g., performance on a test), and having discussions about academic challenges (e.g., what happened in school or the importance of academic participation for their future development) (Pomerantz et al., 2007).

Few studies show any negative impact of parent involvement in student learning, but many have mentioned the positive impact it can have on motivation and academic success. Self-determination theory (Deci & Ryan, 1985; Ryan & Deci, 2000) postulates children experience parent-oriented motivation as more controlled than autonomous (Cheung & Pomerantz, 2012). Cheung and

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

Pomerantz (2012) found that as parent involvement in children's learning increased, the student's motivation to succeed in school also increased. The same study saw enhanced self-regulated learning and higher grades with increased parent involvement (Cheung & Pomerantz, 2012). Children become motivated to meet parent expectations to gain parent approval.

Figure 2.4 is used to establish the effects of parent involvement on learning through parent-oriented motivation. The model makes a connection between parent involvement and child-parent-oriented motivation. However, the model does not establish the influence of parental involvement on a student's own intrinsic motivation.

Figure 2.4

Parent-Oriented Motivation

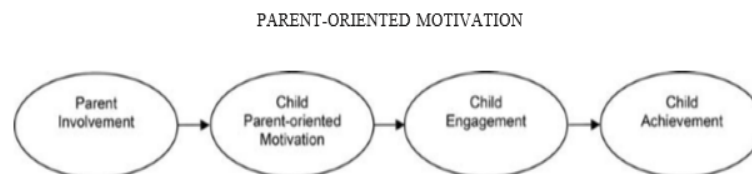


Figure 1. Guiding model of the effects of parents' involvement in children's learning on children's achievement via children's parent-oriented motivation and engagement in school.

From "Why does parents' involvement enhance children's achievement? The role of parent-oriented motivation," by C. Cheung & E. Pomerantz, 2012, *Journal of Educational Psychology*, 104 (3), p.821. Copyright 2012 by American Psychological Association.

Fan and Chen (2001), connected relationships between parent involvement and student characteristics like, achievement motivation, task persistence, and receptive vocabulary. Another study (Hill and Tyson, 2009), discuss using family-

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

school relationships and parental involvement as a method to close achievement gaps. It has been witnessed that the parent involvement during middle school tends to decrease. There could be many reasons why parental involvement decreases in middle school, such as, when their children get to middle school some parents are unable to help with schoolwork or extend their child's learning outside of the classroom (Dauber & Epstein, 1989). Seginer (2006) supports this negative relationship between effective home involvement and lower middle school motivation. It can be inferred from the various research that parent involvement during elementary education still has an evident impact.

There is a considerable amount of research based on parental involvement with middle school students but does not provide any conclusive evidence about the directionality, or lack of its impact on intrinsic motivation. These research investigations examine the achievement, using academic success and learning in the school environment but none reveals a direct connection between student intrinsic motivation and parent involvement. Therefore, it becomes important to investigate the impact of parent involvement on its middle school students' intrinsic motivation.

Socioeconomic Status

SES can be defined broadly as the access an individual has to financial, social, cultural, and human capital resources. Traditionally a student's SES has included parental educational attainment, parental occupational status, and household or family income, with appropriate adjustment for household or family composition (National Center for Education Statistics, 2012). Each of these

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

components play an important role in determining the socioeconomic status of the student.

There is a discrepancy when comparing the median annual household income of families living in the United States with the families in with the proposed sample population. As per the data collected from (Data USA, 2012), the median annual household income of families in the sample population studied is \$41,657, which is less than the median annual income of \$61,937 across the entire United States. The study population of students belonged to lower socioeconomic status. It has been suggested that students from a lower socioeconomic level may not be prepared for a public-school system with a middle socioeconomic status orientation, and this can result in motivation and achievement issues (Aud et al., 2011).

Findings linking poverty and student academic achievement have been found. Lacour and Tissington (2011) stated the following findings in their study:

The U.S. Department of Education (2001) found the following key findings regarding the effects of poverty on student achievement in a study conducted on third through fifth grade students from 71 high-poverty schools: The students scored below norms in all years and grades tested; students who lived in poverty scored significantly worse than other students; schools with the highest percentages of poor students scored significantly worse initially, but closed the gap slightly as time progressed. (p.522).

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

Living in poverty could impact academic achievement for many reasons, like limited school resources, limited support at home, and other stressors in a student's life. Lacour and Tissington (2011) concluded their research by stating that level of income, source of income, and mother's education level all influence academic achievement.

There is extensive research indicating that students from a low-income background tend to have more gaps in achievement. Multiple studies indicate that academic achievement can be predicted by actual socioeconomic status (Cedeño et al., 2016; McKenzie, 2019). There is a relationship between stress and poverty, which can lead to a negative impact on cognition and increase academic risk (Cedeño et al., 2016). In fact, chronic stress can cause damage to the brain. Specifically, stress may cause a decrease in learning capacity if the hippocampus is damaged (McKenzie, 2019).

There are several ways the stress of having a low socioeconomic background interferes with school performance. Some of these include low test scores, behavioral and emotional problems, and mental health issues (McKenzie, 2019). Despite the challenges, students from low socioeconomic backgrounds can still succeed. With proper interventions and program implementations, these students can grow from their adversity and achieve academically (Cedeño et al., 2016).

Additional challenges are faced by the students in lower socioeconomic homes. Families who live in impoverished neighborhoods are typically in underfunded school districts (Quillian, 2017). Socioeconomic background can

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

determine the school a student attends and what academic opportunities are available to them (Sirin, 2005). The less funding a school has, the fewer resources are available. Therefore, family socioeconomic status plays an important aspect in academic success.

Student perception

Student perception is closely related to how well a student learns (Gentilucci, 2004, p.133). Gentilucci's 2004 study (as cited in Becker et al., 2003) mentions that researchers who use an objective research model, fail to understand the feelings and thoughts behind the actions of the students, which results in ineffective interventions. According to Gentilluci (as cited in Hammersley & Woods 1984), being unaware about students' needs and their learning choices has been termed as the biggest flaw of developed interventions. To understand the perception of the students, the researcher himself took on the role of a sixth grader and sat in the classroom with them. Observations determined that elementary students were genuinely interested in learning, but their learning could be hindered by the factors within the classroom. Perceived parental involvement and perceived socioeconomic status could impact their perspective of learning and academic intrinsic motivation. According to Gentilucci, "Students are powerful determiners of the learning that occurs in the classroom" (2004, p.133).

Another study by Reece (2013), investigated the student perception on student-teacher engagement in their first-year courses. The study showed if the student-teacher engagement is understood from the perspective of the student, then teachers can make changes in their pedagogies and cater to the needs of the

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

students more effectively. It also helps the institution to investigate and access various strategies that can increase retention and maximize student success in college (Reece, 2013). The idea of using student perspective to change teaching pedagogy is applied to middle school education in the current study.

Understanding students' perception of the impact of external factors on their own intrinsic motivation will give insight to educators, so that they can help students achieve academic success.

In order for students to stay connected with their studies, motivation becomes a crucial feature in their academic growth. Achievement motivation encourages behavior toward achievement toward academic success (Steinmayr et al., 2019). When studied at the same level of specificity, the multiple constructs of achievement motivation (motivational beliefs, task values, goals, and achievement motives) most were found to be significantly related to school grades (Steinmayr et al.2019,). In spite of playing such an important role in academic achievement of students, not much research has been done to know the relationship between intrinsic motivation and SES. The proposed research will help to establish that relationship by including the SES components and measuring motivation using the perception of the student.

Summary

Studies have shown that there is a high correlation between intrinsic motivation and academic achievement. However, there is a gap in research identifying the contributing factors related to the development of student intrinsic motivation. Educators can address students' needs and affect student success, if

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

they know how intrinsic motivation is developed. This potential benefit becomes particularly important, when a student population is labeled “at risk”, which describes the population to be studied as an attempt to determine the relationship between socioeconomic status and intrinsic motivation.

Student academic achievement has been highly positively correlated with parental involvement. Connections between high parent involvement and student motivation have been studied (Jungert et al., 2020), but this appears to be an example of extrinsic motivation based on seeking parent approval. The influence parent involvement has on a student’s development of intrinsic motivation has not been widely studied. Research suggests parent involvement decrease at the middle school level. Using middle school students in the sample population can allow the relationship between parent involvement and student intrinsic motivation to be studied, and to observe if intrinsic motivation drops at the middle school level.

There are many studies on the relationship between socioeconomic status and student achievement. The literature suggests that lower socioeconomic background is related to more achievement gaps (Cedeño et al., 2016; McKenzie, 2019). The relationship between socioeconomic background and parent involvement has also been found to have a positive correlation (Dauber & Epstein, 1989), as households with higher incomes tend to have greater parental involvement. However, there is a gap in research for the link between socioeconomic status and student intrinsic motivation. This could be an important external factor used to predict the level of intrinsic student motivation. This information would allow educators to implement strategies to increase intrinsic

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

motivation, so that there would be less inequity between socioeconomic backgrounds.

The gaps identified in the research emphasize the importance of the three research questions, and the effect on the specific sample population studied.

Although there is much research of intrinsic motivation, parental involvement, and socioeconomic status, there are few clear links between those factors. By studying the relationship between the external factors of parent involvement and socioeconomic status on a student's intrinsic motivation, these gaps may be eliminated, based on the findings.

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

Chapter 3

Methodology

Introduction

According to Gagné and Deci (2005), intrinsic motivation occurs when an individual completes a task because they find satisfaction in doing so, rather than for other unrelated reasons. When there are outside contributing factors that change the intention or willingness of a person to do a task, it is defined as extrinsic motivation. External factors might also result in intrinsic motivation with the help of the “internalization” and “integration” processes. As per Ryan and Deci (2000), “Internalization is the process of taking in a value or regulation, and integration is the process by which individuals more fully transform the regulation into their own so that it will emanate from their sense of self.” Student perception of both, parental involvement and socioeconomic status are the values studied.

Research Design

A mixed method approach was used in conducting and evaluating student responses on the impact of perceived parent involvement and socioeconomic status on student intrinsic motivation. A Likert Scale survey was used to measure the quantitative variables of perceived socioeconomic status and perceived parental involvement. Qualitative data was gathered with open-end questions that follow the Likert scale survey in order for students to elaborate on their responses. For example, a student can explain the reasoning behind their ranking of parental involvement. These questions will also allow a student to explain their understanding of parental involvement and intrinsic motivation.

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

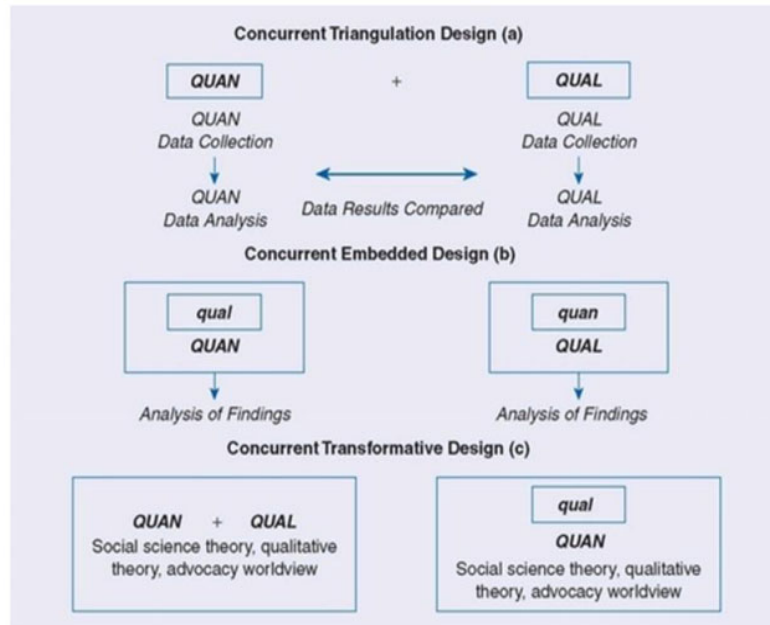
The decision to complete a mixed methods approach was determined by the need to fully understand student perception of parental involvement and socioeconomic status on their intrinsic motivation. Collecting qualitative data allows students to elaborate as to why they selected their Likert scale ratings. Having both qualitative and quantitative data allows a more detailed and reliable resolution of the research questions.

According to Creswell (2008), there are many ways by which a mixed method approach can be used in conducting the research. According to Figure 3.1, the method adapted is a concurrent embedded design in which the quantitative and the qualitative data are collected at the same time in one setting. This approach justifies embedding qualitative questions as it will enable participants to give reasoning for the measured variables, which cannot be done with quantitative data alone. The sequence of conducting the qualitative or quantitative research does not matter while working with this method. It is also beneficial to collect the data at one time instead of disturbing the routine of teachers and students on two occasions (Creswell, 2008).

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

Figure 3.1

Concurrent Designs



From “Research design Qualitative, Quantitative and Mixed Methods,” by Creswell , 2008, 3rd edition, page 194. Copyright 2008 by SAGE publishing.

In order to investigate the impact of parent involvement and socioeconomic status on intrinsic motivation, a multiple regression analysis will be used. This specific test is used to analyze possible relationships between more than two variables. It was challenging to find a statistical method to analyze multiple variables, a parallel study was found and used as a model for research methods. Jungert et al. (2020), applied a multiple regression analysis to find the relationship between parent and teacher enthusiasm with intrinsic motivation and academic achievement of students. Linear regression analysis was used to measure the relationship between perceived parent involvement and perceived socioeconomic status, however, a multiple regression analysis was used in order

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

to measure the impact of two factors/ variables on the intrinsic motivation of students.

Research Questions and Hypotheses

Research Question 1- What is the relationship between student perceived parental involvement and their academic intrinsic motivation?

Null Hypothesis 1: There is no significant relationship between student perceived parental involvement and academic intrinsic motivation.

Directed Hypothesis 1: There is a significant relationship between student perceived parental involvement and academic intrinsic motivation of students.

Research Question 2- What is the relationship between student perceived socioeconomic status and their academic intrinsic motivation?

Null Hypothesis 2: There is no significant relationship between student perceived socioeconomic status and academic intrinsic motivation.

Directed Hypothesis 2: There is a significant relationship between student perceived socioeconomic status and academic intrinsic motivation.

Research Question 3- What is the relationship between student perceived parental involvement and student perceived socioeconomic status?

Null Hypothesis 3: There is no significant relationship between student perceived parental involvement and student perceived socioeconomic status.

Directed Hypothesis 3: There is a significant relationship between student perceived parental involvement and student perceived socioeconomic status.

Setting and Sample Population

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

A convenience sample of approximately 700-800 students attending a Midwestern suburban public middle school were asked to serve as the research population. This school serves 7th and 8th grade academic levels. The student population consists of 50% male and 50% female students. All students were given the equal opportunity to participate in the survey. Students were given an assent (Appendix B) form to sign if they chose to participate. Before conducting the survey, a consent form (Appendix C) was sent to parents/guardians of those students. Only those students who submitted completed both parental permission and their own consent agreement participated in the study. The entire class received a snack box if 50% of the students participated from that class. A sample pool of 50 was targeted from the convenience pool of 700-800. The survey was administered by the advisory teachers of the students. The advisory class did not interrupt instructional hours.

Instrumentation

A three-part survey was used to measure perceived parental involvement, perceived socioeconomic status, and academic intrinsic motivation (Appendix A). Each part measures a separate variable so any relationships between these variables can be identified. The survey was given to students during their advisory period, as to not disrupt any instructional time. The survey asked students to rank their perspective of various ways their parents/guardians are involved in their schooling using a five-point Likert scale. They were also asked to estimate their household income on an incremental scale. The survey includes both multiple choice and open-ended questions for students to elaborate on their rankings.

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

Open-ended questions provide more information on their perspectives on academic goals, achievement, and challenges. To maintain the anonymity of the students /participants, the survey was collected with no student identification.

One survey with three parts (A, B, and C) was used to measure the impact of perceived parent involvement on student intrinsic motivation, the impact of perceived socioeconomic status on student intrinsic motivation, and assess the students' own perceived intrinsic motivation. Part A measures parental involvement (Mendoza, 2012). Part B measures motivation with the American Motivation Scale (AMS) first validated by Vallerland et al., 1992. Part C measures household income and education as factors for socioeconomic status ("Community needs assessment questionnaire survey," n.d.) (Hanes, 2008). Open-ended questions in Part C of the survey were modified as per the need of the research.

Data Collection

Before collecting data, students received and then submitted both signed parent's consent and student's assent forms. In order to keep record of the students' who have submitted both forms, a teacher's log was shared with the advisory teachers. Students had one month to submit both signed forms. Once forms were collected with the teacher's log, surveys were given to the advisory teachers for those who submitted both forms.

All 7th and 8th grade students completed the survey at the same time in their advisory class without any interruption. Part A of the survey contains 17 questions, Part B contains 16 questions and Part C contains seven questions

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

including three open ended responses. The advisory class is 30 minutes long. No student was allowed to bring the survey home, even if they were not finished, so that parents could not influence them while completing the survey. The data was collected by each advisory teacher once students have finished filling out the survey. Data was collected once in an academic year from all the students. The teacher did not paraphrase or help the students while filling out the survey in order to maintain the reliability and truthfulness. The survey was reviewed by an Internal Review Board (IRB) in order to protect the rights and the welfare of the students involved in the research.

Data Analysis

The mean and standard deviation for perceived parent involvement, perceived socioeconomic status and intrinsic motivation was calculated. The analysis of the responses from each question showed the collective perception by the students of the impact parent involvement and socioeconomic status have on the development of their intrinsic motivation. The responses from AMS (Academic Motivation Survey) (Vallerland et al., 1992) establish the student's own intrinsic motivation. Multiple regression analysis was used to understand the relationship between one or more variables. The variables used were perceived parental involvement, perceived socioeconomic status and academic intrinsic motivation.

The multiple regression equation used: (β_0) and three slopes (β_1 -3):

$$\text{AVGAIM} + \beta_0 + \beta_1 * \text{AVGPI} + \beta_2 * \text{INCOME} + \beta_3 * \text{GUARDIAN} + \varepsilon.$$

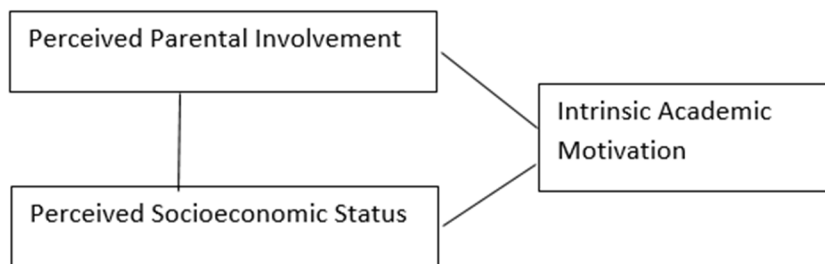
Perception of Parent Involvement and SES on Academic Intrinsic Motivation

AVGAIM is average academic intrinsic motivation, AVGPI is average perceived parent involvement, INCOME is average perceived household income, and GUARDIAN is the adult who is perceived as most involved in students' schoolwork.

β_1 -3 are the coefficients of the variables (AVGAIM, AVGPI, INCOME, and GUARDIAN). β_0 is the intercept.

Figure 3.2

Diagram showing possible relatedness of variables



Note. The bold lines represent the relationship between each variable studied.

The data was analyzed in SAS to find the ANOVA. Using the significance f value from the table, we can reject or accept the null hypothesis for the combined independent variables by comparing it with the alpha value (0.05).

The p value for the individual independent variables was compared with the alpha value. If p -value is greater than the alpha value (0.05), then we cannot reject the null hypothesis. If a significant relationship is established between perceived parental involvement and intrinsic motivation, then the coefficient in the table identifies whether the relationship is positive or negative. The same was done for intrinsic motivation and perceived socioeconomic status. A positive

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

coefficient means that the relationship between intrinsic motivation and its independent values is positive which means if perceived parental involvement increases then intrinsic motivation also increases.

The data table analyzed in the SAS provided the ANOVA table and p-values. The p-value was compared to alpha value in order to understand the significant relationship between the two variables. If the p-value was less than the alpha value, then it means that the null hypothesis 3 was rejected and it established a significant relationship between the two variables. The sign in front of the coefficient (m) indicates the positive or negative linear relationship.

The responses collected from open ended questions in Part C of the survey were analyzed using an open, axial and selective coding method (Corbin et al., 2015). Individual codes, categories and overarching themes were created from the responses of the open-ended questions. This process helped to develop a summary of the data and help give insight about students' perspective of their socioeconomic status.

Ethical Considerations

There is a loss of confidentiality risk for the names of students who have both signed parent consent forms and their own student assent forms will be collected. No names or other identifying information will be collected on surveys. Student names are only collected so researchers can distribute surveys to students who have permission. The list of participants will be stored in a secure location.

Summary

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

A mixed method approach was used to collect data with a survey instrument containing both open-ended questions and Likert scale rating questions. Quantitative responses were analyzed using multiple regression and linear regression analysis, while qualitative responses were analyzed through manual coding.

The data collected will be used to increase understanding of the factors that have an impact on the intrinsic motivation of the students in middle school. Parent involvement in students' education and the economic background are considered as one of the many reasons for middle school students not building motivation towards academics. The results will help identify the significant relationship of these variables with students' intention to do a task.

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

Chapter 4

Findings and Results

Data Description

A concurrent mixed methods research study was conducted during which participants completed both quantitative and qualitative questions in the same setting. Quantitative data was collected by having student participants complete a Likert scale survey on paper, over their perspectives on parental involvement, perspectives on socioeconomic background, and measuring their academic intrinsic motivation. Qualitative data was collected from the student population by using three open-response questions regarding their motivation in school.

The participants consisted of 50 middle school students from an urban district in the United States Midwest. This district's population includes many low-income families, as 100% of the students qualify for free and reduced lunch. Student participants ranged in age from 12-15 years old. In order to participate, students had to fill out their own assent forms, and their parents had to also sign consent forms. Only those students who returned both signed forms were able to participate. No student identifiers were collected. Classes that had at least 50% of their students participate were given snack-sized bags of chips to all of the students in the class, whether the individual participated in the survey or not.

Research Questions and Hypothesis

In order to investigate the impact of perceived parental involvement and perceived socioeconomic status on students' perception of intrinsic motivation, the following research questions with their hypotheses were pursued.

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

Research Question 1- What is the relationship of student perceived parent involvement and their academic intrinsic motivation?

Null Hypothesis 1: There is no significant relationship between perceived parent involvement and academic intrinsic motivation.

Directed Hypothesis 1: There is a positive relationship between perceived parental involvement and academic intrinsic motivation.

Research Question 2- What is the relationship of student perceived socioeconomic status and their academic intrinsic motivation?

Null Hypothesis 2: There is no significant relationship between perceived socioeconomic status and intrinsic motivation.

Directed Hypothesis 2: There is a positive relationship between perceived socioeconomic status and intrinsic motivation.

Research Question 3- What is the relationship of perceived parent involvement and perceived socioeconomic status?

Null Hypothesis 3: There is no significant relationship between perceived parent involvement and socioeconomic status.

Directed Hypothesis 3- There is a significant relationship between perceived parent involvement and socioeconomic status.

Quantitative Analysis

Descriptive statistics were calculated using the program SAS (SAS on demand for academics). The average score for perceived parental involvement was calculated for each individual and labeled as AVGPI (average parental involvement). The same calculation was completed for the responses to the AMS

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

survey (Vallerland et al., 1992), but the label was AVGAIM (average academic intrinsic motivation). Perceived income was assigned a corresponding number to the letter the participants chose to represent the income range. For example, a) 10,000-20,000 was assigned the number 1. The responses left blank, or when a participant was unsure, 0 was assigned. The label given to perceived income was INCOME.

Three participants' surveys were excluded because their surveys were left incomplete. The remaining 47 surveys were used to calculate the mean and standard deviation of AVGPI, AVGAIM, and INCOME.

A second calculation of descriptive statistics was completed regarding AVGPI and AVGAIM with INCOME as the classification variable. The analysis provided the mean and standard deviation for AVGPI and AVGAIM for each INCOME.

A multiple linear regression analysis was conducted using the program SAS. The dependent variable was AVGAIM. The classification variables were GUARDIAN (the primary guardian who is involved in the student's school work) and INCOME. The continuous variable was set to AVGPI. All three independent variables were run as single effects on AVGAIM.

Results

The descriptive statistics for average perceived parental involvement score, average academic intrinsic motivation score, and average perceived income are shown in Table 4.1. The mean for AVGPI is 4.34. The mean for AVGAIM is 3.80. The mean for INCOME is 3.02. If rounded, the mean income range is about

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

\$30,001-\$40,000. Graphs showing the distribution of each variable are shown in Appendix D. Average perceived parental involvement scores are skewed to the right. Income is skewed to the left; however, the high number of blanks makes the skew look more dramatic on the graph. Average academic intrinsic motivation has a normal distribution.

There was a high standard deviation for INCOME. This suggests data was spread out from the mean and there is a large amount of variation in the participants' perceived household income.

Table 4.1

Descriptive Statistics

Variable	Mean	Std Dev	Minimum	Maximum	N
AVGPI	4.34	0.51	3.25	5.00	47
AVGAIM	3.80	0.66	2.00	5.00	47
INCOME	3.02	2.67	0	9.00	47

The mean and standard deviation for AVGPI and AVGAIM were calculated again with INCOME as the classification variable. The results are shown in Table 4.2. The lowest mean AVGPI based on income is 3.81 at income level 9 (greater than \$90,000). The highest mean AVGPI based on income is 4.06 at income level 6 (\$60,001-\$70,000). The highest mean AVGAIM based on income is 4.04 at income level 3 (\$30,001-\$40,000). The lowest mean AVGAIM based on income is 2.5 at income level 7 (\$70,001-\$80,000). The box plots that show the distribution of each variable by income level are shown in Appendix E.

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

The highest median score for perceived parental involvement is at income level 6 (\$60,001-\$70,000). The lowest median for perceived parental involvement is at income level 9 (greater than \$90,000). The highest median score for average academic intrinsic motivation is at income level 6 (\$60,001-\$70,000). The lowest median is at income level 7 (\$70,001-\$80,000). The boxplots show overlap across the independent variables, so the differences may not be significant.

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

Table 4.2

Descriptive Statistics by Income

INCOME	Variable	Mean	Std Dev	Minimum	Maximum	N
0 (Unsure/Blank)	AVGPI	4.36	0.54	3.38	5.00	12
	AVGAIM	3.89	0.74	2.88	5.00	12
1 (\$10,000-\$20,000)	AVGPI	3.98	0.29	3.56	4.31	5
	AVGAIM	3.96	0.27	3.50	4.19	5
2 (\$20,001-\$30,000)	AVGPI	4.37	0.54	3.27	4.88	7
	AVGAIM	3.96	0.52	3.20	4.63	7
3 (\$30,001-\$40,000)	AVGPI	4.46	0.22	4.25	4.69	3
	AVGAIM	4.04	0.34	3.81	4.44	3
4 (\$40,001-\$50,000)	AVGPI	4.56	0.18	4.31	4.75	5
	AVGAIM	3.60	0.48	3.06	4.06	5
5 (\$50,001-\$60,000)	AVGPI	4.23	0.78	3.29	5.00	5
	AVGAIM	3.67	0.58	2.81	4.13	5
6 (\$60,001-\$70,000)	AVGPI	4.68	0.37	4.06	5.00	6
	AVGAIM	3.98	1.00	2.00	4.62	6
7 (\$70,001-\$80,000)	AVGPI	4.06	.	4.06	4.06	1
	AVGAIM	2.50	.	2.50	2.50	1
8 (\$80,001-\$90,000)	AVGPI	3.88	.	3.88	3.88	1
	AVGAIM	3.00	.	3.00	3.00	1
9 (Greater than \$90,000)	AVGPI	3.81	0.80	3.25	4.38	2
	AVGAIM	3.25	0.62	2.81	3.69	2

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

A multiple linear regression analysis was run using AVGAIM as the dependent variable. GUARDIAN and INCOME were the classification variables, and AVGPI was a continuous variable. The multiple regression model has one intercept (β_0) and three slopes (β_1 -3): $AVGAIM + \beta_0 + \beta_1*AVGPI + \beta_2*INCOME + \beta_3*GUARDIAN + \epsilon$. The least squares summary and analysis of variance are shown in Appendix F. The p value from the analysis of variance was 0.06 which is greater than 0.05. This means the null hypothesis cannot be rejected. However, since it is close to 0.05, the parameter of estimates, shown in Table 4.3, is considered.

Table 4.3

Parameter of Estimates

Parameter Estimates					
Parameter	DF	Estimate	Standard Error	t Value	Pr > t
Intercept	1	0.740721	1.033956	0.72	0.4786
Guardian Father	1	0.074793	0.545416	0.14	0.8917
Guardian Mother	1	0.002515	0.515335	0.00	0.9961
Guardian Other	0	0	.	.	.
INCOME 0	1	0.272285	0.460660	0.59	0.5584
INCOME 1	1	0.605106	0.491631	1.23	0.2268
INCOME 2	1	0.319531	0.484118	0.66	0.5137
INCOME 3	1	0.342931	0.555511	0.62	0.5411
INCOME 4	1	-0.167662	0.520287	-0.32	0.7492
INCOME 5	1	0.123791	0.499580	0.25	0.8058
INCOME 6	1	0.147658	0.532331	0.28	0.7832
INCOME 7	1	-0.914378	0.719813	-1.27	0.2126
INCOME 8	1	-0.291095	0.718288	-0.41	0.6878
INCOME 9	0	0	.	.	.
AVGPI	1	0.657512	0.193439	3.40	0.0017

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

For all tests a Type 1 error rule of 0.05 or 5% was used. If p-value < 0.05 then reject the H_0 , otherwise do not reject H_0 . Overall, AVGAIM does not have a significant relationship with INCOME or GUARDIAN since each p value for guardian and income are higher than 0.05. However, AVGPI has a p value of 0.0017, which is less than 0.05 and positive. This suggest there is a positive relationship between perceived parental involvement and academic intrinsic motivation. The tests for the individual variables show the following results:

Test for the Slope of AVGPI:

$H_0: \beta_1 = 0$

$H_a: \beta_1 \neq 0$

Conclusion: Since $p = 0.0017 < 0.05$, we reject the H_0 and conclude the slope is significantly different from zero. The positive parameter estimate = 0.657512 means that AVGAIM increases as AVGPI increases.

Test for the slope of INCOME:

$H_0: \beta_2 = 0$

$H_a: \beta_2 \neq 0$

Conclusion: Since all income levels had a p-value greater than 0.05, we fail to reject the H_0 and conclude the slope is not significantly different from zero. Income has no effect on AVGAIM.

Test for the slope of GUARDIAN:

$H_0: \beta_3 = 0$

$H_a: \beta_3 \neq 0$

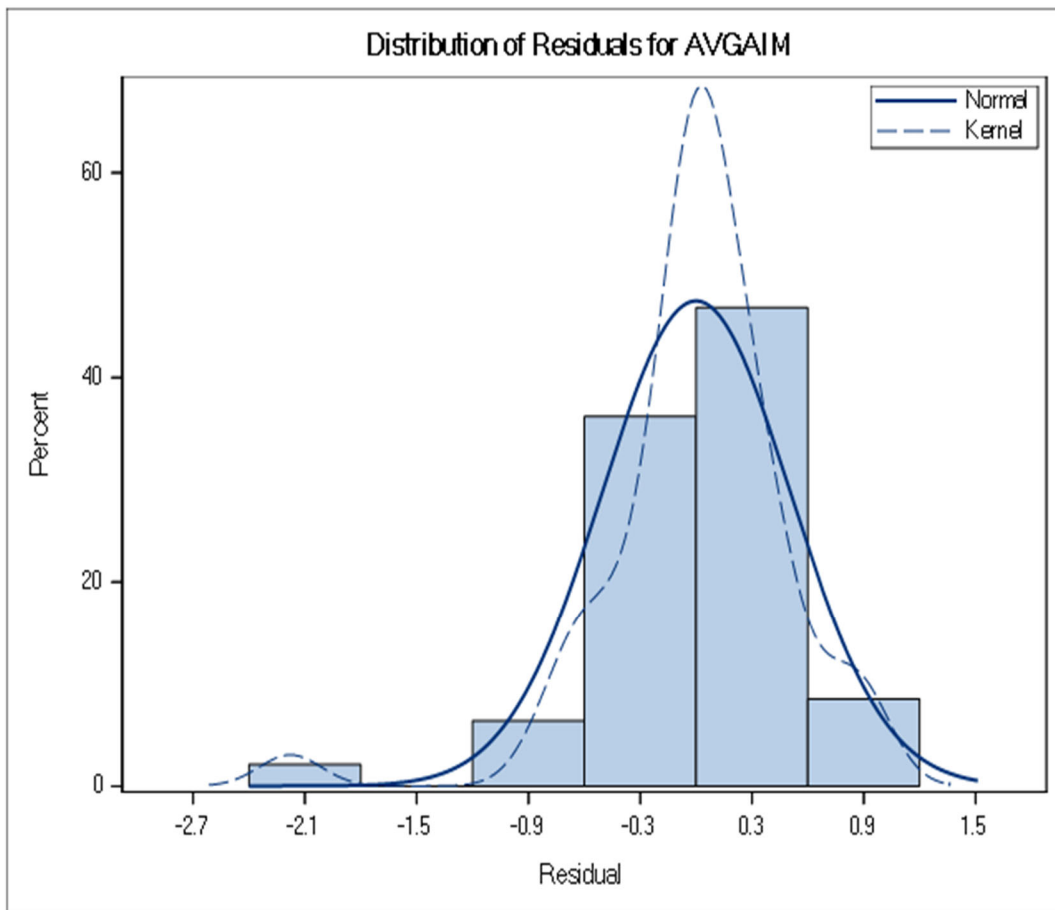
Perception of Parent Involvement and SES on Academic Intrinsic Motivation

Conclusion: Since each primary guardian that helps with school work has a p-value greater than 0.05, we fail to reject the H_0 and conclude the slope is not significantly different from zero. The primary guardian involved with school work has no effect on AVGAIM.

The distribution for average academic intrinsic motivation is shown in Graph 4.1. The graph shows a normal distribution with a slight skew towards the right. Residuals show how far data is distributed from the expected value.

Graph 4.1

Distribution of Residuals for Average Academic Intrinsic Motivation Score



Perception of Parent Involvement and SES on Academic Intrinsic Motivation

Qualitative Analysis

To gain further insight on students' perspectives on academic intrinsic motivation, three open-response questions were asked at the end of the survey: 1) How does our school provide equal opportunities to all students regardless of how much money their parents make? If our school does not provide equal opportunities to all students, give an example. 2) What do you want to accomplish by attending school? 3) Explain the challenges you face while trying to be successful in school. Those responses were coded into themes by question, and then further broken down by category and individual code. Some student responses were lengthy and detailed enough that multiple codes were applied, while other responses only fit one specific code.

Findings

Each question was coded separately into the following themes, categories, and codes. There are three themes, as each open-ended question serves as a theme. Some responses were lengthy and provided multiple codes, while other participants provided a response with only one code.

How does our school provide equal opportunities to all students regardless of how much money their parents make? If our school does not provide equal opportunities to all students, give examples.

The responses were first divided into three categories: Yes, No, or IDK/Blank. Responses that were affirming equal opportunities are provided to all students went into the category of Yes. There were 11 codes under the Yes category: Yes-unspecific, Accountability, Activities, Equal treatment, Free food,

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

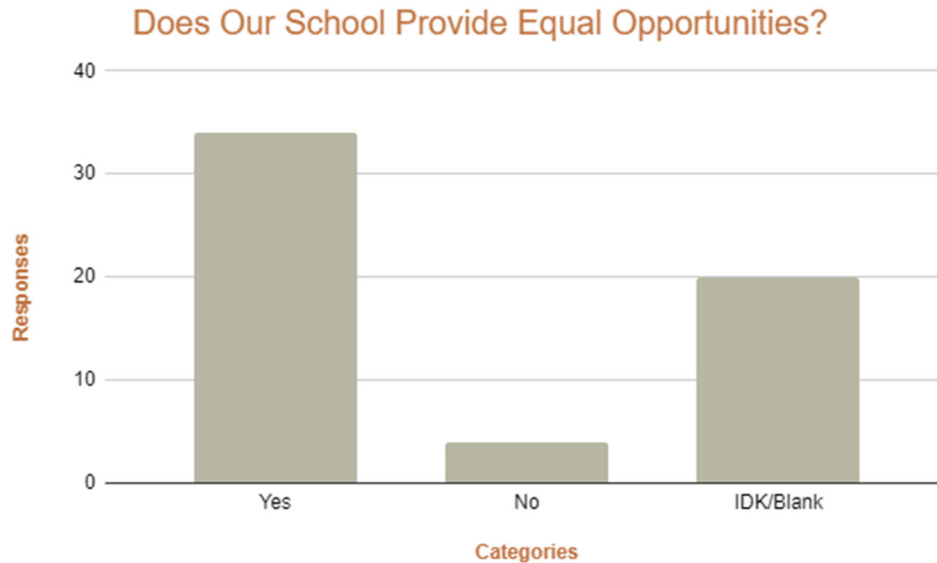
Fundraisers, Help provided, Jobs for teens, Opportunities to learn, Reward, and Transportation. If students just responded yes, and did not provide an example, it was coded as Yes-unspecific. The most frequent code was Activities with seven responses mentioning an activity at school. These responses included “field days”, “the carnival”, and “playing sports”. All students were given the opportunity to participate in these activities regardless of how much money their parents make. Other frequent codes in the responses were on free lunches provided and buses being free to all families.

There were only four responses in the No category, as in students did not believe the school provides equal opportunities to all students. The codes under this category were Unspecified, All judged on actions of others, and Need more fundraising. One was unspecified as to why school does not provide equal opportunities to all students regardless of how much money their parents make. One participant mentioned it was not fair that all students were judged on the actions of others. Two responses mentioned the need for more fundraising to be able to participate in some activities, or events. This question had the most blank responses, or responses that the participant was unsure what the question meant. The code used for the 20 responses when no information was provided, was Q1. IDK/Blank. The breakdown on response frequency for open-ended question 1 is shown in Graph 4.2 below. Appendix G shows the total count for each code from the participant responses for this open-ended question.

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

Graph 4.2

Equal Opportunities



Student academic intrinsic motivation could be impacted by socioeconomic status, if students feel family income impacts their opportunities at school. Most responses suggested participants felt that school provided equal opportunity, regardless of the family income. However, because there were a significant number of responses that did not answer the question, it is not data-rich enough to make a conclusion on the relationship of academic intrinsic motivation and socioeconomic status based on this question alone.

What do you want to accomplish by attending school?

This question was asked to determine students' perspectives on academic intrinsic motivation. The responses were broken into the categories of Academic Goals, Personal Goals, Professional Goals, and Q2. IDK/Blank. There were six codes under the category of Academic Goals: College prep, Do more work, Earning grades, High school prep, Knowledge/Learning, and Progression in

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

school. College prep was mentioned most frequently at nine times. These responses included “earn a degree” and “go to college”. Earning grades was mentioned eight times, with responses such as, “to stay on AB honor roll” and “to have all A’s”. Knowledge/Learning was mentioned seven times. This code was assigned to responses that mentioned gaining knowledge, gaining experiences, or becoming educated. In total, Academic Goals were mentioned 34 times in the responses to open-ended question 2.

Personal goals were divided into three codes: Figure out wants, Life success, and Make friends. Only one participant mentioned wanting to figure out what they want in life. Four responses included mentions of being successful in life, and one participant wanted to make new friends at school. The total codes under Personal goals was six.

Professional goals were divided into two codes: Career prep and Improving skills. Career prep was the code assigned to responses that included “becoming a doctor”, “work in the medical field”, and “accomplish becoming a veterinarian”. Only one participant's response was assigned Improving skills as a code, this student wanted to become better at asking their teachers for help. The total codes under Professional goals was seven.

There were 14 responses that were either left blank or the participant wrote, “I don’t know” as their answer. These responses were coded Q2. IDK/Blank. The breakdown on response frequency for open-ended question 2 is shown in Graph 4.3 below. Appendix H shows the total count for each code from the participant responses for this open-ended question.

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

Graph 4.3

Accomplish with School



The purpose of this open-ended question was to see what was motivating students at school. It appears the motivation is to do well in school, not so much improving as a person. The responses suggest that students want to earn high grades and continue their education through high school and college. It is unclear if this is due to intrinsic motivation since we do not know if students are feeling fulfilled as they progress in school.

Explain the challenges you face while trying to be successful in school.

The responses for the question were broken into the categories of School, People, Other, No challenges, and Q3. IDK/Blank. The four codes under the category of School were Assignments, Courses, Grades, and Tests. This most frequent of these codes was Assignments with eight mentions. Examples of these

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

mentions are “catching up on all assignments” and “finding school work difficult”.

The category of people had the most mentions throughout the participant responses. The codes included Myself, Students, Teachers, and Fights. The decision to make Fights as a separate code was due to the perspective given in the responses. One participant found it challenging to stay out of fights, while another wrote about fights as a distraction involving others. Other students talking, bullying, or drama with other students are some of the examples from the 10 coded responses of Students. Teachers had the highest amount of mentions in responses with a total of 12. There were no specific examples of what teachers do that make them a challenge to participants' success in school. Responses that were coded as Myself included “holding myself back because I feel like I cannot succeed”, “Sometimes if I don't get something, I don't like to ask for help”, and “motivation”. There were six responses that were assigned Myself as a code.

There were a variety of topics in the responses that did not necessarily relate to each other. They were put under a miscellaneous category of Other. One participant mentioned COVID as a challenge. Another mentioned Financial challenges. Three responses included General distractions that occurred in the classroom. The three responses assigned the code Social included, “being social”, “I'd rather be virtual”, and “learning other people's ways through life”. Stress/Anxiety were mentioned five times, these responses included phrases like feeling pressure or feeling nervous. Motivation was mentioned four times. One

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

participant wrote, “trying to do the work that I don’t want to do”, while others just simply wrote “motivation”.

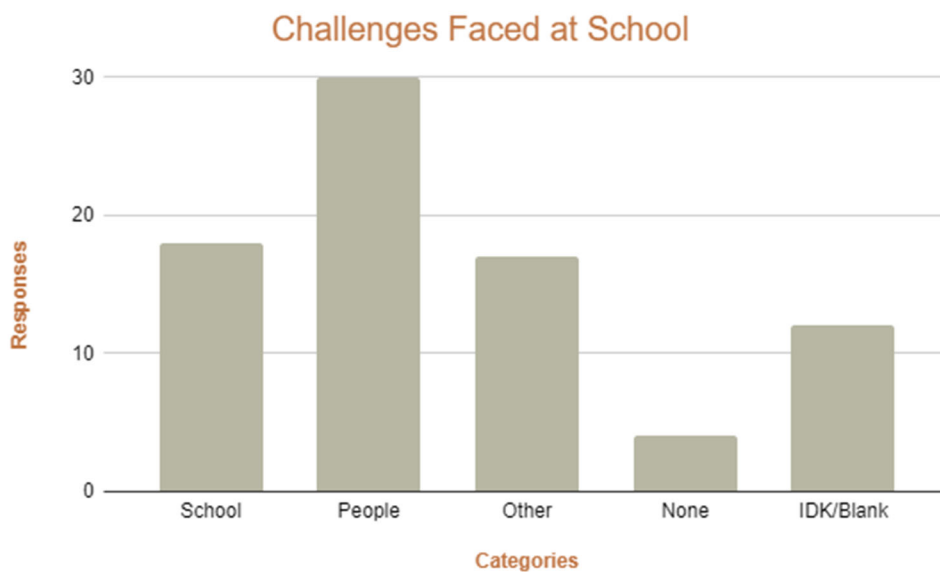
Only four students wrote that they did not have any challenges they were facing at the moment.

There were 12 responses that were either left blank or the participant wrote, “I don’t know” as their answer. These responses were coded Q3.

IDK/Blank. The breakdown on response frequency for open-ended question 2 is shown in Graph 4.4 below. Appendix I shows the total count for each code from the participant responses for this open-ended question.

Graph 4.4

Challenges



The purpose of the question, What challenges do you face at school, was to give students an opportunity to identify what could inhibit their academic intrinsic motivation. As motivation was mentioned as a challenge to succeeding in

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

school, this further validates the intent of the research. People were coded more than any other category by at least 15 mentions, suggesting that people can impact academic intrinsic motivation, however, parents were not mentioned in any response. If parental involvement would strongly impact a student's academic intrinsic motivation, then there would likely be mentions of parental involvement, or lack thereof, in the participants' open-responses.

Summary

The statistical analysis showed that there was no statistically significant difference between perceived parental involvement and perceived income level, or between academic intrinsic motivation and income level. The multiple linear regression analysis showed that academic intrinsic motivation does not have a statistical significant relationship with perceived parental involvement, average household income or the primary guardian involved in a student's schoolwork. However, when using the estimate of parameters, by itself, there was a positive relationship between perceived parental involvement and academic intrinsic motivation. It does not appear that the adult involved changes that relationship.

The qualitative responses showed the majority of participants felt that there were equal opportunities to succeed for all students, that students were primarily motivated to achieve academic goals in school, and that people provided the most challenges to succeed in the classroom. Although students did identify people as teachers, students, or themselves, not one response included information about a guardian. The statistical relationship between perceived parental

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

involvement and academic intrinsic motivation is not reflected in the qualitative analysis.

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

Chapter 5

Discussion

Introduction

Intrinsic motivation is the satisfaction derived by an individual by completing a task. It is driven by the interest of an individual towards the task and not by a desire to get a reward after it (Gagne & Deci, 2005). Students in high poverty school settings tend to lack intrinsic motivation and that results in low academic achievement (Cedeño et al., 2016). Self Determination theory (Gagne & Deci, 2005) has suggested a continuum that shows the development of motivation in students from amotivation to external motivation to internal motivation. There are other theories as well, such as Social Cognitive theory (Schunk & DiBenedetto, 2020), ecological systems of development (Duerden & Witt, 2010), and Achievement Motivation theory (Elliot & Harackiewicz, 1996) that also connect the external factors with the intrinsic motivation of the student. There are multiple factors stated in John's Hattie study (Arnold, 2011) which impacts the students' academic achievement, however the impact of some of these factors on intrinsic motivation was still not explored. The relationship of two external factors (Parental involvement and Socioeconomic status) on students' intrinsic motivation was analyzed.

Research was conducted in a midwestern suburban middle school with 7th and 8th grade students. Approximately 700 students were given parent and student consent forms. Students with both parent and student consent forms

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

signed were allowed to participate in the research. Students were incentivized with a bag of chips if they got both the forms signed.

A mixed method approach was used to understand the relationship between three variables. A survey with three sections was used to measure intrinsic motivation, parental involvement and socioeconomic status respectively. Fifty students participated in the research by completing the survey in their advisory class. In order to measure the perception of the students, no students were allowed to take the survey home. No identifiers were collected. A multiple regression analysis was used for the Likert scale parts of the survey, and manual coding was completed for the open-ended questions.

Summary of Findings

The following research questions were answered using the findings:

Research Question 1- What is the relationship between student perceived parent involvement and their academic intrinsic motivation?

Null Hypothesis 1: There is no significant relationship between student perceived parent involvement and academic intrinsic motivation.

Directed Hypothesis 1: There is a significant relationship between perceived parental involvement and academic intrinsic motivation.

Result: Since the value of p is 0.0017, less than 0.05, then we reject the null hypothesis and conclude that there is a significant relationship between parental involvement and academic intrinsic motivation. The positive parameter estimates (0.657512) indicates that as parental involvement increases, the academic intrinsic motivation also increases.

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

The overall result for the first research question is there is a positive relationship between parental involvement and academic intrinsic motivation.

Research Question 2- What is the relationship between student perceived socioeconomic status and their academic intrinsic motivation?

Null Hypothesis 2: There is no significant relationship between student perceived socioeconomic status and academic intrinsic motivation.

Directed Hypothesis 2: There is a significant relationship between student perceived socioeconomic status and academic intrinsic motivation.

Result: INCOME: Since the value of p is greater than average income (one of the components of Socioeconomic status), it means that null hypothesis cannot be rejected. There is no significant relationship between the perceived socioeconomic status and intrinsic motivation.

The analysis of statistical results indicates the null hypothesis is supported, there is no significant relationship between socioeconomic status and intrinsic motivation.

Research Question 3- What is the relationship between student perceived parent involvement and student perceived socioeconomic status?

Null Hypothesis 3: There is no significant relationship between perceived parent involvement and student perceived socioeconomic status.

Directed Hypothesis 3: There is a significant relationship between perceived student perceived parent involvement and student perceived socioeconomic status.

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

Result: As per the findings, the lowest mean of parental involvement is related to the highest income level of the parents (level 9- greater than \$90,000) and the highest mean of parental involvement is related to the middle level of income (level 6-\$60,000-\$70,000). There is no defined relationship between the two variables.

Overall result of the third question yields no significant relationship between the perceived parental involvement and socioeconomic status.

Visual Interpretation of Results

Before collecting and analyzing the data, Figure 5.1 was made to show the possible relationship between all the variables. However, with the current findings, Figure 5.2 was made.

Figure 5.1

Diagram showing possible relatedness of variables

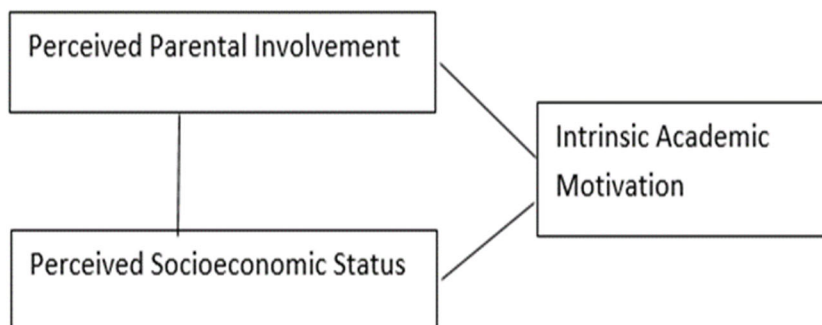
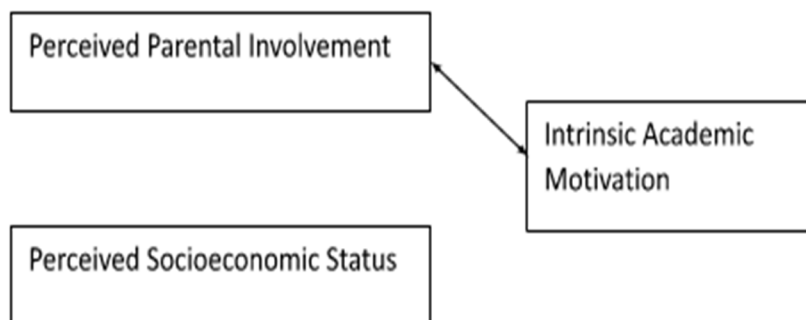


Figure 5.2

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

Actual relatedness of the variables



Note: There is only a line with two arrowheads showing that there is a relationship between both the perceived parental involvement and intrinsic motivation in both directions. There are no lines to connect perceived parental involvement to perceived socioeconomic status, or to connect perceived socioeconomic status to academic intrinsic motivation since no statistical or qualitative connection was found.

Researcher Conclusions

A statistically significant positive relationship between perceived parental involvement and academic intrinsic motivation was found. This suggests that parental involvement is an extrinsic factor on intrinsic motivation. As perceived parental involvement increased, the level of academic intrinsic motivation increased. This relationship has potential for positive implication for the population studied, such as increasing academic success, and building and strengthening relationships.

It was unexpected to find no relationship between income and academic intrinsic motivation in the statistical results. That finding is in contrast to the

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

findings in Aud et al. (2011) and Lacour & Tissington (2011), both of which found a correlation between lower levels of socioeconomic status and lower academic achievement. This discrepancy could be due to using the students' perspectives of household income instead of verifying the actual household income.

The study's data did not show a significant relationship between income and perceived parental involvement. The population was virtual one academic year due to the pandemic, possibly impacting results due to the pandemic. Perceived parental involvement may have fluctuated as students and families adjusted to new routines.

Including qualitative data from open response questions added a deeper perspective to the quantitative data. Students had goals and academic motivation. Their responses confirm the school contributes in their lives; however, they also identified a lot of challenges they faced. Most of these challenges involved people, including themselves, but there was no mention of parents/guardians or family. Due to the statistical relationship between perceived parental involvement and academic intrinsic motivation, it was unexpected to have no mention of this relationship in the qualitative data.

Multiple responses mention SES in relation to school opportunities, but the question asked did not emphasize the specific relationship between SES and AIM. The student responses were clear in that they sometimes felt like money was a barrier to doing certain activities, while others were appreciative of the free

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

options available to them. The theme of money was evident in the qualitative findings, but not represented statistically.

The frequency of blank responses, or responses of “I don’t know”, could be due to low awareness of school programs available to students. Another part could be due to no teacher or parent help on the surveys. Students may have needed help understanding the question and were unable to receive that assistance. Another consideration, only perceived income was used to measure SES, while perceived income may not actually indicate career status.

Although the three open response questions were broad, the responses provided a deeper understanding on student perspectives. Statistical analysis showed a relationship between PI and AIM, and qualitative analysis showed a relationship between SES and AIM. There was no overlap between the quantitative results and qualitative findings. Further research could be conducted to find why this occurred.

Limitations

The limitations include the population studied. The sample was a convenience sample; the students were from a building where one researcher taught. Due to this narrow sample, there may be variances if this study were conducted with populations from other demographic backgrounds. For example, if a population from a high-income area was studied, the results may differ if the amount and quality of resources available to families were different. Another limitation was a possible self-selection of higher academic intrinsically motivated

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

students since this survey was not a part of a grade assignment and purely voluntary.

Delimitations

Several delimitations are considered. Student perspectives on parental involvement, socioeconomic background, and academic intrinsic motivation were considered as variables. This choice is a delimitation because perspectives can change. Another delimitation was prohibiting parent help in answering the household income to block any influence on student answers on other questions. Many students may be unaware of household income, which may have provided inaccurate responses in the survey. An incentive was implemented to encourage participation, which is considered a third delimitation.

Implications for Practice

This study helps to strengthen relationships and awareness between schools, families, and communities. Communicating the relationship between these two variables can improve student academic performance and help build relationships between families and schools. As parents/guardians are encouraged to increase their involvement in their students' school work, they will also increase the opportunities to build and strengthen relationships with educators.

As families build relationships with schools, the community relationships can strengthen. An increase in student academic achievement will increase the benefits to the community. High levels of academic achievement can increase state funding to public schools, and increase the value of homes in the community.

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

Recommendations for Future Research

Current research can be expanded to analyze the populations with different socioeconomic status, ethnicity, and race. Understanding the impact of different ethnicities on students perceived intrinsic motivation can help to extend the topic to the importance of cultural relevance in building academic achievement. The same research method can further be used to perform a comparative study between different grade levels (from elementary to high school) with the same demographic of population. This might help the educators understand the reason behind the change in intrinsic motivation of students with changing grade levels. Comparing the same grade levels from different schools in a district can be used to find relationships between the motivation of students in different school settings. The results might help the instruction leaders to learn from different schools and apply the better results across the district. Increasing the intrinsic motivation among the students will help to increase the academic performance of the students who might be far behind their grade level. (Carbonneau et al., 2012)

A second round of qualitative research is recommended. Asking the same population follow up questions about the relationship found between parental involvement and academic intrinsic motivation, can build on the analysis by providing a connection between qualitative findings and the statistical results.

Additionally, it could be beneficial to reach out to the parents of the students to verify household income. This information may change our results for the relationship between income and academic intrinsic motivation. Two other components of SES (parents' education and occupation) were not considered to

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

measure their impact on IM, it would be beneficial to consider all aspects of SES in future research. Proposed research can further be extended to analyze this relationship and also its impact on parental involvement.

Conclusion

Understanding the impact of these two variables on the intrinsic motivation of the students helps to take the required steps in future in order to increase the motivation in them which might help in increasing the academic performance. Quantitative data shows that perceived household income (socioeconomic status) does not have a significant impact on academic intrinsic motivation. This result is supported by another study by Jungert et al. (2020). However, most of the students were not sure about the income of their parents and did not have a close estimate about the household income. Therefore the data collected from students' perceptions can be updated by including the parents' responses. This may change the "perspective" element of the study. It also shows that as parental involvement increases, the intrinsic motivation of the students also increases. This result is also supported by various studies (Cheung & Pomerantz, 2012; Pomerantz et al., 2007; Oswald et al., 2017). Although, the latest research also mentions that if intrinsic motivation increases, parental involvement also increases.

Students recognized that the school actively participates in providing monetary help arranging various extra-curricular activities in school, in the open-ended responses. They also mentioned the challenges faced by them in school, such as discipline issues, which might be hindering their growth and becoming an

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

obstacle to achieving their goals. Qualitative findings also shed light on students' willingness to improve their academic achievement, but how they are unable to get the help at the right time. These insights can also be discussed with school leaders and parents, in order to generate an intervention plan which is more strategic and quicker in response. Finding the factors that impact student academic intrinsic motivation can assist all education stakeholders to implement effective interventions for student learning, helping all students achieve academic success.

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

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Perception of Parent Involvement and SES on Academic Intrinsic Motivation

Appendix A

Student Survey

The University of Missouri-St. Louis

STUDENT SUCCESS SURVEY

Part A- Parent Involvement Survey

Think about the person who LIVES WITH YOU IN YOUR HOME and helps you the most with school. Who is this person? PLEASE SELECT ONE.

- a. _____ Mother
- b. _____ Father
- c. _____ Grandmother
- d. _____ Grandfather
- e. _____ Stepfather
- f. _____ Stepmother
- g. _____ Stepfather
- h. _____ Aunt
- i. _____ Uncle
- j. _____ Other:

Read the following questions carefully. Answer the questions about the person YOU IDENTIFIED ABOVE. Mark the choice that describes your answer the best. PLEASE SELECT ONE NUMBER PER ITEM USING THE KEY BELOW.

1 = Never 2 = Very Seldom 3 = Sometimes 4 = Usually 5 = Always

	1	2	3	4	5
1. This person tries to get me to do my best on everything I do.					

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

<p>2. This person thinks that education is a very important part of what I do.</p>					
<p>3. This person goes to parent-teacher conferences.</p>					
<p>4. This person sets high standards for me to meet.</p>					
<p>5. This person looks at my tests and papers from school.</p>					
<p>6. It really matters to this person what grades I get.</p>					
<p>7. This person is involved in school programs for parents.</p>					
<p>8. This person thinks homework is a very important part of school.</p>					
<p>9. When I get poor grades, this person encourages me to try harder.</p>					
<p>11. This person knows the grades I get.</p>					

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

12. This person thinks I should go to college.					
13. Hard work is very important to this person.					
14. When I get poor grades, This person offers help.					
15. When I ask for help with my homework, this person gives it to me.					
16. This person thinks that getting ahead is very important.					
17. This person thinks I should be concerned about what kind of career I may have.					

Part B - Academic Motivation Survey: Intrinsic Motivation measurement

WHY DO YOU GO TO SCHOOL? Using the scale below, indicate to what extent each of the following items presently corresponds to one of the reasons why you go to school. PLEASE SELECT ONE NUMBER PER ITEM USING THE KEY BELOW.

1 = Not at all 2 = Not very much 3 = A little 4 = Certainly 5 = Definitely

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

	1	2	3	4	5
1. I need at least a high school diploma in order to find a high-paying job later on.					
2. I experience satisfaction while learning new things.					
3. I think that a school education will help me better prepare for the career I have chosen.					
4. I really like going to school.					
5. I really feel that I am wasting my time in school.					
6. For the pleasure I experience while performing better than my expectations.					
7. To prove to myself that I am capable of completing my high-school diploma.					

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

<p>8. Eventually it will allow me to enter the job market in a field that I like.</p>					
<p>9. For me, school is fun.</p>					
<p>10. I once had good reasons for going to school; however, now I wonder whether I should continue.</p>					
<p>11. When I succeed in school I feel important.</p>					
<p>12. For the pleasure that I experience in broadening my knowledge about subjects which appeal to me.</p>					
<p>13. It will help me make a better choice regarding my career orientation.</p>					
<p>14. For the pleasure that I experience when I take part in discussions with my teachers.</p>					

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

<p>15. For the satisfaction I feel when I am in the process of accomplishing difficult academic activities.</p>					
<p>16. In order to have a better salary later on.</p>					

Part C – Status Survey

1) What is your age: _____
in: _____

What grade are you

2) Educational Background of the guardian/caretaker: **SELECT THE HIGHEST EDUCATION FOR THE SAME PERSON YOU CHOSE IN PART A.**

- a) _____ Elementary
- b) _____ Middle School
- c) _____ High School graduate
- d) _____ Some college
- e) _____ College Graduate
- f) _____ Never go the opportunity to go to school

3) What is the employment status of your guardian/caretaker? **SELECT ONLY ONE FOR THE SAME PERSON YOU CHOSE IN PART A.**

- a) _____ Full time
- b) _____ Part Time
- c) _____ Seasonal
- d) _____ Unemployed
- e) _____ Not working (Retired)

4) What is your parent’s or guardian’s occupation/job?

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

5) How many people live where you stay? _____

6) Please select the appropriate range of family annual Income: (in dollars)
SELECT ONLY ONE RANGE.

a) 10,000-20,000 _____
70,000 _____

f) 60,001-

b) 20,001-30,000 _____
80,000 _____

g) 70,001-

c) 30,001-40,000 _____
90,000 _____

h) 80,001-

d) 40,001- 50,000 _____
90,000 _____

i) greater than

e) 50,001-60,000 _____

Open Ended questions:

1. How does our school provide equal opportunities to all students regardless of how much money their parents make? If our school does not provide equal opportunities to all students, give examples.

2. What do you want to accomplish by attending school?

3. Explain the challenges you face while trying to be successful in school?

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

Appendix B

Student Assent Form

Assent to Participate in Research Activities (Minors) The Perception by Middle School Students of the Impact of Parent Involvement and Socioeconomic Status on Their Intrinsic Motivation

- 1. Hi, our names are Pallavi Aggarwal and Taylor Lawson-Smith. We are college students.**
- 2. We are asking 800 students, including you, to take part in a research study because we are trying to learn more about how the involvement of your parents/guardians and social standing impact your motivation in school work.**
- 3. If you agree to be in this study, you will be asked some questions that affect your motivation in school. The questions include how involved your parent(s) or other adult is in your school work, how much you think your parents make, and the education background of your parent/guardian. It will take about 30 minutes. You will take it one time during the advisory class.**
- 4. Being a part of this study should not harm you in any way. Your schooling and grades will not be impacted by choosing to participate in this study.**
- 5. You will probably not get any direct benefits from being in this study but you might enjoy knowing that your honest answers will help teachers teach class in ways that help you to learn.**
- 6. Please talk this over with your parents before you decide whether to participate. We will also ask your parents to give their permission for you to take part.**
- 7. If you don't want to be in this study, you don't have to. Being in this study is up to you, and no one will be upset if you don't want to participate or if you change your mind later and want to stop. Your schooling and grades will not be affected by choosing to not participate in this study.**
- 8. You can ask any questions that you have about the study. If you have a question later that you didn't think of, you can call us at 636-290-6891(Taylor Lawson-Smith) or (252)-290-0478 (Pallavi Aggarwal).**

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

Appendix C

Parent Informed Consent Form

Informed Consent for Participation in Research Activities

The Perception by Middle School Students of the Impact of Parent Involvement and Socioeconomic Status on Their Academic Intrinsic Motivation

Participant _____ HSC Approval

Number _____ Principal Investigator: Pallavi Aggarwal /

Taylor Lawson-Smith PI's Phone Number:(252)-290-0478) / (636)-290-6891

Summary of the Study

The general purpose of this study is to identify the factors that lead to the development of the academic intrinsic motivation in middle school students.

Neither the statistical analyses of anonymous survey rankings by the researchers nor the completion of an open-ended questionnaire by participants poses a significant risk to the physical, psychological, social, economic, or legal well-being of the participants.

We will take multiple precautionary measures to protect the privacy of participants. As part of this effort, the identity of participants will not be revealed in any publication or presentation that may result from this study. No identifying information will be collected by the survey and questionnaire so that at no time will the researchers be able to identify a particular student, their responses, or their participation in this study.

1. Your child is invited to participate in a voluntary research study conducted by Pallavi Aggarwal and Taylor Lawson-Smith, and it is under the supervision of Dr. Charles Granger.
2. a) Your child's participation will involve completing a survey that asks students to respond to the impact of their perceived parental involvement and socioeconomic status on their intrinsic motivation. This is a Likert Scale survey with open-ended questions after the rankings. The survey will be administered during one advisory period to limit the disruption of the school day. There will be no incentive to those who choose to participate, but this information could be used in the future to help educators build classroom environments that will be more equitable in advancing student academic intrinsic motivation. There is no foreseeable risk. Approximately

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

800 students may be involved in this research at the University of Missouri-St. Louis

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b) The amount of time involved in your student's participation will be 30 minutes during one advisory period.

3. There is a loss of confidentiality risk in that names of students who have both sign parent consent forms and their own student assent forms will be collected. No names or other identifying information will be collected on surveys. Student names are only collected so researchers can distribute surveys to students who have permission.

4. There are no direct benefits for your child participating in this study, however their participation may lead to benefits to education. The results of this study may reveal information that educators can use to improve behavioral, social and academic interventions for all students.

6. Your child's participation is voluntary and you may choose for them not to participate in this research study or withdraw your consent at any time. Your child will NOT be penalized in any way should you choose not to allow them to participate or withdraw.

7. We will do everything we can to protect your child's privacy. As part of this effort, your child's identity will not be revealed in any publication that may result from this study. In rare instances, a researcher's study must undergo an audit or program evaluation by an oversight agency (such as the Office for Human Research Protection) that would lead to disclosure of your data as well as any other information collected by the researcher.

8. If you have any questions or concerns regarding this study, or if any problems arise, you may call the Investigator, Pallavi Aggarwal at (252-290-0478), Taylor Lawson-Smith at (636-290-6891) or the Faculty Advisor, (Dr. Charles Granger at (314-516-6220)). You may also ask questions or state concerns regarding your rights as a research participant to the Office of Research, at 314-516-5897.

I have read this consent form and have been given the opportunity to ask questions. I will also be given a copy of

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

this consent form for my records. I hereby consent to my participation in the research described above.

Participant's Signature _____ Date _____

Signature of Investigator or Designee _____ Date _____

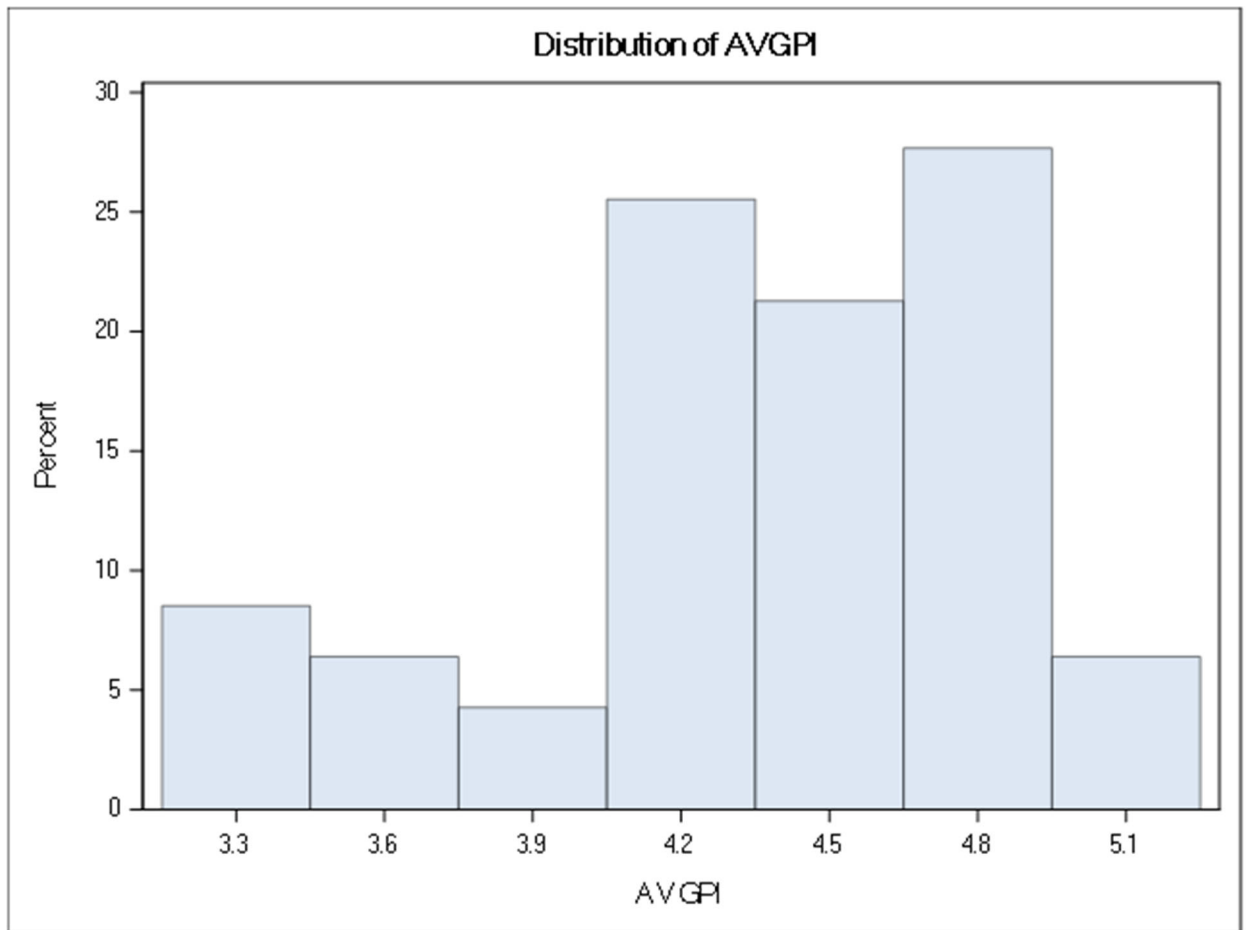
Perception of Parent Involvement and SES on Academic Intrinsic Motivation

Appendix D

Distribution of Variables

Graph 1

Distribution of Average Perceived Parental Involvement

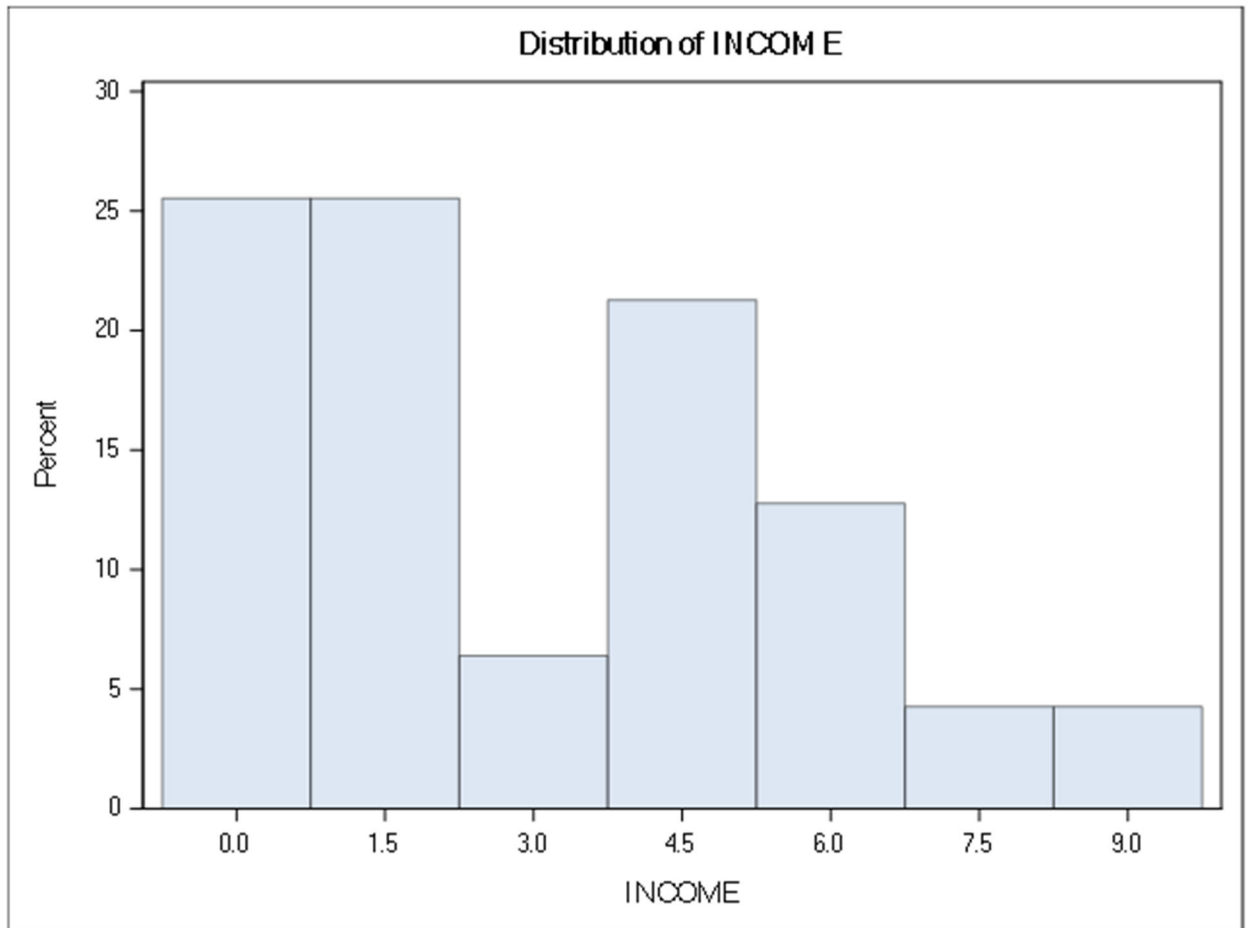


Perception of Parent Involvement and SES on Academic Intrinsic Motivation

Appendix D

Graph 2

Distribution of Average Perceived Income

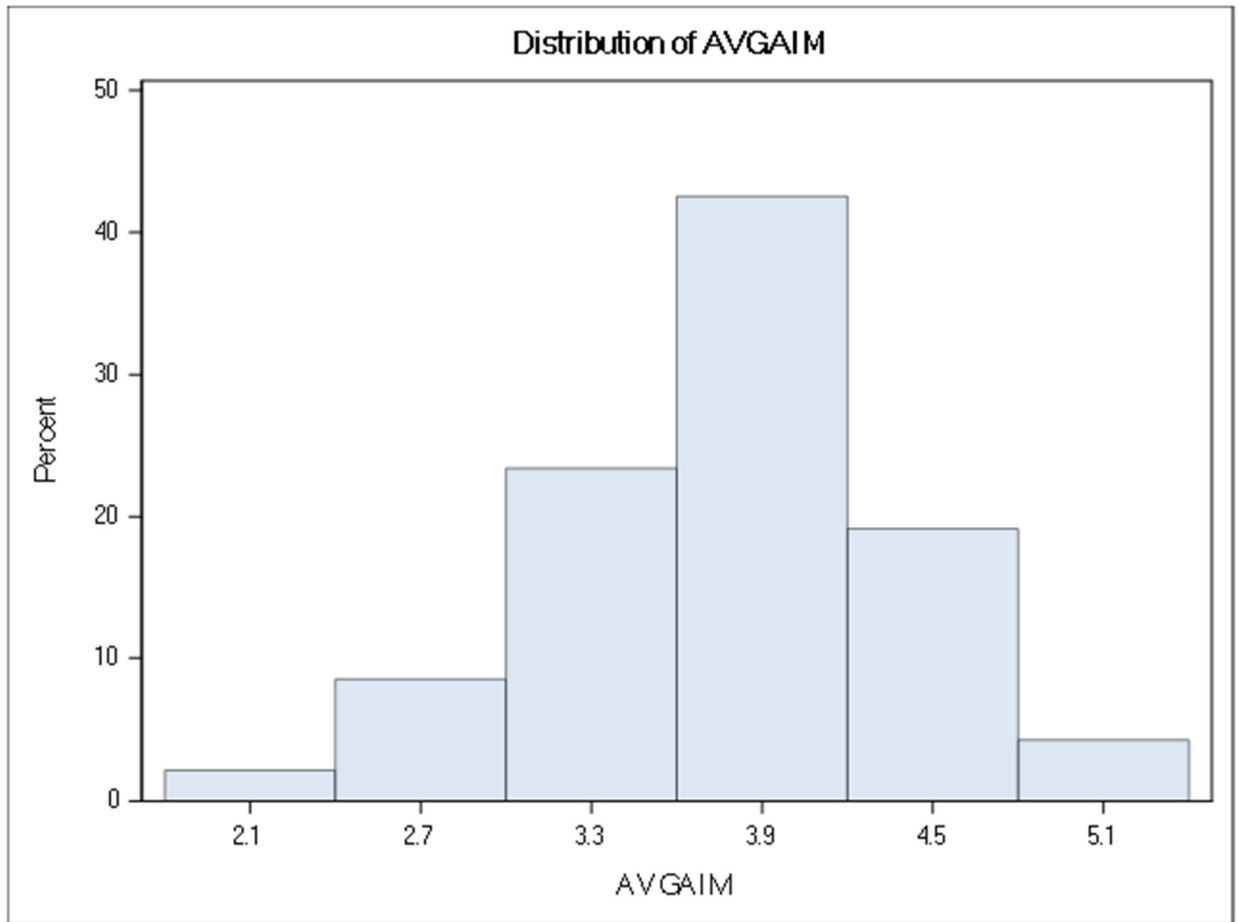


Perception of Parent Involvement and SES on Academic Intrinsic Motivation

Appendix D

Graph 3

Distribution of Average Academic Intrinsic Motivation



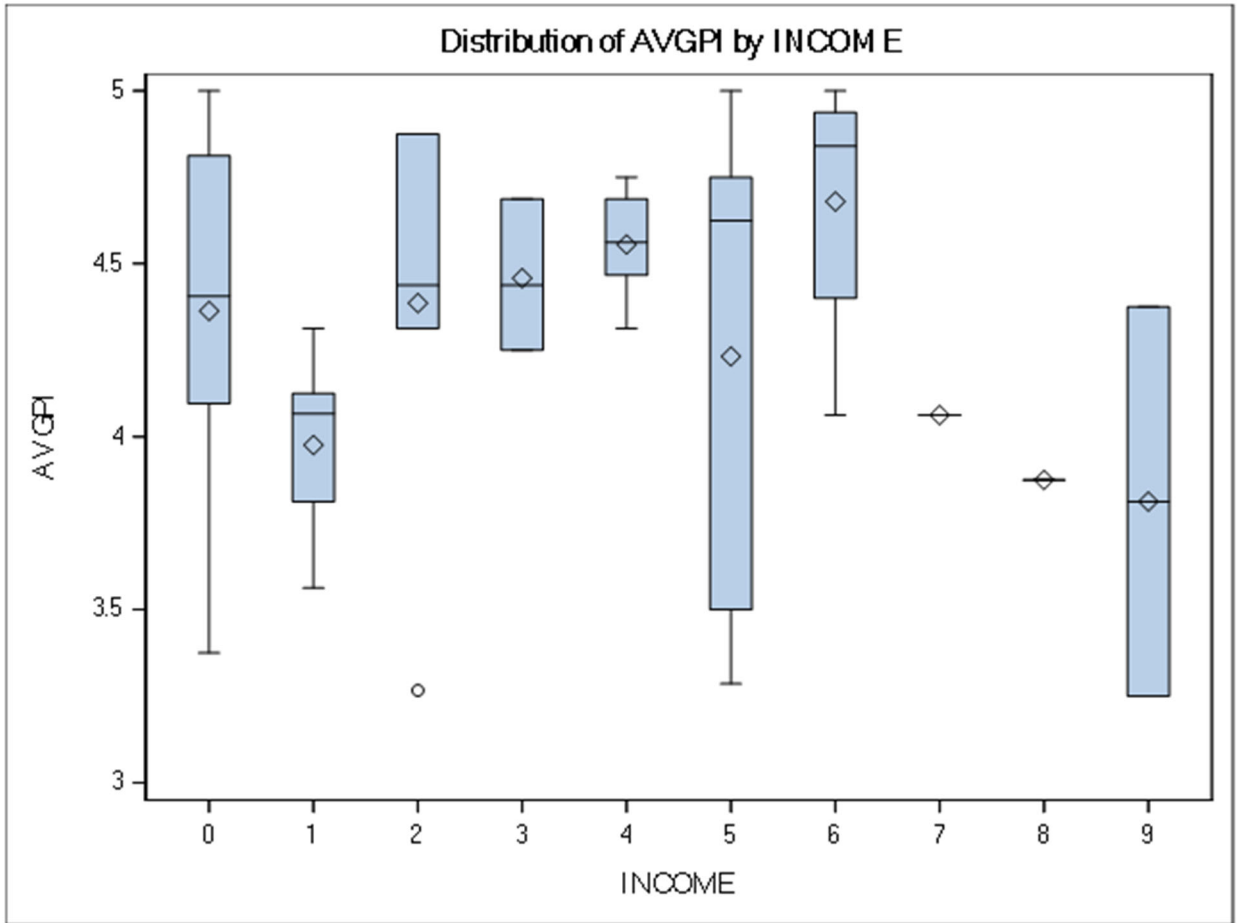
Perception of Parent Involvement and SES on Academic Intrinsic Motivation

Appendix E

Distribution of Variables Based on Income

Graph 4

Distribution of Average Perceived Parental Involvement based on Income

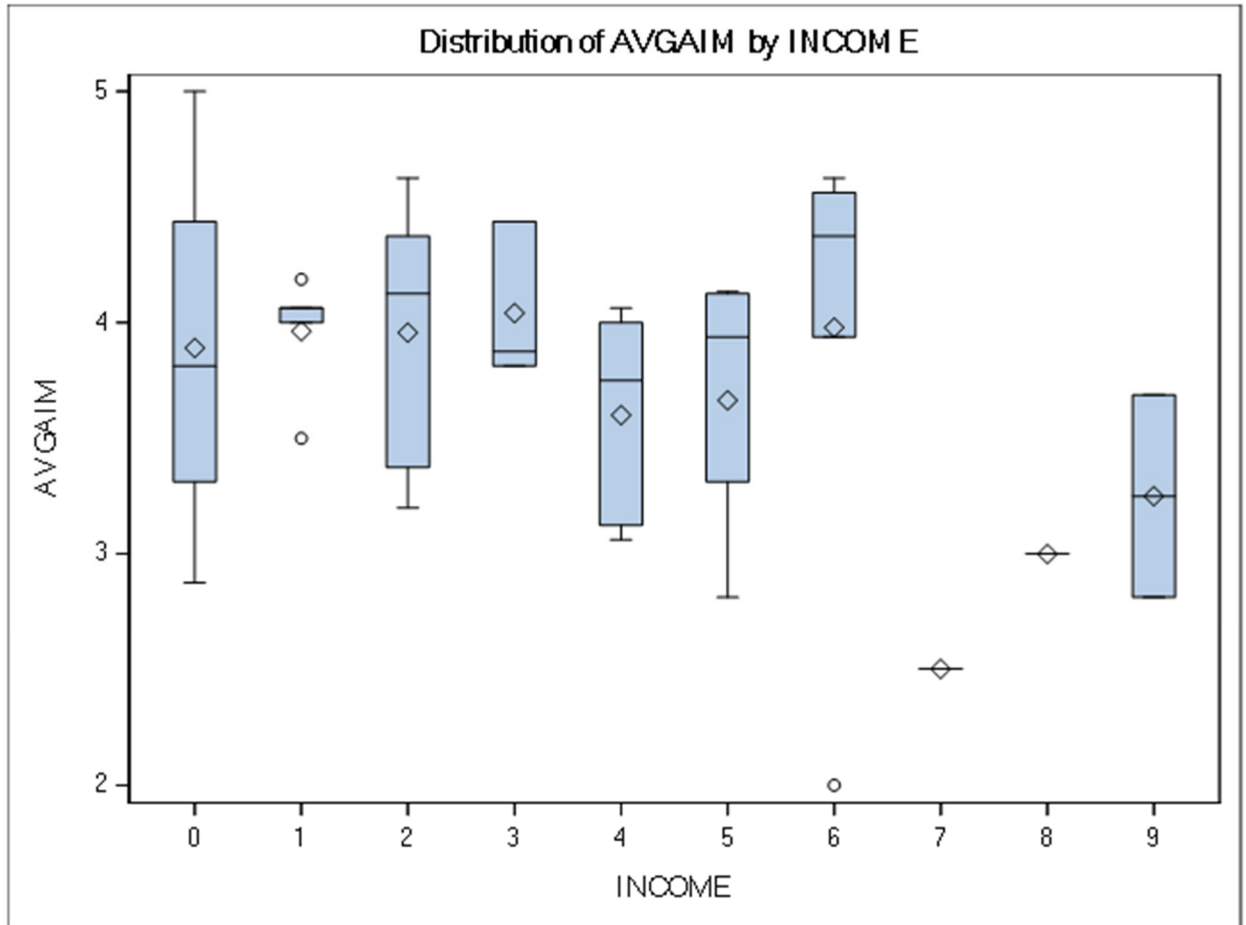


Perception of Parent Involvement and SES on Academic Intrinsic Motivation

Appendix E

Graph 4

Distribution of Average Academic Intrinsic Motivation based on income



Perception of Parent Involvement and SES on Academic Intrinsic Motivation

Appendix F

Multiple Regression Analysis

Table 4

Least Squares Summary

Least Squares Summary				
Step	Effect Entered	Number Effects In	Number Parm's In	SBC
0	Intercept	1	1	-36.8617*
1	Guardian	2	3	-29.8282
2	INCOME	3	12	-5.4405
3	AVGPI	4	13	-15.3394

* Optimal Value of Criterion

Table 5

Analysis of Variance

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	12	8.07423	0.67285	1.96	0.0619
Error	34	11.69128	0.34386		
Corrected Total	46	19.76551			

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

Appendix G

Codes for Open Ended Q1

How does our school provide equal opportunities to all students regardless of how much money their parents make?

Equal Opportunities		
Yes	Reasoning	Count
	Unspecific	5
	Accountability	4
	Activities	7
	Equal treatment	2
	Free food	3
	Fundraisers	1
	Help provided	3
	Jobs for teens	1
	Opportunities to learn	5
	Reward	1
	Transportation	2
No	Reasoning	Count

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

	Unspecific	1
	All judged on actions of others	1
	Need more fundraising	2
No info	Reasoning	Count
	IDK/Blank	20

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

Appendix H

Codes for Open Ended Q2

What do you want to accomplish by attending school?

Accomplish with School		
Academic Goals	Reasoning	Count
	College prep	9
	Do more work	2
	Earning Grades	8
	HS Prep	6
	Knowledge/Learning	7
	Progressing in School	2
Personal Goals	Reasoning	Count
	Figure out wants	1
	Life success	4
	Make friends	1
Professional Goals	Reasoning	Count
	Career prep	6
	Improving skills	1

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

No information	Reasoning	Count
	IDK/Blank	14

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

Appendix I

Codes for Open Ended Q3

Explain the challenges you face while trying to be successful in school.

Challenges		
School	Reasoning	Count
	Assignments	8
	Courses	1
	Grades	5
	Tests	4
People	Reasoning	Count
	Myself	6
	Students	10
	Teachers	12
	Fights	2
Other	Reasoning	Count
	COVID	1
	Financial	1

Perception of Parent Involvement and SES on Academic Intrinsic Motivation

	General distractions	3
	Social challenges	3
	Stress/Anxiety	5
	Motivation	4
None	Reasoning	Count
	No challenges experienced	4
No information	Reasoning	Count
	IDK/Blank	12