

2011

Effects of Monetary Incentives on Academic Performance of Fourth-Grade Students from Low Socioeconomic Status

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EFFECTS OF MONETARY INCENTIVES ON ACADEMIC PERFORMANCE
OF FOURTH-GRADE STUDENTS FROM LOW SOCIOECONOMIC STATUS

A Dissertation

Presented to

The College of Graduate and Professional Studies

Department of Educational Leadership and Foundations

Indiana State University

Terre Haute, Indiana

In Partial Fulfillment

of the Requirements for the Degree

Doctor of Philosophy

by

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May 2011

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Keywords: Monetary Incentives, Performance, Socioeconomic Status

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ABSTRACT

Scientific investigations of monetary incentives on students' academic achievement have not explored effects on performance of students from low socioeconomic status (SES), nor has there been exploration of teachers' perceptions of how monetary incentives impact academic performance of students from low socioeconomic status. The present study explored how low SES students perceive their academic performances being impacted by extrinsic monetary incentives. The study also explored the fourth-grade teachers' beliefs about the impact of monetary incentive on students' academic performance. The study found that students believe monetary incentives will increase academic performance, depending on the size of the cash incentive. The results were mixed for teachers. The findings from this study suggest that there is a need to delve deeper into the concept of cash for grades because of unanswered questions: What amount of money is sufficient, and why are teachers' beliefs incongruent with their students' beliefs?

ACKNOWLEDGMENTS

This work has my name on it, but it is really a collaborative effort by the following people, without whom it would never have been started, and after it started would not have been completed without their encouragement.

First, I would like to thank Ms. Judy Barnes for giving me the feeling that I was not alone in this. She provided technical review of this project as if we were project partners. Thank you, Ms. Judy, you are a wonderful person.

I thank my Committee members, especially my Committee Chair, Dr. Gruenert, for believing in me and tirelessly, patiently, consistently providing guidance and suggestions. I would be remiss if I did not say a big thank you to Dr. Hampton, who was not officially a member of my committee, but nevertheless provided guidance in the very technical area of statistical analysis that made moving forward in this project possible.

A special thank you to my parents, Deaconess Patience Cassidy and Chief Tito Kedo, for their unwavering love and support for me and my numerous adventures. Also to my siblings, John, Henrietta, TJ, Pastor Mike and Ejiro, for believing in me, and to Uncle Simon Kedo, for the Challenge Book store experience and for building on my grandma's foundation.

To my people, Eguonor, Tega, Dr. Okotie, Kate, Ochuko, Peter, Oniahs, Constance, Nchekwubes, Ejiro and Veronica for their encouragement and support throughout this journey. Thank you to Uncle Odafe for those Wednesday mornings and for Sox, the puppy. A big thank

you to my staff for holding down the fort. And thank you, Ms. Bullard, for the invaluable support.

Finally, I thank my husband, Dr. Abel Dafiaghor, and my children, Ena, Mine, Mega and Rume Dafiaghor, for allowing me to take valuable time from them to go on this journey.

DEDICATION

In memory of my Grandmother

Madam Comfort Ofoni (1906-2010)

Dedicated to COMEF (Comfort Ofoni Memorial Education Foundation)

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CHAPTER 1

Introduction

Most of the present-day school culture reflects a behavioral theory which uses a reinforcement system such as grades and report cards to establish and maintain a desired outcome (Brophy, 2004). However, according to interested theorists, the reinforcing object has to meet the need or interest of the receiver — in this case, reinforcement such as an “A” on a report card has to satisfy the need or interest of the student so as to spur that student in the direction of the desired outcome (Renninger, Hidi, & Krapp, 1992). Different students may respond in different ways to different reinforcers, depending on their individual needs.

According to Maslow’s hierarchy of needs, which ranks needs within a hierarchy of priorities, a student whose background puts him at the bottom rung of the hierarchy is less likely to be motivated by a grade of “A,” and thus become engaged as an active learner, because his basic need for food, safety, shelter, love and a sense of worth has not been met (Brophy, 2004). This type of student usually comes from a low socioeconomic background in which the name of the game is daily survival in an environment characterized by a lack of basic needs such as nutritious meals, clean clothing, a safe and clean home, convenient studying areas, affection and praise. Conversely, a student who comes from a nurturing background will probably be motivated by a grade of an “A” as he/she does not have to worry about basic needs such as hot meals, nice, comfortable clothing and a safe, clean home complete with study areas. These contrasting

scenarios make a case for the reinforcing object. The incentive used as a motivating factor that buoys a student into becoming an active learner will be different from student to student, depending on his/her socioeconomic background. Hence, an incentive, such as money, could motivate a student from a low SES background, as the incentive addresses a basic need, whereas such an incentive may not have the same impact for a student from a high SES background because it does not address any of his/her unmet needs.

Using incentives as means for increasing students' performance is not a novel concept in the educational field; programs such as Earn and Learn and field experiments such as the laboratory experiment Pay For Performance (PFP) offered monetary incentives. The premise behind PFP programs was to increase students' return to academic performance (Garbarino & Slonim, 2006). The argument is made that "more immediate financial rewards may tip the scales in favor of schoolwork" (Angrist & Lavy, 2002, p. 1). More recently, the pilot program Learn and Earn in Georgia, the brainchild of former U.S. House Speaker Newt Gingrich, was aimed at increasing students' test scores in math and science. Learn & Earn students outperformed similar students in a comparison group who did not receive pay or tutoring. Half of the Learn & Earn students improved in both math and science, while only 20 - 30% of the comparison group improved in those subjects (Cushman, 2008).

On the other end of the spectrum is the argument that incentives do not motivate students; on the contrary, rewards bring about diminishing returns on student academic performance. Kohn (1993) cited many studies that demonstrate how incentives seem to work only in the short term and will not only fail in the long term but will cause lasting harm.

In reflecting on these two opposing views, what is the desired outcome? To get higher test scores? Or to reach for something deeper, specifically to motivate students from low socioeconomic backgrounds to increase their academic performance? An examination of whether rewards help or harm students' motivation, and who the population is, what the subject is and how one currently motivates the students (Bettinger, 2007) serves as a conceptual framework for this study. Gneezy (2005) also states that this argument depends on the differences between economic relationships and social relationships. In an economic relationship, or *exchange* relationship, people provide benefits to others in order to receive something in return. In a social relationship, or *communal* relationship, benefits are given to demonstrate concern for others' needs. When no extrinsic motivation is present, people focus on the social norm. When external reward is introduced, attention is shifted from the social norm to the maximizing profits (Gneezy, 2005).

The current educational climate calls for increased accountability due to the No Child Left Behind (NCLB) Act, which makes this outcome even more pressing for school districts all over the country. Interestingly, the NCLB school accountability policies use incentives and sanctions, or rewards and punishments, to ensure that schools meet certain standards. Schools and districts that are able to meet adequate yearly progress (AYP) goals receive more money, while schools and districts that underperform receive less money and are subjected to a rigid process of school improvement action. The relationship between schools and government has become more economic- or *exchange*-focused than social- or *communal*-focused (Gneezy, 2005), because schools now have to provide good grades to students in exchange for money through NCLB. To meet AYP and avoid having money withheld, school districts all over the country are looking for innovative ways of motivating students to do well on standardized tests.

Offering monetary incentives to students has become one of the ways that schools and districts are using to motivate students (Raymond, 2008).

Statement of the Problem

Students from low SES backgrounds seem to lack motivation to perform well in school, hence they have lower attendance rates, increased discipline issues and lower academic achievement. Current classroom motivational activities such as good grades and stars do not motivate these students because these incentives do not meet the needs of this body of students. Given the students' lack of intrinsic motivation, schools are pressed to invent extrinsic motivators for students.

Purpose of the Study

Existing scientific studies of monetary incentives on students' academic achievement have not explored the effects of such incentives on the performance of students from low socioeconomic status, and the investigations fail to explore teachers' perceptions of how monetary incentives impact academic performance of students from low socioeconomic status. The purpose of this study was to ask whether an extrinsic motivator, such as money, could motivate students from low socioeconomic status to improve academically, as evidenced by responses on a survey. The study explored how low SES students perceived academic performances being impacted by the extrinsic monetary incentives across subject areas of math and language arts. The study also explored the extent to which fourth-grade teachers believed that monetary incentives could impact students' academic performance; and whether there were any differences in perception between teachers and students regarding the impact of monetary incentives on students' academic achievement in the subject areas of math and.

Research Questions

This mixed methods study sought answers to the following questions:

1. Do low SES students believe they can perform better academically if they were to receive monetary incentives?
2. Are there differences in perceptions between the genders for low SES students' belief about the impact of monetary incentives on their academic achievement?
3. Does the size of the incentive make a difference in low SES students' perception of how monetary incentive would impact their academic performance?
4. Do fourth-grade teachers believe that monetary incentives will increase their students' performance on the ISTEP in math and language arts?
5. Are there differences in perception between teachers and students on the effect of monetary incentives on academic achievement?

Null Hypotheses

H₀1. Low SES students do not believe that monetary incentives will make them perform better academically.

H₀2. There are no differences in perception across gender for low SES students' belief about the impact of monetary incentives on their academic achievement.

H₀3. There is no relationship between perception of academic performance and the dollar amount of the monetary incentives.

H₀4. Teachers of fourth-grade students do not believe that monetary incentives will increase students' performance on the ISTEP.

H₀5. There is no difference between teachers' and students' perception of the impact of monetary incentives on academic achievement.

Significance of Study

This study provided data that may help educators' awareness of how extrinsic rewards are perceived in and affect the minds of fourth-grade students from low socioeconomic status; and whether offering cash for grades could increase motivation and test scores. This study could provide educators with evidence relative to the effects of cash on students' grades, perhaps supporting the procurement of grants to fund cash incentive programs. In the current high-stakes test environment, the importance of scientific, research-based practices that support students' achievement cannot be overemphasized.

Definition of Terms

For the purpose of this study:

Academic achievement refers to passing the Indiana standardized test, ISTEP+ as measured by quarterly test reports from Acuity (Indiana Department of Education [IDOE], 2009a).

AYP is Adequate Yearly Progress (AYP), which is a measurement defined by the federal No Child Left Behind Act that allows the U.S. Department of Education to determine how every public school in the country is performing academically, according to results of standardized tests.

Economically disadvantaged student refers to a student receiving free or reduced-price lunch during the 2009-2010 academic year.

Elementary school is a school which encompasses grades K through 4 in the target district of this study, East Chicago, or K through 6 in other Indiana public schools.

Improvement status consists of a series of interventions that become more extensive for each additional year that a Title I school does not make AYP. It takes two consecutive years of

not achieving AYP in the same subject area (English or math) to enter school improvement status and two consecutive years of achieving AYP in that subject to be removed from improvement status. Schools and school corporations in improvement status that make AYP for one year remain at that current year of improvement. If AYP is achieved the following year, schools are removed from improvement status. If AYP is not achieved the following year, improvement status interventions continue to progress.

ISTEP+ is the Indiana Statewide Testing for Educational Progress-Plus (ISTEP+), which is an annual assessment designed by the Indiana Department of Education to test students' mastery of basic skills in reading, writing, science and mathematics. All students in grades three, eight and 10 take the ISTEP+ each spring, with language arts and math covered in each test, and science covered in grades five and seven (IDOE, 2006).

Low socioeconomic status, or low SES, refers to any student receiving free or reduced-price lunch.

CHAPTER 2

Review of Literature

This chapter reviews the literature on academic achievement of students from low socioeconomic status, factors that are attributable to academic performance, and how these factors affect students' motivation to learn. The review continues with the impact of motivation on learning. Here the reader will find definitions of motivation and theories of motivation with emphasis on intrinsic versus extrinsic motivation and how to develop students' motivation. The chapter concludes with recent research on the use of monetary incentives as an extrinsic motivator for increasing academic achievement of students, with emphasis on students from low socioeconomic status.

Academic Achievement of Students from Low Socioeconomic Status

Numerous research studies have established that socioeconomic status has a direct relationship to academic achievement; thus, students from low socioeconomic backgrounds tend to exhibit lower academic performance than students who come from high socioeconomic backgrounds (Diamond, Randolph, & Spillane, 2000; Dossett & Munoz, 2000). In a 2002 longitudinal study of California charter schools serving students with low socioeconomic status, one of the major conclusions of the study was that socioeconomic status continued to influence student performance on standardized tests (Slovacek, Kunnan, & Kim, 2002). The results of research from an early childhood longitudinal study in 2004 indicated that African-American

children's educational attainment continued to lag behind those of their Caucasian counterparts (Fryer & Levitt, 2004). Across the United States, an achievement gap exists between Caucasian students and African-American students (Wiggin, 2007) which appears to be exacerbated by poverty levels. The literature has identified many factors that might shape students' outcomes and account for the variance in achievement. These factors included students' individual attributes, school practices, race, socioeconomic conditions and community variables (Dossett & Munoz, 2000; O'Connor, Lewis, & Mueller, 2007; Spencer, 2008; Wiggin, 2007).

School practices such as low teacher expectations of minority students result in a self-fulfilling prophecy, contributing to significant achievement gaps between minority and non-minority students (Ferguson, 2003; Sledge & Morehead, 2006). The research suggests that child rearing beliefs, provisions for academically enriching home environments, and standards of acceptable behavior in and out of school are equally important to academic achievement (Davis-Keane, 2005; Jencks & Phillips, 1998). Ferguson (2003) posited that parental education accounted for about 24% of the variance in students' test scores, while socioeconomic status accounted for about 26%. Also, a study by the Rand Corporation suggested that the most important family influences on student test scores were the level of parental education, family size, family income, and the age of the mother when the child was born (Grissmer, Kirby, Berends, & Williamson, 1994). An analysis of these results suggested that family income and level of parental education appeared to have the most impact on test scores.

Stereotype anxiety may account for why minority students do not perform well on standardized testing. According to Steele and Aronson (1995), test performance of African-American students is impaired out of fear of confirming a negative racial stereotype. Steele and Aronson (1995) referenced a study which found that African-American students scored

significantly lower than Caucasian students on a verbal test when the students were aware of the test being a measure of his/her skills, but scores matched those of his/her Caucasian counterparts when the African-American students were told the test was a laboratory experiment. Steele and Aronson (1995) concluded that stereotype caused anxiety among this group of students, leading to self-doubt and thus lower performance.

A theme that generated the most vitality in the literature with regard to African-American student achievement gap was the student oppositional identity (Wiggan, 2007). This perspective held that African-American students were alienated from school because of their perception of the current school culture's incongruence with their social status and also because of a perceived lack of jobs for African-American workers regardless of their educational attainment (Ogbu & Davis, 2003; Ogbu & Simons, 1998). This oppositional behavior of anti-achievement beliefs was not unique to African-American students as proposed by MacLeod (1995), who found that low-income Caucasian students in his study had leveled aspirations and very low regard for achievement.

Contrary to the above factors and in line with the oppositional theory in a study of early childhood longitudinal kindergarten cohort, Fryer and Levitt (2004) found that Caucasian and African-American children with similar socioeconomic backgrounds achieved similar test scores in kindergarten, but African-American students started to lose ground academically in the middle grades by 20% compared to Caucasian students from similar socioeconomic backgrounds (Fryer & Levitt, 2004). Tyson (2002) found that in elementary school, African-American students were still achievement-oriented, but academic aspirations leveled off by high school. Ogbu and Davis (2003) suggested that the reason for lower levels of aspirations or motivation to achieve at the higher grade level might be an increasing awareness by African-American students that the

social and economic system was not so meritocratic after all, which led to apathy toward schooling.

The oppositional theory focused on students' attitudes toward school as reasons for underachievement of students from low SES background (Wiggan, 2007). According to the proponents of this theory, the low SES student becomes unmotivated, disengages from the educational process, and becomes more pessimistic about their life chances (MacLeod, 1995; Ogbu & Davis, 2003). This theory was supported by research findings of O'Neil, Sugrue, Abedi, Baker, and Golan (1997), who found that high school students' results on the TIMSS was due to lack of motivation on the part of the 12th-grade students who did not find the low-stakes test to be of any benefit to their immediate future. Research showed that high motivation and engagement in learning have consistently been linked to reduced dropout rates and increased levels of student success (Brewster & Fager, 2000). Students' motivation for learning was generally regarded as one of the most critical determinants, if not the premier determinant, of the success and quality of any learning outcome (Mitchell, 1992). Students who are not motivated to engage in learning are unlikely to succeed (Gottfried, 1990); therefore, one of the greatest challenges and opportunities of the 21st century will be for schools at all levels to focus more on assisting students to become motivated and thus engaged in school (Tuckman, 1999).

Motivation

What is motivation and how does it impact students' learning and academic achievement? Many contemporary authors have defined the concept of motivation. Motivation has been defined as the psychological process that gives behavior purpose and direction (Kreitner, 1995); a predisposition to behave in a purposive manner to achieve specific, unmet needs (Buford, Bedeian, & Lindner, 1995); an internal drive to satisfy an unsatisfied need

(Higgins, 1994); and the will to achieve (Bedeian, 1993). Huitt (2001) gave a definition of motivation as an “internal state or condition that activates behavior and gives it direction, a desire or want that energizes and directs goal-oriented behavior, and influence of needs and desires on the intensity and direction of behavior” (p. 1).

There are several theories of motivation, including behavioral, cognitive and humanistic (Huitt, 2001). The behavioral theory focused on how the environment impacts overt behavior (Huitt & Hummel, 2006). Learning theorists such as Pavlov and Skinner conducted experiments to prove that behaviors can be influenced by manipulation of the external environment. Operant conditioning was the term used by Skinner to describe the effects of the consequences of a particular behavior on the future occurrence of that behavior. There are four types of operant conditioning: positive reinforcement, negative reinforcement, punishment, and extinction. Both positive and negative reinforcement strengthen behavior, while both punishment and extinction weaken behavior (Crain, 2004).

Researchers in the Skinnerian school of thought performed numerous experiments showing that human behavior, beginning in infancy, can be controlled by reinforcing stimuli. In these experiments, different kinds of reinforcers were used, such as food, adults' smiles and praise. Infants' rate of smiling and vocalization increased when the behavior led to rewards such as the experimenter's smiles and attention (Crain, 2004). Lovaas (1987) used Skinner's operant conditioning techniques to modify the behaviors of autistic children; if a child behaves appropriately, such as uttering correct speech, the child got a reward. At first, the autistic child was rewarded for sounds that roughly resembled words. Greater reinforcement or rewards were gradually introduced, which encouraged improved utterances of correct speech.

Most of present-day school culture reflects a behavioral theory which uses reinforcement such as grades and a report card system to establish and maintain a desired outcome (Kohn, 1993). The focus by researchers has generally been on such factors as biology, achievement or power to explain what energizes, directs and sustains human behavior (Huitt, 2001). Other factors such as individual needs were not addressed prior to Maslow's need theory (Huitt, 2001). Maslow (1943) posited a hierarchy of human needs based on two categories, deficiency needs and growth needs. Within the deficiency needs, each lower need must be met before moving to the next higher level. According to Maslow, an individual is ready to act upon the growth needs if and only if the deficiency needs are met. Even though Maslow's theory lacked evidence, other research, such as Mathes' three levels of need (physiological, belongingness and self-actualization), tend to align with Maslow's hierarchy (Huitt, 2001). The premise remains the same: The lower-level needs of physiology such as hunger, and belongingness needs such as care/affection, still need to be met before any thought of optimizing potential as evidenced by academic success can be achieved (Brophy, 2004). According to Slavin (2006), schools and government agencies need to realize that if students' basic needs are not met, learning will suffer.

Acquired Needs Theory by McClelland (1961) posits that an individual's specific needs were acquired over time and were shaped by one's life experiences. These needs were classified as the need for achievement, to accomplish something difficult; the need for affiliation, to form close personal relationships; and the need for power, to have control over others.

Cognitive Evaluation Theory asserted that all external events had both a controlling aspect and an informational aspect (Deci & Ryan, 1985). The theory stated that there were two motivation systems, intrinsic and extrinsic, that corresponded to two kinds of motivators.

Intrinsic motivators have the accompanying achievement, responsibility and competence that came from the actual performance of the task — the intrinsic interest of the work. Extrinsic motivators include such things as pay, promotion, feedback, working conditions that came from a person's environment and were controlled or manipulated by others.

One or the other of these may be a more powerful motivator for a given individual. Intrinsically motivated individuals perform for their achievement and satisfaction. If the student believes he/she is doing some job because of the pay or the working conditions or some other extrinsic reason, he/she begins to lose intrinsic motivation. The belief is that the presence of powerful extrinsic motivators can actually reduce a person's intrinsic motivation, particularly if the extrinsic motivators were perceived by the person to be controlled by people (Greitemeyer & Weiner, 2006).

The Two Factor Theory of Herzberg (1968) posited that two kinds of factors affect motivation, and that they did it in different ways.

Factor theory 1: Hygiene factors were factors whose absence motivated, but whose presence had no perceived effect. When you took them away, people become dissatisfied and acted to get them back. An example could be heroin to a heroin addict. Long-term addicts do not shoot up to get high; they shoot up to stop from becoming sick — to get back to normal. Other examples included decent working conditions, security, pay, benefits (such as health insurance), company policies and interpersonal relationships. In general, these were extrinsic items that seem to resemble the low levels of the Maslow hierarchy (Herzberg, 1968).

Factor theory 2: Motivators were those factors whose presence motivates. Their absence did not cause any particular dissatisfaction. Examples were all the things at the top of Maslow's hierarchy, the intrinsic motivators. Hygiene factors determined dissatisfaction, and motivators

determined satisfaction. The two scales were independent and one could rank high on both (Herzberg).

Equity Theory states that it was not the actual reward that motivated, but the perception, and the perception was based not on the reward in isolation, but in comparison with the efforts that went into getting it, and the rewards and efforts of others (Adams, 1965). Much like other prevalent theories of motivation, such as Maslow's hierarchy of needs, Equity Theory acknowledged that subtle and variable individual factors affected each person's assessment and perception of his/her relationship with relational partners (Guerrero, Andersen, & Afifi, 2007). According to Adams, anger is induced by underpayment inequity and guilt is induced by overpayment inequity (as cited in Spector, 2008).

Vroom's (1964) theory was based on the belief that employee effort led to performance and performance led to rewards. Rewards were either positive or negative. The more positive the reward, the more highly motivated the employee. Conversely, the more negative the reward, the less motivated the employee.

As substantiated by the literature, sources of motivation were generally grouped into two categories, intrinsic (internal to the person) and extrinsic (outside the person) (Huitt, 2001). Internal motivation was what people did without external inducement. Extrinsic motivation, on the other hand, involved external inducements, such as rewards, grades, recognition or money (Malone & Lepper, 1987).

There has been an ongoing debate for decades on the effects of external incentive on students' subsequent intrinsic motivation and performance (Cameron & Pierce, 2002; Deci, Koestner, & Ryan, 1999; Kohn, 1993; Lepper & Greene, 1978). Deci et al. (1999) made the claim that the consensus in psychology was that extrinsic rewards inhibit students' subsequent

intrinsic motivation because when students are extrinsically motivated by rewards, interest in the task decreased as interest in the reward increased (Lepper, Greene, & Nisbett, 1973). Kohn (1993) concluded that rewards were harmful to students. In a study of 11 incentive programs, Cameron and Pierce (2002) found no effect on intrinsic motivation as measured by observing students' subsequent choices, but there was an increase in intrinsic motivation coming from students' self-reported interest measures. Bettinger (2007) found that students' intrinsic motivation was not affected by a cash incentive program. In a later study following their 1973 research, Lepper and Green (1978) reported that there are certain contexts in which external incentives can improve student outcomes. For example, when students lack intrinsic motivation, external rewards can improve outcomes such as academic achievement and subsequent intrinsic motivation. If they are done properly, extrinsic motivators can enhance intrinsic motivation (Cameron & Pierce, 2002). By contrast, external rewards may reduce intrinsic motivation in students who already possess intrinsic motivation for learning a subject such as math, as found in an experiment by Greene, Sternberg, and Lepper (1976), who played math games with schoolchildren, which the children seemed to enjoy. Greene et al. experimented with giving rewards for success. When they removed the rewards, the children quickly gave up playing the games. The explanation was that the children had decided that they were playing for the reward, not for the fun.

Even though much of the literature on motivation finds intrinsic motivation to be highly desirable, most of the activities in which teachers, students and others engage are most directly influenced by extrinsic rather than intrinsic motivation (Csikszentmihalyi & Nakamura, 1989). Bettinger (2007) analyzed a randomized experiment in Coshocton, Ohio, in which students were given cash rewards if they performed well on state achievement tests; he found a small but

significant increase in math performance, but not in reading. The evidence was modestly positive and contradicted an opposing view regarding rewards affecting student performance. Educational theorist Hirsch (1996) wrote that one of the greatest barriers imaginable to social justice was the idea that motivation for academic achievement came from within. The validity of intrinsic motivation as being highly desirable was negated by a recent study by Hirschfeld, Thomas, and McNatt (2007) which found that self-deception was positively related to an intrinsic motivational disposition (reflecting ego enhancement) and negatively related to an extrinsic motivational disposition (reflecting ego defensiveness). In addition, the study found that the positive relationship between self-deception and an intrinsic motivational disposition was relatively strong, whereas the negative relationship between self-deception and an extrinsic motivational disposition was moderate in magnitude.

As such, the tendency of self-deceivers to frame their volitional actions as stemming from internal pursuits is stronger than their tendency to de-emphasize their pursuit of external outcomes. This is consistent with the notion that self-deception primarily involves ego enhancement, yet also engenders ego defensiveness.

Similarly, a study by Spinath and Steinmayer (2008) explored whether competence beliefs and intrinsic motivation for different school domains showed reciprocal effects over time. A sample of 670 German elementary school pupils ($M = 8.8$ years, $SD = 0.51$) was followed over one year. At four measured intervals, the children completed self-reports on intrinsic motivation and competence beliefs for math, German and school in general. Latent growth models revealed that intrinsic motivation and competence beliefs decreased over time. Comparing correlational and cross-lagged structural equation models yielded only weak evidence for cross-lagged influences between the two constructs. Results suggested that the developmental curves of

competence beliefs and intrinsic motivation might be less inextricably interwoven than frequently assumed (Spinath & Steinmayer, 2008).

It may be beneficial to adopt a view to support how intrinsic and extrinsic motivational factors can work together (Burke, 1995). While motivation comes from the inside, what happens on the outside has much to do with the choices made. Research has shown “that achievement motivation is not a static trait, but is partially determined by characteristics of the learning environment” (Okolo & Bahr, 1995, p. 279). Student motivation is directly related to whether or not the time and effort invested is worthwhile, and most unmotivated students feel alienated from school (Person, 1990). When students experience a lack of recognition or reward, they become frustrated and disengaged from school, resulting in reduced effort and a drop in grades (Ingram, 2000). Many external factors also impact student achievement and student motivation levels, including neighborhood violence, poverty and family stress (Akey, 2007).

The goal of educators has been to identify, teach and measure content, and only rarely apply it to the real world. Content is juxtaposed against motivation, causing both sides to lose (Burke, 1995). This reinforces the ideas that some students are often unmotivated inside of school, yet highly motivated outside (Burke, 1995). The essential interrelatedness of content and motivation eludes much of the instructional emphasis in classrooms, and therefore many optimal learning opportunities are denied for those who would benefit (Burke, 1995). A common confusion of teachers and school leaders alike is that classroom management and motivation are basically one and the same. Teachers continue to focus on tight control of the environment and curriculum in the closely held belief that doing so will eventually create motivated students and positive learning outcomes. Not one of the top 10 schools of education in the *U.S. News and*

World Report rankings requires students seeking credentials as teachers or pursuing graduate degrees in leadership to complete a class in educational motivation.

Development of Academic Achievement Motivation for Low SES Students

There is an ongoing search by school administrators for methods to increase student achievement. Many administrators focus on best teaching practices, such as curricula changes which do nothing to motivate low SES students (Bettinger, 2007). To meet AYP and avoid a reduction in funding, many schools look for innovative ways to motivate students to do well on standardized tests. Offering monetary incentive to students has become one of the methods that schools and districts are using to motivate students (Raymond, 2008).

On the other end of the spectrum is the argument that incentives do not motivate students. On the contrary, rewards bring about diminishing returns on student academic performance. Kohn (1993) cited many studies that prove incentives seemed to work only in the short term and not only fail in the long term but cause lasting harm. Gneezy (2005), through his W effect experiment, also found that introducing extrinsic incentives might change the perception of the activity and reduce student performance, albeit the decrease in productivity is observed for small incentives, but not for large ones.

In motivating low SES students to learn, there must be an understanding of the factors that got them to become unmotivated in the first place, hence a strategy must address such students' needs, which have been identified from the literature as being low on the hierarchy of needs (Dossett & Munoz, 2000; Grissmer et al., 1994; Ogbu & Davis, 2003; Ogbu & Simons, 1998; Spencer, 2008; Steele & Aronson, 1995). According to Muir (2001), people only looked for and processed information that related to individual interests or goals, and tended to ignore things that did not relate to those interests. Hence, students who perceive that school is

interesting or that it matches personal goals were more likely to achieve than were students who saw school as being much less relevant to their lives (Muir, 2001). In support of this premise, Caine and Caine (2006) stated that people inherently organized their thinking and perception around what they regard to be important. The strategy must also be one that is geared toward developing intrinsic motivation of low SES students by introducing short-term extrinsic motivation (Bettinger, 2007; Gneezy, 2005; Lepper et al., 1973). The literature shows that there are certain contexts in which external incentives such as cash improved student outcomes (Lepper & Greene, 1978). For example, when students lack intrinsic motivation, external rewards can improve outcomes such as academic achievement and subsequent intrinsic motivation (Lepper et al., 1973).

Recent Research on Monetary Incentives and Academic Achievement

One of the more radical (and controversial) ideas in education reform is to offer students cash in exchange for performance. The idea is that, although some students might not be motivated by the sheer joy of learning, students' priorities might change if they are offered concrete financial rewards for academic achievement (Roland, 2008). The subject of paying cash for grades elicits much controversy in the educational world (Bettinger, 2007). Using incentives as a means of increasing students' performance is not a novel concept in the educational field; programs such as Earn and Learn and field experiments such as the laboratory experiment Pay For Performance (PFP) offered monetary incentives. The premise behind PFP programs was to increase students' return to academic performance (Gabarino & Slonim, 2006). The argument they made was that "more immediate financial rewards may tip the scales in favor of schoolwork" (Angrist & Lavy, 2002, p. 1). More recently, the pilot program Learn and Earn in Georgia, the brainchild of former House Speaker Gingrich, aimed at increasing student test

scores in math and science. Learn & Earn students outperformed similar students in a comparison group who did not receive pay or tutoring. Half of the Learn & Earn students improved in both math and science, while only 20 - 30% of the comparison group improved in those subjects (Cushman, 2008). Research on student motivation from the National Center for Research on Evaluation, Standards, and Student Testing (CRESST) indicate that a monetary incentive for eighth-graders significantly increased students' level of effort and performance on the National Assessment of Educational Progress (NAEP) Math items (O'Neil et al., 1997). Gabarino and Slonim (2006) also found that using a large cash payment as incentive for an initial test significantly increased performance and the positive effect carried over to a second unrewarded test, suggesting a long-term effect.

Gootman (2008) reported on the success of a monetary incentive pilot project in New York City in which several thousand students in 31 high schools (25 public schools and six Catholic schools, all chosen based on criteria including minority enrollment and prior student test performance) were given monetary incentives of up to \$1,000 to take and pass the Advanced Placement test. Initial results of the pilot indicated that the monetary incentive seemed to encourage an additional 345 students to take the test, as well as spurring a slight increase in the percentage of test takers earning the highest possible score (Gootman, 2008).

Cushman (2008), reporting on gains made by the Georgia Earn and Learn program, stated that monetary incentive for low SES students replicated what many affluent parents do for their children, provide incentives for academic performance. The Learn & Earn Final Report demonstrated both positive and consistently successful results. Prior to Learn and Earn, student participants were nearly failing in math and science. While attending small-group tutoring (four hours a week, for which they received \$8 an hour for participation), Learn and Earn students

started applying themselves and by the end of the year outperformed the comparison group of similar students in math and science. During focus groups, students reported elevated levels of self-confidence and an increased commitment to learning (Cushman, 2008). A study by Oliver and Williams (2006) investigated the effects of reward and non-reward conditions in math performance of fourth- and fifth-graders, and concluded that accuracy-contingent and completion-contingent rewards increased students' math accuracy and completion rates. Gabarino and Slonim (2006) also found that using a large cash payment as incentive for an initial test significantly increased performance and the positive effect carried over to a second unrewarded test, suggesting a long-term effect.

A more recent study by Konheim-Kalkstein and Broek (2008) examined the effect of incentives, a motivational manipulation, on cognitive processes of reading. Extrinsic motivation was manipulated through the use of monetary incentives to assess its effect on information processing in reading. One group of college students was paid for what they remembered from several narrative passages they read, whereas another group of college students was not offered an incentive. Motivated participants had longer reading times and better recall performance than did participants who were not extrinsically motivated. When reading was constrained at a fixed pace, motivated participants still performed better, with no interaction effect between pacing and motivational status. Therefore, the observed enhanced memory performance of motivated readers was not attributable to additional time spent on reading, indicating that efficient processes that did not influence reading time were involved. The results corroborate observations that extrinsic motivation, in the form of incentives, may lead to increased reading achievement.

According to a study released by the social-policy research group Manpower Demonstration Research Corporation (MDRC), cash incentives combined with counseling offered “real hope” to low-income and nontraditional students at two Louisiana community colleges (Fitzpatrick, 2009). The program for low-income parents, funded by the Louisiana Department of Social Services and the Louisiana Workforce Commission, gave \$1,000 a semester for up to two terms for students who enrolled in college at least half-time and who maintained at least a C average. Participants, who were randomly selected, were 30% more likely to register for a second semester than were students who were not offered the supplemental financial aid. The participants who were first offered cash incentives in spring 2004 were also more likely than their peers to be enrolled in college a year after completion of the two-term program. Students who were offered cash incentives in the Louisiana program did not just enroll in more classes; these students also earned more credits and were more likely to attain a C average than were nonparticipants. These students showed psychological benefits, too, reporting more positive feelings about themselves and their ability to accomplish goals for the future (Fitzpatrick, 2009).

As part of the design of the field test in a first follow-up study, an incentive experiment was conducted to increase student response rate (Herget, 2005). The field test investigated whether offering an incentive would not only make students more likely to participate but also facilitate school cooperation. Student respondents in half of the field test schools were offered a \$20 gift card incentive, while student respondents in the other half were given a token in the form of a keychain. The field test showed that the gift card incentive resulted in a higher response rate than did a token key ring (Herget, 2005). Thus, we find a magnitude of reward as moderating the performance.

A study in Israel by Angrist and Lavy (2002), found that 12th-graders who received a monetary reward for succeeding in matriculation exams received higher grades and went on in larger numbers to higher education than did their peers who did not receive such rewards (as cited in Or, 2009). One argument against monetary incentives was that it encouraged studying mainly for the test and that the beneficial effect lessened over time. The researchers waited until the 2006-2007 academic year and cross-checked data with the National Insurance Institute. The data revealed that 30% more girls who participated in the program had gone on to college compared to the girls in the control group, while the boys' rates of entry into higher education did not change (Or, 2009).

Another cash incentive program that rewarded both teachers and students for each passing score earned on an Advanced Placement (AP) exam has been shown to increase the percentage of high ACT and SAT scores earned by participating students, and increased the number of students enrolling in college, according to new research (Jackson, 2008). The program appeared to have the biggest impact on African-American and Hispanic students, boosting participation in AP courses and exams. Focusing on high school graduates who were at the same school for all four years, the researcher was able to obtain counts of the number of Caucasian and Hispanic graduates scoring above 1100 on the SAT and above 24 on the ACT. By comparing the number of students scoring at these levels before and after the adoption of APIP, it was found that by the third year of APIP, the number of Caucasian and Hispanic students scoring above 1100 on the SAT and above 24 on the ACT increased by 26% and 18%, respectively. Counts for Caucasian, African-American and Hispanic graduates scoring above 900 on the SAT or above 19 on the ACT exams were also obtained. By the third year of the program, APIP increased the number of Caucasian and Hispanic graduates scoring above 900 on

the SAT and above 19 on the ACT by 26% and 38%, respectively, although there was no change for African-American students. In sum, although there may be some migration by high-performing students to APIP schools, schools that adopted APIP saw better scores on college entrance exams among students who had always attended their school (Jackson, 2008).

On the other end of the spectrum are studies such as one conducted by Bettinger (2007) in which students were paid for performance on tests in a variety of subjects. These incentives increased test scores in math, but not in any other subject (Lake, 2008). The students who saw the most benefit from receiving the incentive were those who were already excelling academically, not the lowest-performing students. The study was multi-year, and some students were given incentives in one year and not in the next. Advocates of incentives make the case that while students initially may be in it just for the money, when the incentive is taken away, they will have developed an appetite for education. Bettinger's (2007) study found that the opposite may be true. Bettinger concluded that the existence of external motivation had a negative effect on the intrinsic desire to learn and reported how students regressed back to their original achievement level at the end of the study. In a later study, however, it was found that rewards may help or harm students' motivation depending on who the population was, what the subject was and how the students were being motivated (Lake, 2008).

In a similar study, Garbarino and Slonim (2006) examined the efficacy of a Pay-For-Performance program with different target levels for rewards on an initial test with immediate rewards, and on a subsequent test in which rewards were not immediate. The program effects depended on the target level and where students were at in the distribution. The mean effect on performance significantly increased only when the target level to obtain the reward was sufficiently high, above the 90th percentile, but not too far above most scores. Further, the

increase of the mean was driven by an increase in performance at the high end of the distribution, consistent with most responses coming from students in the distribution who were close to the performance target. Unfortunately, for students at the bottom of the distribution, the researchers observed no such effect. Garbarino and Slonim (2006) found that even when the target level was near the bottom of the distribution, students in the bottom of the distribution did not do better with the added financial incentive. Garbarino and Slonim found that the performance results carried over to the second, unrewarded test, suggesting a possible long-term effect of the program after the rewards were removed. Garbarino and Slonim found that students in the PFP programs significantly increased their effort on the rewarded test, suggesting that the PFP program incentives affected student motivation. Yet the increased effort did not increase performance (except with the moderately high target), most likely because there was no sufficient behavioral channel for increased effort to translate into better performance. The researchers found that effort decreased significantly after the program incentives were removed, returning student effort to levels directionally (though generally not significantly) below effort levels among students not in the program.

The New York Times carried a story discussing the mixed results of a recent pilot program in New York City (Gootman, 2008). In 2007, 4,275 students took AP exams, which were graded on a scale of 1 to 5, with 1 being worst and 5 being the best. Of those students, 174 (4.1%) attained the highest score of 5, while 403 (9.4%) scored 4 and 904 (21.1%) scored 3, the lowest passing grade. Overall, 34.6% of the test takers in 2007 earned passing grades. In 2008, knowing that a good score could mean a lot of money, 4,620 students took the exams. Of those, 207 (4.5%) scored 5, 398 (8.6%) scored 4 and 871 (18.9%) scored 3. On the surface — and in the absence of any additional information — the monetary incentive seemed to have encouraged

an additional 345 students to take the test and spurred a slight increase in the percentage of test takers earning the highest possible score. But the rest of the story was that a smaller percentage of these schools' 2008 test takers (32%) performed well enough to pass (Roland, 2008).

Chapter 2 presented a review of relevant literature toward the concept of monetary incentives for improved student academic performance. The literature supported many positions which provided further impetus for this study. Chapter 3 presents the design of this study.

CHAPTER 3

Design of the Study

This chapter discusses the methodology used in the study and is organized in the following sections: type of study, research questions, null hypothesis, the sample, data collection, data analysis, delimitations and limitations. The purpose of this study was to determine if an extrinsic motivator, such as money, can motivate students from low socioeconomic status to achieve academically as evidenced by responses on a survey. The research explored how low SES students perceived academic performances being impacted by the extrinsic monetary incentives across subject areas of math and language arts. Students from fourth-grade classrooms in one elementary school in School City of East Chicago were asked to respond to a survey that proposed monetary incentives for those who improved scores over time in math and language arts. The study also explored the extent to which fourth-grade teachers believed that monetary incentives impacted their students' academic performance, and to determine if there was congruency in perception between teachers and students regarding the impact of monetary incentives on students' academic achievement in math and language arts.

The dependent variable in this study was the perceived performance on math and language arts assessments. The independent variables were the promise and size of a monetary reward, gender, and teachers' beliefs regarding the monetary incentive's impact upon students.

Research Questions

This mixed methods study sought answers to the following questions:

1. Do low SES students believe they can perform better academically if they were to receive monetary incentives?
2. Are there differences in perceptions across gender for low SES students' belief about the impact of monetary incentives on their academic achievement?
3. Does the size of the incentive make a difference in low SES students' perception of how monetary incentive would impact their academic performance?
4. Do fourth-grade teachers believe that monetary incentives will increase their students' performance on the ISTEP in math and language arts?
5. Are there differences in perception between teachers and students on the effect of monetary incentives on academic achievement?

Null Hypotheses

H₀1. Low SES students do not believe that monetary incentives will make them perform better academically.

H₀2. There are no differences in perception across gender for low SES students' belief about the impact of monetary incentives on their academic achievement.

H₀3. There is no relationship between perception of academic performance and the amount of the monetary incentives.

H₀4. Teachers of fourth-grade students do not believe that monetary incentives will increase students' performance on the ISTEP.

H₀5. There is no difference between teachers' and students' perception of the impact of monetary incentives on academic achievement.

The Sample

A representative sample of approximately 90 fourth-grade students from an elementary school composed primarily of low SES students in the East Chicago school district in Lake County, Indiana, was used in this study. Fourth-grade teachers from four classrooms in the same elementary school were included in this study. The teachers were interviewed using questions that addressed the students' perceptions of their academic performance.

The elementary school identified for this study was William McKinley Elementary School in the East Chicago school district. This district was representative of a community with a high number of students from low socioeconomic environment as evidenced by Table 1. This school was chosen because they not only had a high poverty rate, but they also were on the State of Indiana's school improvement list as having failed to make adequate yearly progress (AYP) more than once since 2003.

School City of East Chicago is situated in East Chicago, a northwest Indiana city bordered by Chicago, Illinois and Lake Michigan. The student demographic was approximately 48% African-American, 48% Hispanic and 2% Caucasian. The free/reduced-price lunch rate averaged 90%. The district had not made AYP since 2002 (IDOE, 2009b). The ethnic breakdown of School City of East Chicago is presented in Table 1.

Table 1

School City of East Chicago Ethnic Breakdown

Year	Native American		Black		Asian		Hispanic		White		Multi-Racial	
2008-2009	6	0.1%	2,753	48.4%	16	0.3%	2,726	48.0%	121	2.1%	62	1.1%
2007-2008	4	0.1%	2,853	48.3%	15	0.3%	2,828	47.9%	129	2.2%	76	1.3%
2006-2007	3	0.0%	2,885	47.9%	17	0.3%	2,867	47.6%	141	2.3%	113	1.9%
2005-2006	5	0.1%	2,783	46.3%	22	0.4%	2,991	49.7%	141	2.3%	75	1.2%
2004-2005	3	0.0%	2,974	47.0%	20	0.3%	3,080	48.7%	168	2.7%	81	1.3%
2003-2004	6	0.1%	2,921	45.3%	23	0.4%	3,247	50.4%	200	3.1%	47	0.7%

Design Procedure

Free and reduced-price lunch students in all fourth-grade classrooms from one elementary school in East Chicago public school district in Lake County, Indiana, were asked to respond to a survey that proposed monetary incentives for showing increased scores in the math and language arts test scores. The PI administered the survey to only those students who had been given permission by their parents to participate and had also signed the consent form agreeing to participate in the study. The classroom teacher provided an alternative activity for the other students to engage in while the survey was administered.

The second phase of this study included a visit to the school to interview the fourth-grade teachers to gain their input regarding the concept of monetary incentives. The interview was

conducted by the PI in each teacher's classroom after school on a day that was mutually agreed upon by both teacher and PI.

Instrument

A survey instrument was developed to administer to children in the fourth grade. It was piloted with the help of fourth-grade teachers. The instrument contained 20 questions that attempted to determine the degree to which fourth-graders believed their academic performance could be influenced by monetary incentives. This instrument is contained in Appendix A. An interview protocol was developed to be used to interview the fourth-grade teachers participating in this study. The interview questions were intended to ascertain each teacher's view on monetary incentives and how they thought it impacted students' performances in math and language arts (Appendix B).

Data Collection

Students' surveys were collected by the PI upon completion of survey administration in each classroom and kept in a sealed envelope in a locked cabinet until data analysis phase. Teachers' interviews were documented by the PI using a combination of voice recorder and field notes format, and were also collected and stored in a sealed envelope in a locked cabinet until the data analysis phase. Once all data were tabulated, analyzed and reported, surveys and interview notes were stored in locked file cabinets for a period of three years before being destroyed by electronic shredding.

Data Analysis

Descriptive along with ANOVA analyses of the data was used. These analyses were then presented to fourth-grade teachers at the school to provide them with an opportunity for

feedback. Those interview transcripts were analyzed and coded for themes to possibly identify teachers' perceptions of this concept.

Delimitations

1. The time frame established for the administration was spring 2010.
2. William McKinley Elementary was identified by the Indiana Department of Education as being in improvement status because they had failed to make AYP in two consecutive years in language arts or math.

Limitations

1. The study is limited by the abilities of fourth-grade students to understand the items on the survey and to respond both honestly and accurately.
2. The findings may not necessarily generalize to other communities that do not have similar demographics.
3. Since it is not an objective of this study to meaningfully investigate possible reasons for racial differences in academic achievement, data will not be collected on family, school or community-level factors.

Summary

The purpose of this chapter was to describe the design of the study, introduce the variables to be studied along with the instruments, and identify potential limitations to the findings. Chapter 4 provides a presentation of the findings and a general discussion. Chapter 5 provides implications and the next steps from the perspective of this researcher in view of the findings.

CHAPTER 4

Presentation and Analyses of Results

To evaluate the perception of low SES students toward monetary incentives, a 20-question survey instrument was developed consisting of a dichotomous yes/no, as well as questions that asked students to write out their feelings. This instrument was used to answer the following research questions:

1. Do low SES students believe they can perform better academically if they were to receive monetary incentives?
2. Are there differences in perceptions across gender for low SES students' belief about the impact of monetary incentives on their academic achievement?
3. Does the size of the incentive make a difference in low SES students' perception of how monetary incentive would impact their academic performance?

To evaluate teachers' perception toward monetary incentives for their students, a teacher interview was conducted. The following questions were asked:

1. Do fourth-grade teachers believe that monetary incentives will increase students' performance on the ISTEP in math and language arts?
2. Are there differences in perception between teachers and students on the effect of monetary incentives on academic achievement?

This chapter is organized into four sections: presentation of study sample and survey responses, presentation of teachers' interviews, quantitative analysis and qualitative analysis.

Presentation of Study Sample and Survey Responses

For this study, 53 usable surveys were collected from fourth-grade students out of a total of 88 students in all four fourth-grade classrooms from one elementary school. The students in the sample consisted of 25 males and 28 females. All were low SES as evidenced by receipt of free or reduced-price lunch. More than 70% of the students identified themselves as Hispanic, while 16% identified themselves as African-American and 14% identified themselves as other. Student responses were entered into an Excel spreadsheet and transferred into SPSS.

The first question in the survey was "Circle the amount that seems like a lot of money to you: \$5 \$10 \$20 \$50 \$100." This question was included to gauge students' overall interest in money (Table 2). As shown in Table 3, all but one student ($n = 52$, 98%) circled \$100, the highest amount of money in the survey question options.

Table 2

Statistic Used to Gauge Students' Overall Interest in Money

Statistic		<i>N</i>
Amount that seems like a lot of money to you	Valid	53
	Missing	0

Table 3

Students' Conception of Amount That Seems Like a Lot of Money

		<i>N</i>	%	Valid %	Cumulative %
Valid	100	52	98.1	98.1	98.1
	5	1	1.9	1.9	100.0
Total		53	100.0	100.0	

Tables 4 and 5 represent the responses to the questions of whether students enjoy math and language arts. These questions were included in the survey to gauge students' interest in the two subject areas. More than half ($n = 28$, 52%) responded that they always enjoy math, while 25 (47%) responded the same to language arts. Only a small number of students stated that they never enjoy both: ($n = 3$, 6%) for math and ($n = 2$, 4%) for language arts. About half of the students ($n = 26$, 49%) responded that they sometimes enjoy math, while 22 responded that they sometimes enjoy language arts.

Table 4

Statistic to Gauge Students' Interest in Math

Do you enjoy Math?		<i>N</i>	%	Valid %	Cumulative %
Valid	Always	28	52.8	52.8	52.8
	Never	3	5.7	5.7	58.5
	Sometimes	22	41.5	41.5	100.0
Total		53	100.0	100.0	

Table 5

Statistic to Gauge Students' Interest in Language Arts

Do you enjoy Language Arts?		N	%	Valid %	Cumulative %
Valid	Always	25	47.2	47.2	47.2
	Never	2	3.8	3.8	50.9
	Sometimes	26	49.1	49.1	100.0
	Total	53	100.0	100.0	

The responses students gave to the survey questions regarding enjoyment of Math and Language Arts were in alignment with the response they gave for the question “Do you enjoy School?” as shown in Table 6. This question was included in the survey to provide the researcher with an overview of these students’ feelings about school. Of the 50 students who responded, a large number of the responses ($n = 33$, 62%) fell under the rating scale of “Always.” None of the students chose “Never” while 34% ($n = 17$) stated that they sometimes enjoy school (Table 7).

Table 6

Overview of the Students' Feelings About School

Statistic		N
Do you enjoy school?	Valid	50
	Missing	3

Table 7

Statistic to Gauge Students' Enjoyment of School

Do you enjoy language arts?		N	%	Valid %	Cumulative %
Valid	Always	33	62.3	66.0	66.0
	Sometimes	17	32.1	34.0	100.0
	Total	50	94.3	100.0	
Missing		3	5.7		
Total		53	100.0		

Questions 6 and 7 on the survey asked students if they could do better on math and language arts tests if they were given money (Table 8). All but a small number ($n = 6$, 11%) selected “yes” for math, while all of the students with the exception of 10 (19%) selected “yes” for language arts. Accordingly, in response to the question of “Could you do better in math if you got \$100 rather than \$5?” all students except four indicated they would do better with the higher amount of money as shown in Table 9.

Table 8

Students' Perception of Their Performance in Math and Language Arts If Awarded Monetary Incentive

Statistic		N
Could you do better on a math and language arts test if you were given money?	Valid	51
	Missing	2

Table 9

Student Perception of Performance for Money on Math Test

Could you do better on a math test if you were given money?		<i>N</i>	%	Valid %	Cumulative %
Valid	No	4	7.5	7.8	7.8
	Yes	47	88.7	92.2	100.0
	Total	51	96.2	100.0	
Missing		2	3.8		
Total		53	100.0		

Similar responses were given by the students for language arts as shown in Table 10.

Table 10

Student Perception of Performance for Money on Language Arts Test

Could you do better on a language arts test if you were given money?		<i>N</i>	%	Valid %	Cumulative %
Valid	No	8	15.1	15.7	15.7
	Yes	43	81.1	84.3	100.0
	Total	51	96.2	100.0	
Missing		2	3.8		
Total		53	100.0		

The purpose of the survey questions above was to gauge students' perception of how money might affect their performance. Student responses indicated that the majority of them

thought they could do better in both subject areas if given money. However, on survey question 20, “Do you think coming to school is important?” all 49 students who responded chose “yes” to this question, which is shown in Table 11. Table 12 contains students’ response to question 20.

Table 11

Overview of Students’ Perception of Importance of Attending School

Statistic		N
Do you think coming to school is important?	Valid	49
	Missing	4

Table 12

Students’ Response For Question 20

Do you think coming to school is important?		N	%	Valid %	Cumulative %
Valid	Yes	49	92.5	100.0	15.7
Missing		4	7.5		
Total		53	100.0		

Presentation of Teachers’ Interview

An open-ended interview technique was used to obtain the fourth-grade teachers’ perception about the impact of cash rewards on students’ performance. All teachers were asked the same questions in the same order so as to elicit comparable responses. The first questions in the interview were demographic questions relating to educational background and number of years of experience as a teacher of fourth-grade students.

The first set of interviews was conducted at the beginning of the school year before administering the students' survey. The researcher met with each teacher in his/her classroom after school for approximately one hour per interview session. One session lasted only about 30 minutes.

Teacher A. This teacher has taught elementary students for 40 years, 25 of those years in the school where this research was being conducted. Teacher A stated that she came from a family of educators and loved teaching, especially math. She stated that the best part of teaching was when the children gained the understanding of a concept, "when I see the children, when they get it, get a concept and they are really proud. You can see the light bulb glow out." She stated that the worst part of teaching, what bothers her the most was when "they put a lot into the curriculum and teachers are not given the opportunity to say what they feel should be a part of the curriculum." For the question of how her students were performing in math and language arts, Teacher A stated that all her students came in very weak in both subjects. She stated:

I'm having a hard time because the students are weak in the basic skills of addition and subtraction. What I'm doing now, I put a problem on the board every morning and it's to keep the basic facts in their heads.

In language arts, "the problem is spelling it, more so than the grammar part." Regarding ISTEP+ test scores, Teacher A stated that the students did very well in math and that the ESL students did very well in language arts thanks to after-school tutoring. But for the current students, she stated that she was doing dibbles test right now and it was showing they were weak.

When asked the question regarding incentives and whether she thought rewards such as cash would help, Teacher A was of the opinion that it would definitely make a difference, even though she felt it was not a good thing to admit:

I think that, though it is bad to say, you know I'm from the old school, I think that it will be a motivation for a lot of the kids, though I'm from the old school. I know a lot of teachers don't agree, but ... because of how these kids came up, like me, I came from a family of educators and from the South where education was a priority, you did not have to be paid to do it, but now it is a different age and a different time, and so there is so much out there the kids can do other than their real schoolwork. But they know, hey, if I'm going to get some money, I might be ahead and do much better.

Teacher B. Teacher B has been a school teacher in the East Chicago District for 33 years. On the question of why she wanted to become a teacher, Teacher B had the following to share:

I always wanted to become a teacher when I was 12 years old, because I had so many good teachers and I thought that would be a good profession to be in. My first-grade teacher was black, my second-grade teacher was also black, and I had a third-grade teacher, her name was Mrs. Raleigh and she was White, OK, she just gave me that love for reading. She was just so nice, just so fair and I thought that those three people in my life were just an influence on me at the end and I decided that this was what I wanted to do.

Teacher B stated that she enjoys teaching math the most and that to her, the best part of teaching is “seeing a face light up when they get a particular skill. ... You know you look at some and it's like they look at you and they have no clue, and see through you.”

When asked what she did not like about teaching, she stated that it was not being able to go home with the children to make sure they are doing their homework and studying. “You

know, when they are here, I have their attention and I can almost demand that they do something, OK?" She added later,

But I can't go home with them to make them study and make them do their work. That's the hard part, not having parents that, I'm not saying that parents don't, but most of our children go home and there is no parent there. There is no one there to help them do their homework or one to say, 'Did you do your homework?' If someone is there, then they are told, 'Go do your homework.' Sometimes, all you need is a body that sits right by them to say, 'Do your homework.' Like in the classroom, I have to sit by some students to do their work. So I know that if I do that in the classroom, then at home they will need that to do their homework, which needs to be done at home."

On the questions regarding students' performance, Teacher B stated that her students did better in math than in other subjects. She stated that math was a subject in which children tended to have skills because it did not require reading comprehension.

You know, it does not frustrate them as much as everything else. They feel good about themselves when they master a skill especially; we are working on multiplication because next semester we are going to long division, adding and subtraction in fractions, so they need to know multiplication before they go there. So when they master something, it seems to stay longer than in language arts.

With regard to her students' performance on the ISTEP+, Teacher B was of the opinion that the ISTEP+ test items had a lot of words and concepts that her students were not exposed to, either at home or at school, so they did a lot of guessing during the test. She stated that the test items have a lot of language that teachers do not use in the classroom.

“OK, when teachers don’t use the language academically that is in the ISTEP, it throws the children off, because you cannot have a word they cannot adapt. If they don’t understand what that word is, it throws them off. They don’t understand the terms or they don’t understand what to do. So when they don’t understand terms, the chance is that they are going to guess.”

In her view, the ISTEP language was not really tailored to low SES students from minority ethnicities.

On the question of whether she thought her students could do better in the ISTEP+ math and language arts, Teacher B felt that some of them could and some could not, because they have special needs that she was not trained to provide.

I think some of them can, I think some of them in special education, they need a different format for not just the test itself, but for reinforcing skills. Some of them don’t really need to be in a general education classroom because their deficiencies are different. If they have a communication disorder, they need a classroom where they can keep going back to reinforce their skills. See, when I finish a skill, I’m finished, OK; I go on to the next. When you have children that are in special education, they need a different reinforcement which they cannot get here. And we have children who have emotional needs I can’t meet. Those children seem to be disproportionate, so I’m talking to them about math, that is not what they need. They need someone to talk to them that can find out what their problems are and can share. I can’t be a counselor, I can’t be a social worker with teaching, you know, with 22 children in a classroom. My best bet is to set them off by themselves and to focus on the rest of the classroom, because I don’t have time to meet their needs, they are not ready to meet what you are doing in the classroom.

Regarding incentives, when asked whether she thought rewards such as cash would help, Teacher B was of the opinion that incentives other than cash would work, and she described her incentive system as thus:

I do have incentives on the desk here. I have what we call a behavior chart, I have 2 A's, 2 B's, 2 C's and 2 F's. I give that to them every week. I do that, and what it means is at the end of the week, they have A's or B's, I give them bag of chips and/or juice box.

That's my incentives for them doing everything they are supposed to do. I don't have to stop to talk to them to do what they are supposed to do; they are bringing in their homework, because that emphasizes all of that.

When asked the question in a different way, Teacher B was still insistent that cash rewards are not good for her students because "anything works if you continually do it, but if you don't continue, then I think the habits go back to pre-incentives." She continued to insist that cash rewards would not make her students do better, so she would do something else for her kids if she was given a cash grant.

I'll give them something other than a juice box or chips. I would give them something that they can use for a bookstore, I can give them something like audiotapes for students who have a problem with reading. I would sometimes give educational toys that would meet their needs, because if you give money, the money would go to Mummy, the parents, and you can never know what they do with that.

Teacher B concluded this question by suggesting that the money should be given to the parents, because that might motivate the parents, who in turn would influence their children. In her own words,

Money will motivate a lot of people to do a lot of things, OK, but speaking as an adult and you know as a child, you know, you never know what could motivate them. I think their parents would be the motivating factor, I think you have to touch the parents to help motivate the children.

Teacher C. Teacher C has been a teacher in the East Chicago school district for 18 years, and had taught grades K through 5 for all of those years. Teacher C stated that her favorite subjects were reading and math. She developed the love of reading from her father, whom she said loved Webster. That is how she got into reading and she wanted to read like him. For this teacher, the best part of teaching is nurturing the children and watching them gain understanding and growth. “I’m a very nurturing person, very dedicated to helping give them a direction,” she said. The worst part of teaching according to her, “is not having enough time or resources to teach the students, to do small grouping.” She explained what she meant by “resources,” stating that it could consist of people to help with groups, because when students are put in groups like that, more assistance is needed to work with the groups.

On the question of her view of her students’ performance, Teacher C stated that the students were very weak in math and a little better in language arts. The students’ performance on ISTEP+ is also the same; her students did not perform well on either subject because, according to her, they did not know how to answer the questions on the test.

Teacher C was of the opinion that rewards helped her students perform better, even though as a professional she thought like the majority of the teachers, that motivation should be intrinsic. According to Teacher C,

We learn because we love to learn, children need to get information, they need intrinsic motivation definitely, especially in the lower levels, because otherwise, they are

constantly looking forward to getting the sticker, stars, to get the pencil, and it has to be often also. They have to get it often.

She agreed, however, that her 23 students are extrinsically motivated and she thought that they would do better if they were given cash rewards because of the times we live in. According to Teacher C, cash rewards will certainly help, she states. “It would help, because do you know how many children would say, ‘What I am going to get? If I get this, what I am going to get?’ They are extrinsically motivated.” She continued by paraphrasing her students’ responses:

‘If I do this, what am I going to get? I clean my room, Mom, so what am I going to get?’ I’m not saying it’s 100%. You’ve got those intrinsically motivated that just want to do good for their own. They’re just motivated normally; they want cash reward as well and will say, ‘What else can I do? Can I do extra work?’ But they all want something; you have to add something for them. You have a majority of them that are expecting something for them to perform.

Teacher D. Teacher D has been an elementary teacher for 13 years, all in the East Chicago District, nine of them in a private Catholic school and the rest in the public school district, and she had taught grades two and four. She stated that she always enjoyed teaching, even as a little girl when she always played school and was the teacher. Her mother was also a teacher, so her love for teaching is inherent, she said. Teacher D stated that her best subjects were math and science. For her, the best part of teaching was “seeing students gaining knowledge and building self-confidence, seeing them grow as far as knowledge and their abilities and seeing them being happy learning.” She thought the worst part of teaching was the discipline.

Having to deal with discipline issues, especially when some children don't even know they're doing something wrong. What I mean by that is that some children come from homes where they see their parents are doing these behaviors and then they come to school and do it. And I've had students who say, 'Well, my mom says it,' and I told them there are things you do at home and there are things you do at school. Just like when you go to church or someplace like that.

On the question regarding her students' performance, Teacher D was of the opinion that methods needed to be tailored to each school, because in the approach used in the private school where she worked before coming to the East Chicago public schools, the students performed well in the ISTEP+ math and language arts sections. But she states that her current students were struggling because, in her opinion,

It happens with the school you are in. This is a reading-first school, so they focus a lot on the language arts and reading, so they are very good readers. They read the words, they lack comprehension, they can read a hundred words per minute but they don't understand what they are reading. So a lot of my problem is trying to have them go back and I talk about the science of the brain. They have taken X-rays of brains of someone who is a good reader and I use that to motivate them, to see that you are working with two parts of the brain. One part is reading the words and the other part is the one asking questions,

'Do I understand what I am reading? Does this make sense to me?'

When asked if her new approach was working with her students, she responded by saying,

"Well, last year they did really well on the reading (language arts)."

Teacher D was of the opinion that the students perform better if they can learn to listen and if they are taught manners at home. Thus, the question on cash incentives elicited the following response from her:

I think if it goes beyond, for example, if they do something above and beyond what they are supposed to do, then I could see a treat. But as far as money and things like that, I think children can be self-motivated. I think that self-motivation is in there, it's just that somewhere along the line, we don't know how or what, because every child is different, I think we either close that door of motivation or something closes. But I think children are and can be intricically motivated.

When pressed further on this issue, Teacher D was still insistent that cash rewards would not help her students do better on the ISTEP+ or in math and language arts. She concluded by stating that cash might motivate the students on the borderline to do better, "But I think the ones that are struggling, I don't think money would help."

Quantitative Analysis

A 20-question survey instrument was used to answer the following research questions:

1. Do low SES students believe they can perform better academically if they were to receive monetary incentives?
2. Are there differences in perceptions across gender for low SES students' belief about the impact of monetary incentives on academic achievement?
3. Does the size of the incentive make a difference in low SES students' perception of how monetary incentives would impact academic performance?

These questions had the following attendant hypotheses:

H₀1. Low SES students do not believe that monetary incentives will make them perform better academically.

H₀2. There are no differences in perception across gender for low SES students' belief about the impact of monetary incentives on academic achievement.

H₀3. There is no relationship between perception of academic performance and the amount of the monetary incentives.

Low SES students' perception of monetary incentives on academic performance. To answer this research question, the following null hypothesis was tested using descriptive statistics.

H₀1. Low SES students do not believe that monetary incentives will make them perform better academically.

Students' responses to three survey questions were synthesized to test this hypothesis. These questions were included in the survey to provide information about students' beliefs regarding monetary incentives and academic performance.

Questions 6 and 7 on the survey asked students if they could do better on math and language arts tests if they were given money. All but a small number ($n = 6$, 11%) selected "yes" for math, while all of the students with the exception of 10 (19%) selected "yes" for language arts. Accordingly, in response to the question "Could you do better in math if you got \$100 rather than \$5?" all students except four indicated they would do better with the higher amount of money. Similar responses were given by the students for language arts, as shown.

The purpose of the survey questions above was to gauge students' perception of how money might affect their performance. Student responses indicated that the majority thought they could do better in both subject areas if given money, as reflected in the following charts.

Differences in perceptions across gender and incentive size. To answer these research questions, the following null hypotheses were tested with a two-way ANOVA, computed with SPSS 18.

$$\alpha = .05$$

Main effect of gender:

$$H_0: \mu_{\text{boy}} = \mu_{\text{girl}}$$

$$H_1: \mu_{\text{boy}} \neq \mu_{\text{girl}}$$

Main effect of incentive size:

$$H_0: \mu_{\$5} = \mu_{\$100}$$

$$H_1: \mu_j \neq \mu_{j'} \text{ for some } j \text{ and } j'$$

Interaction.

$$H_0: \text{interaction effect (gender x incentive size)} = 0$$

$$H_1: \text{interaction effect (gender x incentive size)} \neq 0$$

The hypotheses above were tested using a two-way ANOVA with two independent variables: gender and size of incentive. The two-way ANOVA had three related questions asked of it: 1) main effect gender — gender differences on perception, if any exist; 2) main effect incentive size — whether perception differs according to incentive sizes; and 3) an interaction between gender and incentive size — whether there is a significant interaction between gender and incentive size on perception of whether incentives affect performance.

Perception of performance scores was derived from a scale measuring students' responses to three performance questions in the survey:

1. Could you do better on a math test if you were given money?
2. Could you do better on a language arts test if you were given money?

3. Would you like coming to school more if they paid you to come?

If a student answered “yes” to all three questions, they received a score of 100, two “yes” answers got a score of 75, and one “yes” answer got a score of 50, while not answering “yes” to any questions got a score of 25.

A 2 x 2 factorial ANOVA was conducted with gender and incentive size as the independent variables and perception of performance scores as the dependent variable. There was no statistically significant interaction between gender and incentive size on perceived performance $F(1, 47) = .813, p < .05 (\eta^2 = .005)$; therefore, the null was not rejected and must conclude that interaction effect was equal to zero (Table 13). The main effect for gender was not statistically significant, $F(1, 47) = .313, p < .05 (\eta^2 = .007)$; therefore, the null was not rejected and must conclude that there were no differences in the main effects of gender. The main effect for incentive size was statistically significant, $F(1, 47) = 7.461, p < .05 (\eta^2 = .137)$; therefore, the null was rejected and concluded that there were differences in main effects of incentive size.

Table 13

Tests of Between-Subjects Effects

Source	Type III Sum of Squares	<i>df</i>	Mean Square	<i>F</i>	Sig.	Partial Eta Squared	Observed Power ^b
Corrected Model	6.315 ^a	3	2.105	2.590	.064	.142	.600
Intercept	123.229	1	123.229	151.639	.000	.763	1.000
Gender	.254	1	.254	.313	.578	.007	.085
Gender*incentive	.207	1	.207	.255	.616	.005	.079
Error	38.195	47	.813				
Total	645.000	51					
Corrected Total	44.510	50					

Note. Dependent variable percofperf; ^a*R* square = .142 (adjusted *R* squared = .087); ^bComputed using alpha = .087

Qualitative Analysis

The researcher adopted the qualitative framework developed by Miles and Huberman (1994) to describe the major phases of data analysis: data reduction, data display, and conclusion drawing and verification. Step 1 began by reducing data collected to address the questions “Do fourth-grade teachers believe that monetary incentive will increase their students’ academic performance?” and “How does what the teachers say compare to what their students report about monetary incentives and academic performance?”

Answering the question about teachers’ beliefs involved distilling interview responses to unveil some common themes based on the frequency with which different issues were raised, as well as the intensity with which these themes were expressed. According to Miles and Huberman’s (1994) model of qualitative data analysis, unveiling these common themes required the next step of data display, which allowed extrapolation of the data to “begin to discern systematic patterns and interrelationships or themes” (p. 11). Thus, the following themes were identified: curriculum and classroom assistance, behavioral problems, parents’ and students’ home environment, love for teaching, reward and cash reward, and how all of these affect students’ performance.

Miles and Huberman (1994) also posited that a display can be an extended piece of text or a diagram, chart or matrix that provides a new way of arranging and thinking about the more textually embedded data. The display for this study is an extended piece of text, as shown by the narrative below.

Curriculum and classroom assistance: This was a theme that was echoed by all the teachers interviewed. Teachers’ answers were most passionate to the question “What is the worst part of teaching?” and were all very expressive about how things have changed over the

years. They all criticized the curriculum and strongly advocated for classroom assistance, such as a paraprofessional teacher, to be able to effectively cover all state standards in all subject areas as being reflected by the curriculum content and by the school administration. All teachers believed that if they could get extra help in terms of additional staff in the classroom, they would be able to assist the students more in terms of academic achievement. For instance, Teacher B stated that she needed a staff person in her classroom who had a psychology or social work background to help her deal with students in her class who had special needs so that she could concentrate on the other students, and thus be more effective. Teacher A thought that if she had a classroom aide, she could break her class up into smaller groups, because the way her class was currently operating did not allow for effective instruction. She was the only one in charge of about 20 students and she had to teach them the curriculum all by herself, take them to lunch and hardly had time to go to the restroom because she was not allowed to leave the students without supervision.

Students' home environment: All teachers cited factors concerning students' home environment as a reason for students' low performance or inability to perform at their best in the classroom. When asked about her students' performance on ISTEP+, Teacher A stated that extra tutoring helped the students the previous year and she felt they could do better with more practice, an extended day and a lot of reinforcement of the skills that the students learned during the day. She added that many parents had told her that they did not know how to help their children with homework, saying, "If you have a parent who does not know what to teach the child, it is really bad for that student. Many parents cannot help solve problems at home. So the students need after-school tutoring for extra reinforcement."

In the same vein, Teacher B was very passionate when speaking about her students' home environment and their ability to do homework and do well academically. When asked what the worst thing about teaching was, Teacher B stated that she wished she could go home with each of her students to help them continue to learn at home. Teacher B stated that the worst part of teaching was "not being able to go home with the children to make sure they were doing their homework and studying. You know, when they are here, I have their attention and I can almost demand that they do something." She said that many of the children left school to go to a home environment without parents or anyone in the home who was able or willing to help them do their homework or ask if they had homework or ask whether they had done their homework. She was of the opinion that sometimes all a student needs is someone to ask them if they have homework and sit by them while they do the homework. She stated that this worked for her in the classroom. "I have to sit by some students to do their work. So I know that if I do that in the classroom, then at home they need that to do their homework." She declared that this needed to also be done at home; unfortunately, it was not happening in many of the homes that her students go back to, hence the low academic performance. Teacher B was asked a follow-up question regarding her statements about homework help, and she stated that she would like an extended day to give her students a place to do homework. "I'd like an hour to specifically do homework and help my students," she said.

Teacher C added to this theme when asked if she thought cash incentives would motivate her students. She was of the opinion that cash rewards would help because the students already got rewards at home; their parents already gave them things for doing their daily household chores. She stated that students were therefore constantly asking, "What am I going to get if I do

this?” Her statement depicted students’ home environment where parents give rewards to their children for doing something.

Teacher D was very expressive in her response regarding the students’ home environment. She stated that for her, the worst part of teaching was the discipline, because some children come to the class to exhibit bad behaviors that they learned at home. “They see their parents are exhibiting these behaviors and then they come to school and repeat them.” She stated that she had students who say, “Well, my mom says it,” and she told them, “There are things you do at home and there are things you do at school. Just like when you go to church or someplace like that.” Teacher D continued by stating that their jobs of equipping children to perform well academically had become difficult because they have to deal with discipline issues and take a good chunk of their classroom time to teach life skills because students are coming to the classroom with bad behaviors learned in their home environment. Here again, we see a very passionate expression of the negative influence of the students’ home environment.

Behavioral Problems: This was a theme that was somewhat embedded in the two themes above: curriculum/classroom assistance and students’ home environment. Two teachers expressed concern about students’ behavioral problems, but these concerns were expressed within the context of classroom assistance and students’ home environment. Therefore, not much emphasis was placed on this theme due to the lack of impact it seems to have on the research questions.

Cash Rewards: All teachers expressed a need to give students one form of reward, but only three of them felt that monetary rewards could increase their students’ academic performance. Teacher A was of the opinion that cash rewards might motivate her students because of their socioeconomic status and the associated financial needs. She stated that a lot of

teachers might not agree with her on this issue, but she thought that today's students were different from how it was a long time ago when kids just got up and went to school and did their best at academics because they were intrinsically motivated. She stated that cash rewards,

“will be a motivation for a lot of the kids, though I'm from the old school. I know a lot of teachers don't agree, but ... because of how they came up, like me, I came from a family of educators and from the South, where education was a priority. You did not have to be paid to do it, but now it is a different age and a different time.”

She continued by saying that there was so much out there the kids could do other than their real schoolwork, so if they knew that they were going to get some money to do their schoolwork, she thought they would do better in order to get that money.

Teacher B was also of the opinion that rewards would help, but that rewards should not necessarily be cash rewards. She stated she currently had a reward program in her classroom in which students got points for doing their work. She showed the researcher her incentives on a disk and described how the incentive program worked thusly:

I do have incentives on the desk here. I have what we call a behavior chart, I have 2 A's, 2 B's, 2 C's and 2 F's. I give that to them every week. I do that, and what it means is at the end of the week, they have A's or B's, I give them bag of chips and/or juice box.

That's my incentives for them doing everything they are supposed to do. I don't have to stop to talk to them to do what they are supposed to do; they are bringing in their homework, because that emphasizes all of that.

When asked whether she thought cash could also be used as an incentive, she said that an incentive was supposed to be a continuous process, and a cash incentive that was given just on a temporary basis would mean that the students would go back to being low performers again

when the reward was no longer available. According to Teacher B, the only context in which a cash reward would work was if it were given to students' parents as an incentive to encourage their kids to attend school all the time. Teacher B's opinion was that if the students showed up at school all the time, they would be engaged in the learning process and this would lead to increased academic performance.

Teacher C was of the opinion that her students were extrinsically motivated. She said that she understood that motivation should be intrinsic, but categorically stated that her students were very motivated by rewards because that was what they were exposed to on TV and at home. Teacher C agreed that there might be a handful of students who had intrinsic motivation and who would usually ask for extra class work, but the majority of her students were extrinsically motivated and stated that cash rewards would definitely motivate them to increase their test scores on the ISTEP+. She was of the opinion that if her students were shown their previous ISTEP+ scores and told that they would receive cash amount of \$50 if they increased the scores, the majority of them would work harder on the ISTEP+ in order to get that money.

Teacher D was the only teacher who insisted that cash rewards would not help her students because it was a temporary fix. She stated that students could be self-motivated and that each student's need was different, so the adults or teachers around the student just needed to know how to open the door of motivation. Though she thought students could be intrinsically motivated, she acknowledged that cash rewards might help those students on the borderline of passing the ISTEP+. She was emphatic that cash rewards would make no difference at all in ISTEP+ scores of the low performing students.

The third stage of the qualitative framework used in this study was conclusion-drawing and verification. According to this framework, conclusion-drawing involves critical exploration

of the analyzed data to determine their implications for the research questions (Miles & Huberman, 1994). Verification, integrally linked to conclusion-drawing, entails revisiting the data as many times as necessary to cross-check or verify these emergent conclusions. “The meanings emerging from the data have to be tested for their plausibility, their sturdiness, their ‘confirmability’ — that is, their validity” (Miles & Huberman, 1994, p. 11). Validity encompasses a much broader concern for whether the conclusions being drawn from the data are credible, defensible, warranted and able to withstand alternative explanations (Miles & Huberman, 1994).

Chapter 4 presented the findings from both methods of data collection. Chapter 5 attempts to merge these findings into information that could be useful for educational leaders debating the use of extrinsic rewards, i.e., money, to motivate students.

CHAPTER 5

Summary, Conclusions, Discussions and Recommendations

Summary of the Study

The current high-stakes educational environment occasioned by such mandates as the No Child Left Behind (NCLB) Act has brought about a number of outside-the-box ideas on how students can learn and achieve academically. School administrators and communities all over the country are engaged in serious conversations about how best to teach our students so that they can perform well on standardized testing and be able to compete globally with students from countries such as China and India. Such conversations have led to a variety of big ideas or best practices frameworks for teaching geared toward increasing student achievement. Many of the NCLB school accountability policies use incentives and sanctions to ensure that schools meet certain standards. Schools and districts that are able to meet AYP receive more money, while schools and districts that underperform receive less money and are subjected to a rigid process of school improvement action. The relationship between schools and government has become more economic, or *exchange*, than social, or *communal* (Gneezy, 2005), because schools now have to provide good grades in exchange for money. To meet AYP and to avoid money being reduced, many schools and districts all over the country are looking for innovative ways of motivating their students to do well on standardized tests. One of the more controversial ideas proffered is

to give cash rewards to students to motivate them to perform better academically (Raymond, 2008).

Scientific investigations of monetary incentives on student academic achievement have not explored effects on performance of students from low socioeconomic status, nor have they delved deeper to explore teachers' perception of how monetary incentives impact academic performance of students from low socioeconomic status. The purpose of this study was to ask whether an extrinsic motivator, such as money, could motivate students from low SES schools to improve academically, as evidenced by responses on a survey. This study explored how low SES students perceived their academic performances being impacted by extrinsic monetary incentives. The study also explored the extent to which fourth-grade teachers believed that monetary incentives would impact their students' academic performance, and whether there were any differences in perceptions between teachers and students regarding the impact of monetary incentives on the students' academic achievement. This mixed-method study sought answers to the following questions:

1. Do low SES students believe they can perform better academically if they were to receive monetary incentives?
2. Are there differences in perceptions across gender for low SES students' belief about the impact of monetary incentives on their academic achievement?
3. Does the size of the incentive make a difference in low SES students' perception of how monetary incentives would impact their academic performance?
4. Do fourth-grade teachers believe that monetary incentives will increase their students' academic performance?

5. Are there differences in perception between teachers and students on the effect of monetary incentives on academic achievement?

Conclusions

The population of this study comprised fourth-grade students from low socioeconomic status in all four classrooms of an urban elementary school. Overall, 53 students participated in the study, a sample that consisted of 25 males and 28 females. All were low SES as evidenced by their receipt of free or reduced-price lunch. More than 70% of the students identified themselves as Hispanic, while 16% identified themselves as African-American and 14% identified themselves as other.

The results were synthesized using a mixed method of qualitative and quantitative analyses. Quantitative analyses included descriptive statistics to provide an answer to Hypothesis 1: Low SES students do not believe that monetary incentives will make them perform better academically. Students' responses to three survey questions were synthesized to test this hypothesis. Results indicated that an overwhelming majority of students believed they would do better in both math and language arts if they were given money.

A 2x2 ANOVA was conducted to test the second hypothesis with gender and incentive size as the independent variables and perception of performance scores as the dependent variable, with the following results: There was no statistically significant interaction between gender and incentive size on perceived performance $F(1, 47) = .813, p < .05 (\eta^2 = .005)$. The main effect for gender was not statistically significant, either, $F(1, 47) = .313, p < .05 (\eta^2 = .007)$, leading to the conclusion that gender does not play a role in how students think incentives might impact their academic performances. The main effect for incentive size was statistically

significant, $F(1, 47) = 7.461, p < .05$ ($\eta^2 = .137$), leading to the conclusion that the size of the incentive matters.

The third stage of the study provided a qualitative framework used for conclusion-drawing and verification. According to this framework, conclusion-drawing involves critical exploration of the analyzed data to determine their implications for the research questions (Miles & Huberman, 1994). Thus, in drawing the conclusions on the qualitative analysis, the data analyzed in Chapter 4 were used to address these two questions: 1) Do fourth-grade teachers believe that monetary incentives will increase their students' academic performance? and 2) How do teachers' perceptions compare to what their students report about monetary incentives and academic performance?

The results of the qualitative analysis were mixed. Two of the teachers had strong views on the positive impact of monetary incentives on their students' academic performance; the third was of the opinion that the money would motivate the parents but not necessarily the students; the fourth teacher was adamant that monetary incentives would not help at all.

All of the teachers proffered other solutions that would help their students to perform better academically. While monetary incentives were the topic of conversation, all seemed more interested in other methods, though all admitted that they offered some kind of incentive in their classrooms, albeit not monetary.

The results were also mixed regarding what the teachers stated versus the answers given by the students regarding their perception of monetary incentives. While half the teachers stated that the incentives would help, the other half stated that giving money to students would not increase students' test scores. Of the two who did not believe money would help, one thought that it might be helpful if the money was given to the parents instead. It is therefore safe to

conclude that what teachers think is at variance with what their students think regarding monetary incentives and academic performance.

Discussion

This topic was chosen by the researcher because of an interest in the controversy surrounding cash incentives that were being given to low-income students who attended after-school tutoring under the Supplemental Educational Services. Supplemental Educational Services are additional academic instructional services designed to increase the academic achievement of students in schools in their (AYP) second year of improvement (or in Indiana – schools in the first year of improvement), corrective action, or restructuring. Title I, Part A of the Elementary and Secondary Education Act of 1965 (ESEA), as reauthorized by the No Child Left Behind Act of 2001 (NCLB), calls for parents of eligible students attending Title I schools that have not made adequate yearly progress in increasing student academic achievement for three years (or in Indiana – for two years) to be provided with opportunities and choices to help ensure that their children achieve at high levels. Supplemental Educational Services providers thus provide extra academic assistance for eligible children. Eligible students are those who receive free or reduced-price lunch, attend a Title 1 school that has not made Adequate Yearly Progress (AYP) for three years, and are not performing well academically (U.S. Department of Education, 2009).

When the program started, there was very limited knowledge of what providers could do or not do. Because of the difficulty of trying to serve the target student population, some Supplemental Educational Services providers were giving incentives to students for various reasons: to get students to enroll in their programs, to get students to attend the programs and to increase students' test scores. Many of the providers who did not offer incentives complained

about such practices to the Indiana Department of Education. The department therefore set up a Supplemental Educational Services task force to set policies that would address this and other nascent problems. The researcher was a member of the first Supplemental Educational Services task force set up by the Indiana Department of Education to look at ways to continuously improve the program in the state. There were several big issues that were addressed by the task force, one of which was the question of incentives. Many of the providers who domiciled in and/or provided services in the low-income school districts were of the opinion that incentives would help them to enroll more students and also increase test scores. The big-name providers and the out-of-state providers who did not think incentives would help cited research that showed how extrinsic incentives caused a decline in students' academic performance.

Opinion at the time was that they were fighting against the community-based providers, as they did not have a grass-roots structure to mobilize students to attend their programs. As might be expected, the Indiana Department of Education came up with a very stringent incentive policy as outlined below:

The total amount of all incentives offered to any one student in a given school year may not exceed \$50. Providers have the option of not offering any incentives. Providers that chose to offer incentives to students must offer an incentive (from the "Allowable" chart in Section 5.0) that does not exceed \$50 per student per school year (gift cards/certificates cannot exceed \$25). Gift cards/certificates are allowable incentives as long as it is to an approved store such as Education World or Borders (Indiana Department of Education, 2010).

There are several implications for low-income students with a policy stipulating that a) incentives are not cash; and, b) incentive providers are restricted to stores that are not in low-

income students' communities. The response from IDOE was that while there was research showing the detrimental effect of cash incentives on students' achievement, there was not much that showed evidence of how cash incentives might impact low-income students' test scores positively. After much debate, the policy was slightly amended to include gift cards to other educational stores that the provider submitted to IDOE for approval.

This researcher set out to prove that students from low-income homes would do better with cash incentives; this study ended up being a measure of students' perceptions rather than a true experiment consisting of administration of a pre-test, taking a post-test and measuring whether students actually did better because of a cash incentive. Despite the diversion from a true experiment, the results of this study have, to a large extent, demonstrated that money could motivate students to do better academically. Of the teachers who were interviewed for this study, many already offer non-cash incentives in their classrooms, yet all but one of the students stated that students would do better if they got cash incentives.

However, something one of the teachers said during an interview stated that cash incentives are likely to work for students who are already on the borderline of passing. But for other students, no matter how much money or how many incentives are given, they are just not going to be able to perform well academically because of some other deep-rooted emotional and/or health problems. How would a cash incentive help a hearing-impaired student who has to sit in a regular classroom being taught with other non-hearing-impaired students with no assistance from a hearing-impairment specialist? What about the bilingual student who speaks limited English and very good Arabic but who has a Spanish bilingual teacher to teach him? These questions constitute the basis for the big finding of this study: There are simply not

enough resources to meet the needs of these students who are faced with so much need, hence a lack of focus on academics. It is no wonder that they would perceive money as a motivator.

Recommendations

The first recommendation is to attempt to perform this study again using a true experimental design. The recommended study will use a randomized controlled trial design that compares the outcomes of low SES students randomly assigned to receive (treatment group) or not receive (control group) monetary incentive. It should test the effects of paying students (experimental group) to score higher versus not paying students (control group). The experimental group will receive cash incentives and the control group will not receive monetary incentives. Second, it would be beneficial to modify the study to include a survey of students from high-income communities as a comparison group. Would other incentives motivate them to do better, or is money the universal reward? Finally, the results of this study indicated that incentives might help motivate students to work harder at increasing their test scores; however, it seemed that the size of the incentive matters. The question then becomes: How much is enough money to motivate a student to pass the ISTEP+?

Summary

This study set out to explore whether an extrinsic incentive such as cash would make a positive difference to academic performance of students from low socioeconomic status. A mixed method of quantitative and qualitative analysis was used in which a 20-question survey was administered to low SES students in all fourth-grade classrooms of an elementary school in northwest Indiana, then teachers of these students were interviewed to explore their perceptions on monetary incentives. The results of the study indicated that students believe that they could do better in math and language arts if they were given money. The results of the teacher

interviews were mixed, with half of them stating that cash incentives would help their students, while the other half do not believe cash incentives would help their students to increase test scores in math and language arts.

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APPENDIX A: SURVEY

1. Circle the amount that seems like a lot of money: \$5 \$10 \$20 \$50 \$100
2. Do you enjoy Math class? Never Sometimes Always
3. Do you enjoy Language Arts class? Never Sometimes Always
4. What is the best part of Math? _____
5. What is the best part of Language Arts? _____
6. Could you do better on a Math test if you were given money? Yes No
7. Could you do better on a Language Arts test if you were given money? Yes No
8. Would you like coming to school more if they paid you to come? Yes No
9. Could you do better on a Math test if you tried harder? Yes No
10. Could you do better on a Language Arts test if you tried harder? Yes No
11. What is the worst part of Math? _____
12. What is the worst part of Language Arts? _____
13. Do you enjoy school? Never Sometimes Always
14. What is the best part of school? _____
15. What is the worst part of school? _____
16. Could you do better in Math if you got \$100 rather than \$5? Yes No
17. Could you do better in Language Arts if you got \$100 rather than \$5? Yes No
18. Is there anything other than money that could help you do better in school?

19. Do you think you do well in school? Yes No Sometimes
20. Do you think coming to school is important? Yes No

APPENDIX B: TEACHERS' INTERVIEW PROTOCOL

Teachers' Perceptions of Monetary Incentives on Students' Academic Performance in the Subject Areas of Math and Language Arts

Interview #:

Pseudonym:

Date:

Time:

Length of Interview:

Introduction

Thank you for considering participation in this interview concerning teachers' perceptions of monetary incentives on students' academic performance. This interview will take approximately 50 minutes to complete and has 5 to 20 questions (depending on your answers). You will not be identified by name, institution, or otherwise. I will be taking notes during the interview. If you have any questions or concerns about this procedure, please feel free to contact my University sponsor, Dr. Steve Gruenert, at 812-237-8398 or at sgruenert@indstate.edu, or you may contact the Institutional Review Board at ISU at 812-237-8217.

[Informed consent reviewed]

PI: Do you understand these statements?

T: Yes.

PI: Do you wish to continue?

T: Yes.

PI: [Ask following questions]:

1. How long have you been teaching?
2. What made you want to become a teacher?
3. Have you always taught elementary school students?
4. What subject do you enjoy teaching most?
5. What is the best part of teaching?
6. What is the worst part of teaching?
7. How do you view your students' performance in Math? In Language Arts? In ISTEP+?
8. Do you think your students can do better?
9. What do you think they need to do better?
10. Do you think rewards such as cash would help?

Thanks again for your participation.

Sandra Dafiaghhor