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An Analysis of Intrinsic Motivation in a Summer Enrichment Program for Economically Disadvantaged Middle-School Students

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AN ANALYSIS OF INTRINSIC MOTIVATION IN A SUMMER ENRICHMENT PROGRAM FOR ECONOMICALLY DISADVANTAGED URBAN MIDDLE-SCHOOL STUDENTS

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TABLE OF CONTENTS

AN ANALYSIS OF INTRINSIC MOTIVATION IN A SUMMER ENRICHMENT PROGRAM FOR ECONOMICALLY DISADVANTAGED URBAN MIDDLE SCHOOL STUDENTS

STATEMENT OF THE PROBLEM

What effect does a summer school enrichment program have on students' intrinsic motivation? Do economically disadvantaged middle school students become more intrinsically motivated after participating in a summer enrichment program? Does participation in a summer enrichment program enhance preference for challenge and curiosity as measured by a motivation scale? Does participation in a summer enrichment program enhance self-perceived scholastic competence as measured by a self-perception scale?

This study attempted to determine whether intrinsic motivation would, in fact, increase as a result of participation in the five week program which used instruction and evaluation practices to increase preference for challenge, curiosity, and scholastic competence.

Students were pretested on two subscales of Harter's Scale of Intrinsic Versus Extrinsic Motivation and Harter's Self-Perception Profile in the first week and posttested the final day of the program. Harter's scales were designed to measure the variables of preference for challenge, curiosity, and scholastic competence and were developed for use with this age group. In addition, students and teachers were interviewed to identify specific program features and practices that enhance intrinsic motivation.

This study attempted to answer the questions: Can participation in a middle school summer enrichment program increase economically disadvantaged students' intrinsic motivation? Can participation in a middle school summer enrichment program increase economically disadvantaged students' self-perceived scholastic competence?

PURPOSE OF THE STUDY

This study had four purposes. The first was to examine intrinsic motivation as a measure to assess the effectiveness of a summer enrichment program for economically disadvantaged students. The second was to determine

whether economically disadvantaged students' motivational orientation would move in the direction from extrinsic to intrinsic after attending a five week summer enrichment program. The third was to determine whether economically disadvantaged students perceived themselves as more scholastically competent after attending a five-week summer enrichment program. The fourth purpose was to identify the specific programmatic features used to enhance intrinsic motivation and self-perceived competence in the program.

In examining intrinsic motivation as a measure to assess the effectiveness of the summer enrichment program, this study attempted to show a relationship between intrinsic motivation theory, research strategies to enhance intrinsic motivation, and the goals and practices of the program. According to intrinsic motivation theory, individuals engage in tasks for the purpose of developing competence that results from learning new skills and mastering difficult tasks (White, 1959). Motivation is modifiable if humans are challenged, their curiosity is aroused, and if their social environment fosters competence (Harter, 1981a). The mission of the summer enrichment program for economically disadvantaged students, is to provide students with a challenging educational experience that fosters competence in school. The program is

designed to improve students' skills while motivating them to try difficult tasks. If the program is fulfilling its mission and meeting its goals, students' motivational orientation could be expected to move in the direction from extrinsic to intrinsic as a result of participating in the program. Students could also be expected to perceive themselves as more competent academically as a result of participating in the program. Changes in motivational orientation and competence may be influenced by specific strategies used to challenge students, stimulate curiosity, and foster competence in the summer enrichment program.

In order to increase self-perceived competence and motivation in the program's classes, teachers present difficult tasks in innovative ways to stimulate student curiosity and increase student willingness to attempt tasks. Students have flexibility in deciding how to complete assignments. Students demonstrate their level of competence in written, oral, artistic, social, and organizational skills in a variety of ways such as written assignments, oral presentations, artwork, and group and individual projects. For example, sixth grade students are required to study San Francisco neighborhoods. Groups work together to explore neighborhoods, research the neighborhoods' histories, create maps or models of the

neighborhoods, and design questionnaires to poll the residents of the neighborhoods. Students present the completed projects by means of oral and written reports. Individually, students show survey results on the computer using tables or graphs. Teachers routinely discuss performance with students, giving specific feedback with the emphasis on strategies. Students keep portfolios and receive a written evaluation at the end of the five week session.

The strategies used in the summer enrichment program were selected from the effective schools literature. These strategies include encouraging active student participation in challenging tasks designed around situations relevant to the student and presenting lessons with a novel approach (Brophy, 1987). In effective schools, curriculum is designed to require students to use higher order thinking skills; further, the curriculum is adjusted to individual differences (Epstein and Salinas, 1992). Many of the strategies used in the summer enrichment program, such as having task-oriented goals, using a novel approach to introduce tasks, and adjusting to individual differences, are specifically related to the challenge, curiosity, and perceived competence components of intrinsic motivation (Stipek, 1993).

The motivational, summer enrichment program used effective school strategies to challenge middle school students to improve their skills. This study investigated intrinsic motivation as a means of evaluating the summer enrichment program. Specifically, this study examined whether economically disadvantaged, urban middle school students would show a difference in preference for challenge, curiosity, and self-perception of scholastic competence after participating in the program. Further, this study sought to identify instructional and evaluation practices used to enhance intrinsic motivation in the program.

DEFINITION OF KEY TERMS:

1. Economically disadvantaged: For the purposes of this study, economically disadvantaged, as defined by the summer enrichment program administators, refers to students whose annual family income is below $35,000 per year.

2. Minority: In this study, minority refers to students of African-American or Hispanic origin.

3. High potential: In this study, high potential is defined by the two on-site directors of the summer enrichment program based on information from the students' applications to the program and conversations with the students' parents and teachers. Students must meet one or more of the following criteria to be considered high potential: (1) student values an education; (2) student lacks basic reading and writing skills, but demonstrates higher cognitive skills such as integrating information and applying it to different situations; (3) student recognizes the possibility of learning from experiences; (4) student functions adequately in school (gets promoted) but is bored by school; and/or (5) student has had positive school experiences.

4. Extrinsic motivation: In this study, extrinsic motivation refers to the propensity to engage in an activity for an external reason or reward such as teacher approval or good grades.

5. Intrinsic motivation: In this study, intrinsic motivation refers to the innate, natural propensity to engage one's interests and exercise one's capacities, and in so doing, to seek

and conquer optimal challenges. Such motivation emerges from internal tendencies and can motivate behavior even without the aid of extrinsic rewards or environmental controls (Deci, 1985). For the purposes of this study, intrinsic motivation was measured by high scores on The Scale of Intrinsic versus Extrinsic Motivation in the Classroom.

6. Scholastic competence: Scholastic competence is the perception of ability within the realm of academic performance. In this study, scholastic competence was measured by high scores on the Self-Perception Profile for Children.

7. Self-perceived competence: For the purposes of this study, self-perceived competence is determined by high scores on the scholastic competence subscale of the Self-Perception Profile for Children.

BACKGROUND AND NEED

The publication of a Nation at Risk (1983) created a widespread educational reform movement, with resulting improvements nationwide. Minority students, however, still lag behind the white population in percent of high school completion, standardized test score performance, and college attendance rates. By the year 2000, as many as one third of all children may be disadvantaged and at-risk for failure (Trevino, 1991). Due to the increasing numbers of minority and poor students, recommendations for future reforms have focused on improving education for the disadvantaged student. The question remains as to what constitutes an effective program and how best to evaluate it.

Stricter standards and emphasis on traditional methods have not benefitted students at risk (Cuban, 1992). Proposed solutions, which include more time in school and more rigid academic requirements, are not producing the desired effect of improving grades and standardized test scores and reducing drop out rates (Means, Chelemer and Knapp, 1991). If tasks are trivial and unchallenging, marginal students will not become interested (Purkey and Smith, 1985). Changes

involving school structure, or the way instruction is delivered, such as varying and/or individualizing tasks (Blumenfeld, Pintrich, Meece and Wessels, 1982; Marshall and Weinstein, 1984), have been implemented with middle school students with varying degrees of success.

Recommendations for comprehensive changes in the way instruction is delivered to disadvantaged students are consistent with recent research on all adolescents, not just at-risk students. For many adolescents, the transition to middle school results in increased academic and behavior problems (Eccles, Midgley and Adler, 1984), a decline in motivation (Harter, 1981a), and a decline in perceived competence (Eccles, et. al., 1984; Gottfried, 1985; Harter, 1992). Recent studies suggest that changes in the learning environment, such as increased use of whole-class instruction and decreased use of intellectually challenging material requiring higher level thinking skills, may explain the declines in school-related measures associated with the junior high school transition (Eccles, Midgley, Wigfield, Buchanan, Reuman and Mac Iver, 1993).

Meta-analyses have been used to identify common characteristics of effective programs for at-risk students. Features of effective programs include using higher level

thinking material for all learners including low achievers, (Epstein and Salinas, 1992; Slavin, Madden and Karweit, 1989), forming small groups to accommodate instruction to meet individual needs, and maximizing direct instruction (Slavin, et al., 1989). Other effective strategies include increasing students' participation by using "hands on" learning techniques and focusing on information relevant to students' personal interests and stage of development (Epstein and Salinas, 1992).

This summer program serving economically disadvantaged middle school students in an urban area, incorporates many of the instructional practices identified as characteristics of effective programs. The enrichment program uses an interdisciplinary curriculum based on themes designed to be relevant to the students' experiences.

Small class sizes enable the teachers to plan more individualized activities and be more adaptable to the needs of each student. Group problem solving is often used. Teachers recognize the value of "hands on" learning as appropriate for this active and physical stage of development.

In addition, the program incorporates challenging tasks that require students to take the initiative in using a variety of skills. For example, students in history class are given the

assignment of being archaeologists and determining the culture of the inhabitants by studying artifacts. In other words, they inspect discarded materials in trash cans contributed by different households and try to decide the characteristics of the owners of the trash. Students choose one person to monitor the process, another to record, another to report. For each item, students go through a deductive reasoning process. Because there is no correct solution, there is no risk in trying out different ideas. Students are given the opportunity to use organizational skills, writing skills, reasoning skills and oral presentation skills in an activity that interests them.

For this summer enrichment program, and for similar programs, success is often measured anecdotally by the enthusiasm of the students and the comments from teachers and parents. Variables such as high school completion rate and college attendance have been documented for a few alumni, but there have been no controlled studies or formal evaluations of the program.

The effective schools literature suggests a variety of means for evaluating programs but does not point to a preferred method to assess program effectiveness. Some evaluations have used a case study method relying on

interviews with students and teachers to assess effectiveness (Epstein, 1989; Richardson, Casanova, Placier and Guilfoyle, 1989). Other studies have used combinations of observation, surveys, and teacher reports (Teel, 1993; Springfield, Winfield, Millsap, Puma, Gamse and Randall, 1994) in an attempt to measure student progress.

Program evaluation can focus on achievement measures such as grades or standardized test scores, or on affective measures, such as self esteem or attitude toward school. According to evaluation theory, the best measures are those which demonstrate that program objectives have been met. Evaluation depends on establishing clear goals. Some programs aim to reduce the dropout rate; others target improved grades, higher standardized test scores, or changes in self-concept or attributions.

The summer enrichment program in this study purports to be both a motivational and academic enrichment program which fosters competence in high-potential, economically disadvantaged middle school students. For the purposes of this study, the focus was on assessing the motivational aspect of the program with emphasis on intrinsic motivation.

This study focused on intrinsic motivation for four reasons:

1. Intrinsic motivation explains observable behaviors.
2. Intrinsic motivation is an important variable in assessing program effectiveness.
3. Intrinsic motivation can be related to teaching practices.
4. Intrinsic motivation can be measured.

Intrinsic motivation theory explains observable behaviors such as persistence in challenging situations, curiosity, and learning for its own sake. Intrinsic motivation theory explains the need for competence, how the competence motive develops with age, and what effects reinforcement, failure and socializing agents have on motivation (Harter, 1981a). The challenge, curiosity, and competence components of intrinsic motivation theory were the focus of the study because the three components correspond with the mission of the summer enrichment program. The program attempts to provide economically disadvantaged middle school students with a challenging educational experience that fosters competence. The program also provides an opportunity for teachers to develop and implement innovative methods and design curriculum to stimulate interest.

Intrinsic motivation is an important variable to measure in assessing program effectiveness because intrinsically motivated learners employ useful learning strategies. During the last decade, research in motivation has moved away from merely looking at students' performance in school to using other cognitive outcome measures (Schiefele and Csikszentmihalyi, 1993). These measures include use of learning stategies (Pintrich and De Groot, 1990), self-efficacy (Ames and Archer, 1988), and mastery behavior (Elliot and Dweck, 1988). Recent studies indicate a focus on intrinsic motivation which may be accounted for by a variety of factors. The pursuit of intrinsic rewards, such as a self-directed desire to learn takes precedence over the pursuit of extrinsic rewards such as grades (National Council on Education Standards and Testing, 1992). Society benefits from having graduates who are interested in learning and motivated to use their knowledge to initiate change (Sizer, 1992). The restructured workplace requires problem solvers with initiative who are able to learn new jobs and master new technologies quickly (Wagner, 1995). The intrinsically motivated learner will be better prepared to cope with technological changes than his or her less intrinsically motivated peers (Schlechty, 1991).

Intrinsically motivated learners exhibit more productive learning behaviors such as greater attention to task (Nichols, 1983) and the use of more complex cognitive strategies (Pintrich and DeGroot, 1990). Intrinsic motivation is an important component of students' choice about becoming cognitively engaged, that is, in using more cognitive strategies such as remembering, practicing, integrating information, and connecting new information to present knowledge. In one study (Pintrich and De Groot, 1990), 173 seventh graders who were motivated to learn the material and believed that their schoolwork was interesting and important reported they were more likely to use more cognitive strategies in trying to learn and comprehend the material. Accordingly, because correlational data cannot address causality, students who chose to become cognitively engaged were those who were interested in and valued the tasks they worked on in their classrooms.

The intrinsic value of the material did not have a significant relationship to student performance (grades and test scores). The data suggests that it is important for teachers to emphasize the intrinsic value of schoolwork, not because it will necessarily lead to higher grades or scores on academic assignments or standardized achievement tests directly, but

because it may lead to more cognitive engagement in the day-to-day work of the classroom.

In addition to attention to task and cognitive engagement, intrinsic motivation has also been related to creativity in problem solving (Amabile, 1984), enhanced conceptual learning (Benware and Deci, 1984), and cognitive flexibility (McGraw and McCullers, 1979).

In various studies with students ranging from elementary to college age, Amabile (1984) determined that products such as solutions to problems, artwork, and writing were more creative, as judged by panels of teachers, artists, and writers in situations when intrinsic motivation was encouraged. Intrinsic motivation was intentionally altered in the studies by variables such as rewarding students for correct solutions, evaluating the task, creating competition, and restricting choice. Based on the results of these studies, Amabile recommended using extrinsic reward sparingly, using informational evaluation, and using individualized intruction to foster intrinsic motivation for greater creativity.

Research showing that intrinsic motivation leads to attention to task, cognitive engagement, enhanced conceptual learning, and creativity has consequences for teaching and classroom organization. Results imply that other measures,

besides performance in school, may better assess desired learning outcomes. Engaging students, having them think and be creative, may require focusing on teaching practices that increase students' intrinsic motivation as well as practices that increase standardized test scores and grades.

Intrinsic motivation can be related to teaching practice in that specific techniques exist to enhance intrinsic motivation. Intrinsic motivation increases with task complexity (McMullin and Steffen, 1982), as long as efforts can eventually lead to mastery (Harter, 1981a). Students are more likely to be intrinsically motivated when confronting tasks appropriate to their ability level for which goals are clear and feedback immediate (Csikszentmihalyi, 1990). Findings imply that in a school setting designed to promote challenge, intrinsic motivation would likely be enhanced by presenting complex tasks (higher order thinking) with success achievable for individuals (accomodation to individual differences).

Students report high levels of intrinsic motivation when instruction is directly related to personal experience (Meece, 1991). This implies that curriculum should be relevant to students, and the connection between tasks and curriculum should be clear. Other strategies teachers can use

to give students opportunities to develop competencies while maintaining intrinsic motivation are to vary and individualize tasks. When students do the same task at the same time, performance is more comparable and more public. Varying or individualizing tasks puts the focus on learning instead of performance relative to other students (Blumenfeld et al., 1982; Marshall and Weinstein, 1984).

Students are motivated to attempt tasks if evaluation is based on improvement, thereby giving everyone a chance to succeed (Mac Iver, 1993). An evaluation study was conducted to determine whether the Incentives for Improvement program raised students' performance levels and fostered their motivation to learn. Twenty three classes from four Baltimore city middle schools participated. Throughout the year subjects were evaluated individually on the basis of meeting challenging goals. All students had a chance to improve their individualized base scores. Results showed significant improvement in grades, especially for at-risk students. The program also had positive impact on students' perceptions of intrinsic value of the subject matter and their self-concept of ability as measured by a twelve item questionnaire.

Classroom goal orientation also affects motivation which, in turn, affects learning strategies (Ames and Archer, 1988). In a study of 179 junior high and high school students, the goal orientation of the class affected the learning strategies students used. In performance-oriented classes (only a few students get top marks), the focus was on ability and comparison with other students. Students who perceived classes as mastery oriented (the teacher makes sure all students understand the work, learn new things and improve), were more likely to prefer challenging tasks, use more effective learning strategies, and view mistakes as part of learning. When students set their own mastery goals, failure was an indication of the need for a new strategy.

Instruments to assess intrinsic motivation are available. These include Harter's Intrinsic Motivation Scale (1981b), Gottfried's Children's Academic Intrinsic Motivation Inventory (1985), and Ryan and Connell's Academic Self-Regulation Scale (1989).

Gottfried's instrument, the CAIMI, consists of 122 items with four subscales measuring intrinsic motivation in specific subject areas. The scale was developed using 141 white, middle class subjects from a suburban public school. The instrument was not selected for this study due to its length,

focus on subject areas, and population used for standardization.

Ryan and Connell's 26-item scale focuses on students' reasons for engaging in typical academic behaviors. The instrument was standardized on approximately 750 students in grades three through six in urban, suburban, and rural elementary schools in New York. The Academic Self-Regulation Scale was not chosen because of the focus on perceived locus of control or autonomy and because the grade levels did not include seventh, eighth, and ninth grades.

For this study, Harter's Scale of Intrinsic Versus Extrinsic Motivation in the Classroom was used for three reasons. First, it has fewer items than most scales, including the CAIMI, making it easier to administer. The instrument focuses on orientation toward learning in general, instead of specific subject areas, and measures preference for challenge and curiosity, both of which relate to this study. Finally, the scale was developed on a wider (third through ninth grades), more representative population in urban and suburban areas in four states. The standardization group included both white and nonwhite students from predominantly middle class socioeconomic levels.

The Self-Perception Profile, developed by Harter, was used to measure perceived scholastic competence. The self-perception scale has the same question format as the Scale of Intrinsic Versus Extrinsic Motivation. The self-perception instrument was standardized on a similar population and has been correlated with the intrinsic motivation scale.

In summary, studies on intrinsic motivation show students are more intrinsically motivated in environments that have features linked to increasing perceived competence such as challenge, novelty, and evaluation based on intrinsic rewards. Higher order thinking, innovative approaches to tasks, and accommodation to individual differences have been recognized as components of effective programs for disadvantaged students in general and for the program which is the focus of this study, in particular. The summer enrichment program also stresses involvement, "hands on" learning of relevant curriculum and ungraded evaluations of student performance. Because many techniques and methods used in the summer enrichment program for economically disadvantaged students have been shown to enhance intrinsic motivation, students participating in the program should show higher levels of intrinsic motivation at the completion of the program.

Of the existing instruments to measure motivation, Harter's Scale of Intrinsic Versus Extrinsic Orientation in the Classroom was used for this study. Harter's scale focuses on intrinsic rather than achievement motivation, has fewer items than similar scales, and was developed for this age group. Harter's Self-Perception Profile for Children, used to measure scholastic competence, has a similar format and was standardized on a similar population.

THEORETICAL RATIONALE

Effectance motivation theory (White, 1959), intrinsic motivation theory (Deci, 1975), and a model of mastery motivation (Harter, 1981a) contribute to the theoretical rationale of this study. Concepts and definitions from these theories and models have developed into what is now known as intrinsic motivation theory. This study was guided primarily by intrinsic motivation theory, which explains exploration and mastery behaviors as an intrinsic need to feel competent. The study proposed to show that curiosity and preference for challenge would increase in an environment that fostered competence.

White (1959) first explained effectance motivation as an intrinsic need. According to White:

"...the behavior which leads to competence . . . is continued . . . because it satisfies an intrinsic need to increase competence in dealing with the environment. The urge toward competence is inferred specifically in behavior that shows a lasting focalization and has characteristics of exploration and experimentation."

White suggested there is inherent satisfaction in exercising and extending one's capabilities. White referred to the energy behind this activity as *effectance motivation* and to the corresponding positive emotion as the *feeling of efficacy*. *Competence* is the accumulated result of exploration and learning.

According to White, effectance motivation subsides when a situation has been explored to the point that it no longer presents new possibilities. Interest wanes when action begins to have less effect. In the cycle of effectance motivation to action and action to competence, *novelty* is effective in engaging interest and supporting persistent behavior.

According to Deci and Ryan (1985), intrinsic motivation, defined by White as effectance motivation, is in evidence

when students' natural curiosity and interest energize their learning. Deci and Ryan suggest that children are fascinated by novelty and their intrinsic curiosity leads them to explore and manipulate, and experiment in order to make the novel familiar.

Deci (1975) further developed the competence aspect of White's theory to include *optimal challenge.* According to Deci, the need for competence leads people to seek and conquer challenges that are optimal for their capacities. Competence acquisition results from interacting with stimuli that are challenging.

Harter (1981b) conceptualized intrinsic motivation as curiosity and an attraction to novelty leading an individual to seek out and master challenging tasks independent of external reinforcement. Harter (1978) emphasized *perceived competence* as important for effectance motivation. If mastery attempts are optimally challenging and are successful, this leads to perceived competence and a consequent increase in effectance motivation. In developing a model of effectance motivation, Harter confirmed five dimensions of intrinsic motivation, two of which are preference for challenge and curiosity.

To summarize White's and Deci's theories and Harter's model, individuals engage in tasks for the purpose of developing competence and experiencing the positive feeling of efficacy associated with successful mastery attempts. Mastery attempts that lead to competence sustain the competence motive. Efforts toward mastery are affected by novelty and curiosity, optimal challenge, and perceived competence.

Observations of infants lend support to the idea of a competence, or effectance, motive. From the first day of life, infants are inclined to practice newly developing competencies; and practicing new skills is inherently satisfying (Piaget, 1952). Infants' attempts at mastery are directed at affecting the environment in some way, that is, feedback comes directly from the objects they manipulate.

For infants, competency is defined by the task. As children get older they increasingly require feedback from other sources to decide whether mastery has been achieved. For older learners, competence, as defined by parents, teachers, or peers, may influence students' efforts toward mastery. Studies suggest that for school-aged learners, challenge, curiosity, and beliefs about competence also influence efforts toward mastery.

For young children, efforts toward mastery are affected by the degree of challenge offered by the task (Pittman, Boggiano and Ruble, 1983; Danner and Lonky, 1981). When children are free to select the activities they prefer to work on, they select ones that are just beyond their current level of competence (Danner and Lonky, 1981). Children prefer to work on tasks of intermediate difficulty when a reward is not made contingent on their performance (Pittman, et al., 1983). For older children, however, the tendency to prefer challenging tasks gradually declines from third grade to sixth grade, then rapidly declines from sixth grade to seventh grade (Harter, 1981b).

Efforts toward mastery are also affected by the novelty of the task. Infants look at and reach for novel shapes more often than familiar shapes. Children in kindergarten, third grade, and sixth grade ask more questions about novel and uncertain illustrated stories than about familiar stories. Laboratory research with children in nursery school through fifth grade has shown the motivational effects of novelty (David and Witryol, 1990). For older children, the tendency toward curiosity declines from third grade to sixth grade, then rapidly declines from sixth to seventh grade (Harter, 1981b).

Perceived competence also affects efforts toward mastery. Younger children do not distinguish between effort and ability. Until age eleven or twelve, students assume that high effort leading to mastery indicates more learning and greater ability. The more individuals believe they have learned, the more competent they feel (Nicholls, 1984). For adolescents, gains in performance do not always lead to feelings of competence. If others have achieved the gain more quickly or with less effort, older children feel incompetent in spite of having obtained the same outcome (Nicholls, 1983). As a result, students in middle school attempt to hide what they perceive as their lack of ability, or competence, by not exerting effort or attempting tasks (Covington, 1992).

For middle school students, beliefs about competence have an impact on motivational orientation manifested in the classroom (Harter and Connell, 1984). If students think they are doing well, they will be more likely to engage in challenging tasks. Students' self-perception of their competence affects their intrinsic motivation.

Intrinsic motivation as measured by preference for challenge and curiosity declines steadily from third grade through sixth grade (Harter, 1981b). Perceptions of

competence also decline as students progress through elementary and middle school (Harter and Connell, 1984). The most significant declines occur between sixth and seventh grade. Methods to reverse this trend are necessary if middle school education is to be effective in motivating students to learn.

Differences in instructional practices between elementary and middle school are associated with declines in motivation (Anderman and Maehr, 1994). Changes in task organization and type of evaluation in middle schools create an environment which undermines motivation. (Eccles, et al., 1993). Field studies of middle schools that have more appropriate learning environments do not demonstrate the same declines (Eccles, et al., 1993).

Learning contexts that provide optimal challenge and sources of stimulation (Deci and Ryan, 1985) and increase a sense of self-perceived competence (Gottfried, 1983) can enhance intrinsic motivation. Stipek (1993) suggests a way to provide optimal challenge and enhance the sense of competence in the school setting. Task differentiation, having students work on different tasks at the same time, and varying the nature of tasks from day to day influences self-perception of competence.

Varying tasks also provides the opportunity to challenge individual students at varying levels of difficulty. According to intrinsic motivation theory, the need for competence leads people to seek and conquer challenges that are optimal for their capacities. Acquiring competence results from interacting with stimuli that are challenging (Deci, 1975). Experiences involving an increase in skill level lead to feelings of competence. Varying tasks reinforces the tendency for students to seek challenging tasks to develop new competencies (Dweck, 1986).

The way students are evaluated affects intrinsic motivation. Deci's studies (1971) supported the hypothesis that intrinsic motivation for an activity will decrease if monetary rewards are given and if the rewards are made contingent on performance. Later studies (Lepper, 1981) found that using extrinsic rewards to reinforce activities of initial interest might have detrimental effects on subsequent intrinsic interest. Other studies have consistently reported that extrinsic rewards do not have a positive effect on intrinsic motivation (Ames and Ames, 1984; Butler and Nisan, 1986). When students' performance on a task is rewarded, they choose easier tasks even though they have demonstrated competency on more difficult tasks (Shapira, 1976). Students

who focus on increasing their own competency, rather than on evaluation, seek more challenging tasks that provide opportunities to develop new competencies whether they perceive themselves to have high or low ability (Dweck, 1986). Students evaluated on personal improvement, or in terms of a predetermined standard, perceive the grading system to be more responsive to effort (Covington and Omelich, 1984).

To motivate students, the summer enrichment program for economically disadvantaged students addresses the challenge, curiosity, and perception of competence components of intrinsic motivation. Teachers in the program use innovative curriculum to stimulate interest, and complex tasks to challenge students to improve skills and develop their perception of competency. Challenging experiences for students in the program include creative problem solving in math, hands on laboratory work in science, debating ideas in social studies, discussing controversial issues, and conducting group projects in all subjects.

Teachers in the program establish a learning environment which fosters competence by reinforcing the belief that all students are able to learn. Then, teachers set up situations that allow students to master tasks. Providing

clear guidelines for tasks and giving continuous feedback help students to recognize improvement in performance. Experiences involving an increase in skill level lead to feelings of competence. Teachers also give students opportunities to demonstrate competence in a variety of skills in a variety of ways. Use of final written evaluations, based on individual performance, reinforces the value of attempting difficult tasks and mastering competencies.

The goal of the summer enrichment program for economically disadvantaged students is to use an innovative curriculum to provide challenging educational experiences in an environment which fosters competence. Aspects of the program such as varying tasks and eliminating grades are conducive to developing competence in students. The focus on learning, using an innovative curriculum with challenging tasks, fosters the curiosity and preference for challenge components of intrinsic motivation.

RESEARCH QUESTIONS

In measuring economically disadvantaged students' motivational orientation before and after participation in a summer enrichment program, the study answered the question: Does the motivational orientation of students in the program move in the direction from extrinsic to intrinsic? Specifically, after participating in a summer enrichment program:

1. Do students prefer challenging work to easier assignments?

2. Do students work to satisfy their own interest and curiosity rather than to satisfy the teacher and get good grades?

In measuring economically disadvantaged students' perceived competence before and after participation in the program, the study answered the question, after participation in the program:

3. Do students perceive themselves as more scholastically competent?

By interviewing teachers, the study answered the question:

4. Can teachers identify specific program features and practices which enhance intrinsic motivation?

By interviewing students, the study answered the question:

5. Can students identify specific program features and practices which enhance intrinsic motivation?

ASSUMPTIONS

This study is based on four assumptions. First, fostering the intrinsic motivation to learn and students' self-perceived competence should be goals of middle school education. Second, motivational orientation is modifiable; specifically, extrinsically motivated learners can move in the direction of intrinsic motivation. Third, self-perceived scholastic competence is modifiable; specifically, students can move in the direction of perceiving themselves as more scholastically competent. Fourth, intrinsic motivation and perceived competence can be enhanced by a variety of techniques and practices.

LIMITATIONS

Subjects were middle school students enrolled in a summer enrichment program in San Francisco. The population represented one program in one geographic area.

Subjects were self-selected in that they demonstrated a willingness to participate in the summer enrichment program by completing the application and obtaining parental permission to attend. Generalizations cannot be made to populations required to participate in similar programs.

Thirty six percent of the subjects were African-American and 24 percent were Hispanic. Reported family income was below $35,000 per year for 93 percent of the participants. Results cannot be generalized to other economically disadvantaged, minority populations.

Some of the participants could not be classified as economically disadvantaged by the operational definition (7 percent report annual family income over $35,000).

Data were collected at the beginning and end of a five-week period, during which students participated in the program seven hours a day, five days a week. Five weeks

may not have been sufficient time to compensate for attitudes and perceptions developed over seven to nine years in school.

IMPLICATIONS

This study addressed four needs:

1. the need to evaluate programs using measures other than standardized test scores and grades.

2. the need to develop intrinsic motivation in middle school students, particularly economically disadvantaged, minority students.

3. the need to develop self-perceived competence in economically disadvantaged middle school students.

4. the need to target techniques which foster intrinsic motivation and self-perceived competence.

This study contributed to research which focuses on affective rather than achievement variables to determine program effectiveness. Specifically, this study offered a new way of evaluating programs by using change toward intrinsic motivation and perceived competence as measures of success.

This study contributed to the research examining components of intrinsic motivation such as preference for challenge, curiosity, and perceived scholastic competence as desired outcomes. The study added to the knowledge of classroom strategies and practices that may enhance intrinsic motivation and self-perceived competence. Developing intrinsic motivation and self-perceived competence can serve as guides for selecting effective classroom strategies.

To some extent, this study contributed to understanding of effective teaching strategies for economically disadvantaged, minority students. Further investigation would involve applying the strategies implemented in the summer enrichment program to a similar population which is required to participate in the program.

CHAPTER II

REVIEW OF THE LITERATURE

Introduction

This literature review is divided into three sections: intrinsic motivation, self-perception of competence, and effective teaching techniques and practices related to intrinsic motivation and other affective variables of middle school students in general and disadvantaged students in particular. The studies from the motivation literature are limited to intrinsic motivation to learn in school settings or with school related variables. The motivation literature emphasizes the aspects of intrinsic motivation measured in this study: preference for challenge and curiosity.

The self-perception of competence literature describes the developmental trends in self-perception of competence. The relationship between self-perception of academic competence and intrinsic motivation is investigated.

The literature on effective techniques and practices includes studies with the general middle school population as well as disadvantaged middle school students. The studies regarding effective techniques and practices address the

developmental needs of adolescents. The focus is on methods which contribute to affective variables such as students' preference for challenge, curiosity, and self-perceptions of competence.

Research on Motivation

Preference for Challenge

White (1959) first explained effectance motivation, the exploratory behavior leading to competence, as an intrinsic need to master the environment. White suggested there is inherent satisfaction in exercising and extending one's capabilities. However, effectance motivation, the energy behind this activity, subsides when a situation has been explored to the point that it no longer presents new possibilities or challenges.

White's model lacked operational definitions making it difficult to test empirically. This led Harter to expand on the theory to give it explanatory value and predictive power. Based on studies demonstrating children's pleasure in completing difficult tasks (Harter, 1974; 1978), Harter developed a model of effectance motivation which included the concept that an optimal degree of challenge would produce the greatest sense of satisfaction (Harter, 1981a). In

an attempt to develop measurable variables to support this model, Harter confirmed five dimensions of intrinsic motivation (1981b). One is preference for challenge, that is, the tendency to perform harder rather than easier work assigned by the teacher.

Preference for challenge is demonstrated in various studies with different age groups. Harter (1974) examined the relationship between the amount of challenge presented by the task and the degree of pleasure experienced through success. As fifth and sixth grade subjects successfully solved an anagram task, pleasure was measured by smiling behavior. A positive relationship was obtained between the level of difficulty of the task and pleasure.

Danner and Lonky (1981) showed that children preferred tasks which allowed them to practice newly developing skills. Ninety 4 to 10-year-old children in kindergarten, first, second and fourth grades in a midwestern community were given experience with three classification tasks of varying levels of difficulty and then told that they could spend time working on any of the three tasks. Three Friedman ANOVA tests were used to compare the time spent in each of the centers. Children in each of the three cognitive ability groups spent the most time

with the tasks that were one step ahead of their pretested level of classification skill ($z=6.79$, $p<.01$; $z=7.00$, $p<.01$; $z=6.08$, $p<.01$).

McMullin and Steffen (1982) found similar results with college students. For 22 University of Cincinnati undergraduates, working on puzzles of accelerating difficulty resulted in more subsequent intrinsic motivation than when the difficulty level remained constant. Results of a 2-way ANOVA, using a matched control group, indicated students who had an accelerated standard spent more time playing the game in a subsequent free-choice situation ($p<.05$) and made more guesses ($p<.001$) than students with a constant standard. The researchers interpreted higher number of attempted guesses and more free-time play as evidence of greater intrinsic interest in the task.

The findings suggest that moderately difficult tasks are preferred and are more intrinsically motivating. Easy tasks will not give students who complete them a feeling of developing competence. Once a new skill has been mastered, engaging in the activity no longer results in feelings of increasing competence, and the activity ceases to be intrinsically motivating. Likewise, tasks that are too difficult are not intrinsically motivating. If repeated efforts do not lead to mastery, the student will not experience developing

competence, and will not be motivated to continue to engage in the task.

In a study with elementary school children (Harter, 1978), the range of task difficulty was extended to four difficulty levels. The results indicated a positive linear relationship between smiling and task difficulty for the first three levels only. The initial positive relationship was not obtained at the most difficult level. Subjects were also asked to rate perceived difficulty on a four-point scale for each item. When pleasure was examined as a function of perceived difficulty, a positive linear relationship was obtained between perceived difficulty and smiling except for the items judged very hard. Smiling dropped off dramatically for the most challenging items. Subjects' responses to inquiry data supported the idea that they enjoyed problem-solving efforts more on items that were challenging, but not excessively difficult. The data suggest that a curvilinear model may best describe the relationship between pleasure derived from success and difficulty level.

Danner and Lonky found the same curvilinear relationship in a study of 4 to 10-year-olds. In comparisons of mean values of children's interest ratings and time spent in the centers with tasks of varying difficulty (Danner and Lonky,

1981), students rated the centers one step ahead of their level as most interesting ($p<.001$). For all three levels the quadratic trends of an inverted U relationship between interest rating and difficulty rating were significant ($p<.05$). Very easy tasks and very difficult tasks were considered less interesting.

The findings that students displayed more intrinsic interest in moderately difficult tasks may be significant in the school setting. Typically, low-achieving students claim to be less intrinsically interested in schoolwork than high-achieving students (Harter, Whitesell, and Kowalski 1992). The difficulty level of the tasks may explain students' lack of intrinsic interest and may also explain lack of motivation in situations which students view as too easy or too challenging.

Miller (1985) demonstrated how describing a task as difficult can enhance students' effort. He gave sixth-grade children a series of matching tasks that were constructed in such a way as to assure failure. Following this failure, behavior was carefully observed. Children who were told that the subsequent task was moderately difficult completed fewer anagrams on the next task than children who were told that the anagram task was very difficult.

In a later study, the performance of seventh grade boys was affected by previous failure when a subsequent task was

described as moderately difficult (Miller, 1986). Boys quit trying in this situation. Miller suggests that trying while doing a moderately difficult task was threatening because failure would indicate low ability. Telling the boys that the task was very difficult allowed them to try hard without risk.

The performance of seventh-grade girls was affected by previous failure experiences in a different way. When a task was described as very difficult, girls gave up. Miller suggested that girls interpreted previous failure as evidence of a lack of ability and did not believe that effort on the subsequent task would lead to success. Boys attempted to maintain a perception of competence while girls gave up.

The preceding studies suggest that, in most situations, students prefer moderately difficult tasks which present a challenge. In a school setting, however, students' self-perceptions of competence and ability may interfere with risk-taking behavior, causing students to avoid challenges. Students' negative self-perceptions of competence and ability help explain the steady declines in preference for challenge as students proceed through upper elementary school through middle school (Harter, 1981a).

The motivation literature indicates ways to enhance the challenge component of intrinsic motivation in the school

setting. Studies have supported the idea that a task or mastery orientation in the class is associated with moderate risk taking and willingness to engage in challenging tasks (Elliot and Dweck, 1988; Ames and Archer, 1988). Studies also show that evaluation practices influence students' preference for challenging tasks (Deci, 1971; Lepper, 1981).

In one study regarding orientation (Elliot and Dweck, 1988), children who were task-oriented were more likely than performance-oriented children to select a task described to them as difficult but that would promote skill development. Most performance-oriented students selected a task that would not teach them anything new but would demonstrate competence. One hundred and one 5th graders from semi-rural schools were given feedback that they had high or low ability for a task. Students were given a choice of task instruction which emphasized either performance goals (they would be evaluated by experts) or learning goals (the task would be a big help to them in school). A chi-square analysis for the number of students who chose performance versus learning goals had no significant effect for ability. A chi-square analysis of choice in learning or performance condition resulted in 82% choosing the task that would teach them something in

the learning goal condition. In the performance goal condition, 66% chose the task which would demonstrate their competence.

In another study (Ames and Archer, 1988), students who perceived their classrooms as mastery-oriented (focusing on all students learning) claimed they would prefer projects that would be difficult, but result in new learning, over easy projects.

While some recent studies have addressed student and classroom orientation to task, most research on practices which enhance intrinsic motivation has focused on investigations of rewards on motivation. Until 1972, hypotheses about the effects of extrinsic rewards on intrinsic motivation had been tested but there was little definitive empirical evidence. Deci's studies supported the hypothesis that intrinsic motivation for an activity would decrease if rewards were given for the activity, and if the rewards were made contingent on performance.

In one study (Deci, 1971), both the experimental and control groups, consisting of 24 college students per group, participated in three puzzle-solving sessions, each lasting an hour. The experimental subjects were told they would receive $1.00 for each puzzle solved during the second session, while the control group was offered no money. In the middle of each

session, the experimenter left to observe the subjects and record the amount of time they spent on the targeted activity during this period when they were free to do what they wished. Motivation, as measured by time on task, decreased for the experimental group during the third session while it increased for the control group.

In a similar controlled field experiment (Deci, 1971), the results were the same and the effects were still evident during the eight week follow-up after payment stopped. Subjects were newspaper headline writers who, unaware of their participation, were observed for 16 weeks. During the first 4 weeks, baseline measures of intrinsic motivation were taken. During the eighth, ninth, and tenth weeks intrinsic motivation was assessed. A final measure was taken during the 15th and 16th weeks.

The results led to the conclusion that if a person later received an external reward (in this case, money) for an activity that was originally intrinsically motivated, the degree of intrinsic motivation to perform the activity decreases. Deci's experiment is often cited as evidence for the negative effects of reinforcement on motivation.

In several studies rewards have been shown to have a negative effect on individuals' willingness to attempt

challenging tasks (Harter, 1978; Shapira, 1976). In one study, for example, some children were offered an extrinsic reward for correct answers and others were not. Subjects who were offered extrinsic rewards chose significantly less challenging problems than subjects who were not offered rewards for correct answers (Harter, 1978). Under the reward condition, children were less likely to select difficult problems.

Similarly, in a study using college students, Shapira (1976) found that subjects in "no pay" conditions chose tasks of more than intermediate difficulty. Sixty undergraduates were given puzzle tasks of varying difficulty. Subjects were assigned to a paid or unpaid condition. When difficulty level of choice was compared using the Mann-Whitney U, significant differences were found ($U=111.5$, $p<.001$, two-tailed test), thereby supporting the hypothesis that unpaid subjects would choose more difficult tasks. Subsequent interviews with the subjects confirmed that subjects being paid chose the tasks which would maximize the chances of getting more money.

Most laboratory research on practices which enhance intrinsic motivation has dealt with investigations of rewards. In school settings, the same types of experiments have been used with evaluation practices. Research suggests that students tend not to select challenging tasks in school because

they are concerned about external evaluation such as grades (Maehr and Stallings, 1972; Harter, 1978; Pearlman, 1984; Hughes, Sullivan, and Mosley, 1985).

Evaluation and task difficulty were relevant factors in a study by Maehr and Stallings (1972). Thirty-two eighth-graders were given easy and difficult forms of a 10-item task. Also included was a three-item assessment of continuing motivation measured by willingness to take an alternate form of the test on a subsequent occasion. Students were told either that the results of a task they were given would be reported to the teacher, or that the task was "just for fun."

With the continuing motivation score as a dependent variable, a significant effect was found for the difficulty by evaluation interaction, $F(1,28)=4.24$, $p<.05$. Students who believed their score would be reported were more interested in doing a subsequent easy task. Students who were told that the task was for fun were more interested in doing a subsequent challenging task. In other words, students showed continued interest in difficult tasks in the "just for fun" condition.

Harter found similar results in a study of elementary school children who solved anagrams at four difficulty levels (1978). Half of the students were told the task was a game. Half were told it was a graded task. Students who believed

they were playing a game preferred optimally challenging problems, while students working for grades chose significantly easier anagrams to perform. In the graded condition, subjects also verbalized more anxiety and expressed less pleasure when they solved a problem.

Pearlman (1984) found that rewards made contingent on success inhibited students from selecting challenging tasks. Six hundred and twenty four sixth-graders from public schools were divided into contingency and non-contingency groups. The group rewarded for correct solutions and penalized for incorrect solutions to a task, was more likely to choose easier problems than the group with no rewards or penalties.

Hughes, Sullivan, and Mosley (1985) report that teacher evaluation may inhibit intrinsic interest in a difficult task. Two hundred and fifty 5th-grade students were given two difficulty levels of a word-search activity. Students were told that their scores would either be reported to their teacher or would be confidential. Continuing motivation was measured by immediate return to an alternate form of the task. The proportion of subjects returning to the task was significantly higher for the easy version (55%) than for the hard version (40%), $F(1,242)=6.16$, $p<.01$. Although the difference for evaluation condition was not statistically significant, the

interaction of difficulty level and evaluation resulted in a significant effect $F(1,242)=9.08$, $p<.005$. Only 27% of subjects assigned to the hard version under teacher evaluation returned to the task compared to 52% assigned to the easy version, $F(3,242)=17.07$, $p<.01$. Students who were told that their performance on a difficult task was confidential were more likely to return to a difficult task voluntarily than students who were told that their performance would be reported to their teacher. Teacher evaluations did not negatively affect intrinsic interest for easy tasks.

In summary, the review of motivation literature pertaining to preference for challenge indicates that, in most situations, students prefer moderately challenging tasks. Students report greater interest and exert more effort when tasks are not too easy nor too difficult.

Preference for challenge has been shown to decline as students progress through school. The literature indicates that evaluation practices may explain these declines. External rewards and evaluation undermine preference for challenge as do students' negative perceptions of their ability.

Research suggests ways to enhance intrinsic motivation, specifically preference for challenge, in school settings. Classrooms which focus on learning and mastery of tasks rather

than performance and evaluation are more conducive to student effort and risk taking behavior.

Incentive to Satisfy Curiosity and Interest

The second measure of intrinsic motivation used in the study was curiosity. Theorists and researchers focusing on curiosity (White, 1959; Berlyne, 1966; Deci and Ryan, 1975) propose that curiosity leads to exploratory behavior and pleasure is derived from activities and events that provide surprise, incongruity, and complexity.

White (1959) first proposed that attempts to satisfy effectance motivation contribute to feelings of interest. Interest sustains day to day actions, particularly when tasks have continuing elements of novelty. The effectance motivation approach assumes that a novel stimulus offers a challenge which the individual attempts to process or understand.

Pleasure is assumed to derive from creating, investigating, or processing stimuli that provide an optimal level of curiosity. Stimuli that are not at all discrepant or novel will not arouse interest, and stimuli that are too discrepant

from the individual's expectations will be ignored or cause anxiety (Berlyne, 1966).

Berlyne and Frommer's study with 144 students from first, third, and fifth grades (1966), provided evidence that certain variables such as incongruity and complexity lead to inquiry behavior. Subjects were exposed to materials representing four categories of curiosity: incongruity, amount of information, uncertainty, and surprisingness. In each category, there were two stimulus items, one expected to generate conceptual conflict (plus) and one not (minus). An analysis of variance revealed a significant effect of age ($F=11.76$, $df=2,96$, $p<.001$) as well as a linear trend in a positive direction as they get older. More questions were evoked by plus items ($F=30.82$, $df=1,96$, $p<.001$) over all grades. The authors concluded that the study provided evidence that novelty, incongruity, and surprisingness make children more inclined to ask questions.

Allender, as a result of a study to describe children's inquiry responses to a task (1969), concluded that middle elementary school children will engage in independent inquiry activity. Fifty-one 4th, 5th, and 6th grade students were provided with a 10-document set of inquiry materials to complete. Measures were taken on the number of sets of

questions requested (SQ), questions asked (QA) and units of information used (UA). Correlations among the three were high (SQ-QA=.86; SQ-UI=.77; and QA-UI=.94), suggesting that recognition of a problem generates problem formulating, which generates search behavior. The data led the author to conclude that children, given the opportunity, sense problems, ask questions, and request information even in the absence of specific problems to solve and feedback.

Deci and Ryan (1985) observed that "children's natural curiosity leads them to engage in a wide range of exploratory, manipulatory, and experimental behaviors. Without prods or incentives, indeed frequently in the face of open discouragement, children work determinedly to figure out how things go together or what actions produce what effects. They are fascinated by the novel, and persistent in their attempts to make it familiar."

Harter attempted to expand on the curiosity theories to give them explanatory value and predictive power. In developing measurable variables to support observations, she confirmed a second dimension of intrinsic motivation: incentive to work to satisfy one's own interest and curiosity.

Recently, researchers have attempted to relate the curiosity subscale from Harter's Intrinsic-Extrinsic Orientation

instrument with Berlyne's concept of novelty (David and Witryol, 1990). Partial support for the hypothesis predicting a correlation between the two was obtained for boys in the 3rd grade (r=.57), 5th grade (r=.64), and combined (r=.58) grades. The same results were not obtained for girls (r=.24, r=-.31, r=-.08), indicating that boys expressed preference for novelty directly in an action oriented form and girls did not.

The preceding studies suggest that students are naturally curious and engage in inquiry behavior. Novel situations stimulate interest. In the school setting, however students' incentive to satisfy curiosity and interest declines with grade level (Harter, 1981a). Studies regarding teacher behavior and evaluation practices may provide explanations for these declines.

Teacher behavior can influence students' curiosity in a classroom situation. Peters (1978) studied the effects of curiosity and perceived instructor threat on student verbal behavior in undergraduate college students. One hundred twenty students responded to a Warmth and Acceptance Scale of Teacher Feedback and a State-Trait Anxiety Inventory. Curiosity was measured by observed classroom responses and interactions with teachers. Pearson product-moment correlations indicated slight but statistically significant negative correlations between perceived instructor threat and

curiosity ($r=-.17$, $p<.05$). Both male and female high curiosity students gave more responses than low curiosity students in nonthreatening teacher feedback conditions. In high-threat conditions, high curiosity students gave twice as many responses as low curiosity students. In high-threat situations, females gave very few responses irrespective of curiosity level.

Lepper (1981) provided additional evidence for the effects of adult behavior on intrinsic interest. Kindergarten children under mild threat or severe threat of punishment were asked not to play with an attractive toy during the experimenter's absence. A second experimenter assessed the children's evaluations of the toy by observing behavior in subsequent situations in the absence of prohibitions. Interest in the toy decreased in subsequent situations for the children receiving a mild threat of punishment, but increased in the severe threat condition.

In experiments in a preschool using target play in which children had initially shown interest, Lepper found that using extrinsic rewards to reinforce activities of initial interest might have detrimental effects on subsequent intrinsic interest.

In replicating the experiments using an Expected and Unexpected Award condition, Lepper found decreased intrinsic interest in subsequent situations without awards. By recording

time on task, observers selected the most engaged subjects to participate. They were divided into three groups: expected-reward where they were told they would receive an award for drawing, unexpected-reward where they were not promised a reward, but received it anyway, and no-reward. Children who were promised a reward spent less time drawing in a subsequent free-play session than they had in the initial session. They also spent less time drawing than the other two groups.

Lepper concluded that the use of extrinsic rewards may produce a variety of negative effects on performance during the treatment period when rewards are expected, and may contribute to a decrease in intrinsic interest in later situations. The effects of a reward program will depend on whether the reward serves as a feedback function or a social-control.

Butler and Nisan (1986) studied the effects of evaluation on intrinsic interest. Sixth-grade students' papers were evaluated in one of two conditions. Either students received positive and negative comments with no grade, or they received numerical grades with no comments. Students who received comments claimed to find the tasks more interesting. They were also more likely to attribute their effort on the task to their interest, and their success to their interest and effort than children who received grades.

Researchers have attempted to determine the classroom conditions that maximize the incentive to satisfy interest and curiosity. Covington (1992) suggests providing sufficient complexity so that outcomes are not always certain. In order to stimulate students, Csikszentmihalyi (1975) suggests providing for the possibility of multiple goals that emerge within the same task as work proceeds. Brophy (1987) suggests varying tasks.

A study by Harackiewicz, Abrahams, and Wageman (1987) suggests a way to minimize the negative effects of grades on students' intrinsic interest. The criteria used can influence whether external evaluation has a positive or negative effect on intrinsic motivation. In this study, evaluation reduced intrinsic interest in a task when assessments were based on social norms. However, when assessments were based on achieving a predetermined score, evaluation increased interest.

In summary, the review of motivation literature for the incentive to satisfy one's own interest and curiosity indicates that students engage in inquiry behavior in situations which provide uncertainty, surprise, or novelty. Moderately discrepant stimuli are preferred.

The incentive to satisfy curiosity and interest has been shown to decline (Harter, 1981a) as students progress through the grade levels. The literature indicates that teacher behavior and evaluation practices may explain these declines. External punishment and grades undermine the curiosity incentive.

Research has suggested ways to enhance interest and curiosity. Providing multiple goals, variability in tasks, and grading by individual rather than group norms have been associated with increased curiosity and interest.

Research on Self-Perception of Competence

Motivation research can be separated into cognitive and environmental variables. Cognitive variables, which focus on current thoughts, include self-efficacy or competence. Cognitive factors mediate environmental variables such as intrinsic versus extrinsic rewards.

White (1959) first proposed that effectance motivation aims for the feeling of efficacy, not for the learning that come as its consequence. Mastery and achievement have a root in effectance motivation. They are differentiated from it through life experiences which emphasize one or another aspect of the cycle of transaction with the environment.

Harter recognized the importance of environmental factors such as the role of socializing agents, the funcion of rewards, and the effects of failure experiences on motivation. She also recognized the importance of self-perceived competence since successes do not necessarily result in feelings of efficacy. Harter attempted to develop measurable variables to support the model that environmental factors affect perceived competence. In developing measurable variables, Harter confirmed six components of self-perceived competence including scholastic competence.

A study to examine the development of children's self- and task perceptions during the elementary school years (Eccles, Wigfield, Harold, and Blumenfeld, 1993) lends support to the idea of components of self-perceived competence. The subjects, 865 first through fourth graders, aged 7-10 years, completed questionnaires assessing their perceptions of competence, and valuing of activities, in several activity domains. Factor analyses showed that even the 1st graders had differentiated self-beliefs for the various activities. and that the subjects' competence beliefs formed distinct factors.

The same study (Eccles, Wigfield, et al., 1993) suggests self-perceptions of competence follow a developmental trend.

In general, younger students display more positive beliefs about their competence. For all the activities except sports, younger students' perceptions of competence and subjective task values were more positive than the beliefs of the older subjects. Boys had more positive competence beliefs and values than did girls for sport activities and more positive competence beliefs for mathematics. Girls had more positive competence beliefs and values than did boys for reading and music activities.

Harter and colleagues found perceptions of competence decline in middle school (Harter, Whitesell, and Kowalski, 1992). A longitudinal study with 463 children, examined four groups of subjects as they made the transition to a new grade, some changing schools and some remaining in the same school:

(1) 5th to 6th grade, same school,

(2) 5th to 6th grade, new school,

(3) 6th to 7th grade, same school; and

(4) 6th to 7th grade, new school.

Changes in perceived competence across the transition were found to be related to changes in motivation after the transition.

In a second study with 338 middle-school students, it was determined that subjects experienced grade-related

changes in competition and performance evaluation with each new grade. The changes fostered greater focus on the subjects' self-perceived competence.

Changes in the school and classroom environments in junior high school were found to be related to declines in self-concept of ability in a study with 1,850 sixth and seventh-grade students (Wigfield, Eccles, MacIver, and Reuman, 1991). Wigfield and colleagues assessed students' self-esteem and self-perceptions of ability in academics, (Math and English), social activities, and sports across the transition from elementary to junior high school. Self-esteem scores, as measured by Harter's General Self Worth Scale, declined immediately after the transition to junior high, but increased during seventh grade. Self-concepts of ability for math, English, social activities, and sports, as measured by two item scales, declined after transition. The researchers attributed the declines in math and English to changes in the school and classroom environments encountered on entering junior high school.

The studies of self-perception of competence across grade levels indicate declines among older students. Findings suggest that school experiences, particularly the transition to middle school may affect students' perceptions of competence.

The relationship of classroom experience to children's self-perceptions of ability, effort, and conduct was investigated in an observational study of 85 second and sixth graders (Pintrich and Blumenfeld, 1985). Findings suggested that children distinguish among different types of feedback and feedback affects achievement-related self-perceptions. Second graders rated themselves higher in ability ($p<.003$), effort ($p<.005$) and conduct ($p<.001$) than 6th graders. Unstandardized regression analyses were used to assess the importance of classroom variables in relation to three self-perception dependent variables. Grade was significantly related to ability perceptions ($p<.001$) with older children having lower ratings.

The type of praise used was also related to ability and effort perceptions. Students who received more work praise had greater perceptions of ability ($p<.001$) and greater perceptions of effort ($p<.05$). Teacher behavior such as monitoring, giving help or showing interest did not correlate with, or predict, students' perceptions of ability.

The type of feedback students receive in class may affect students' beliefs about their own competence. These beliefs can influence their efforts toward mastery or motivation.

For middle school students, competence evaluation and competence affect have an impact on motivational orientation

(Harter and Connell, 1984). In this study, the Self-Perception Scale for Children (Harter, 1982), the Multidimensional Measure of Children's Perceptions of Control (Connell, 1980), The Scale of Intrinsic versus Extrinsic Motivation in the Classroom (Harter, 1981b), and the Iowa Test of Basic Skills were administered to 784 students from grades three through nine. Structural equation modeling was used on four plausible models to find the best-fitting model to account for the relationships among achievement, control, competence, autonomous judgement and intrinsic mastery motivation for junior high pupils. The correlations were:

	Mastery Motivation	Achievement	C.Affect
Competence Affect	.36	.60	
Competence Evaluation	.33	.56	.60

Results suggest that a self-evaluation of perceived competence has a direct impact on feelings about that competence. The self-perceptions influence the motivational orientation (intrinsic or extrinsic) manifested in the classroom. If students think they are doing well and feel good about their competence, they are more likely to engage in challenging tasks.

A study by MacIver, Stipek and Daniels (1991) suggested a causal relationship between perceived competence

and intrinsic motivation. At both the beginning and the end of the semester, these investigators assessed junior and senior high school students' perceptions of their competence and intrinsic interest in a subject they were studying. Analyses revealed that interest changed in the direction that perceived competence changed. That is, students whose perception of competence increased over the course of the semester rated the subject more interesting at the end of the semester than at the beginning and those whose perception of competence decreased rated the subject as less interesting at the end of the semester.

Learning situations that increase a sense of competence will enhance intrinsic motivation. This relationship between perceived competence and intrinsic interest was revealed in studies showing that students who believe they are competent at a task enjoy it more (Harter, 1981a) and that students who believe they are competent academically are more intrinsically interested in school tasks than those who have a low perception of their academic ability (Harter and Connell, 1984; Mac Iver, Stipek, and Daniels, 1991).

Research suggests that certain school practices foster a sense of competence. Some kinds of teacher helping behaviors are more likely to foster feelings of mastery and competence

than others. Nelson-Le Gall and Jones (1990) make a distinction between mastery-oriented help-seeking, which enables the child to complete the task on his or her own, and dependency-oriented help-seeking, which is done to make someone else solve the problems that the child has not attempted to solve independently. Mastery-oriented helping allows students to take responsibility for their achievements and thus can contribute to students' perceptions of competence.

The perceived difficulty of tasks may influence students' self-perceptions of competence. Miller (1986) suggested that descriptions of task difficulty could minimize the effects of failure experiences on self-perceptions of competence and subsequent performance. The performance of seventh-grade boys was less impaired by previous failure when the subsequent task was described as very difficult rather than moderately difficult. Failing at a difficult talk would indicate low ability which would be threatening to boys who were trying to maintain perceptions of competence. In contrast, girls' performance was less impaired by previous failure when the subsequent task was described as moderately difficult. Girls gave up when presented with tasks described as very difficult due to effects of previous failure on self-perceptions of competence.

Selecting either very easy or very difficult tasks allows individuals who are uncertain about their abilities to avoid evidence suggesting incompetence. If they choose a very easy task, they will probably succeed. Although success will not suggest a high level of competence, it will not provide any evidence of incompetence.

In summary, the review of the literature for self-perception of competence indicates that students have a need to feel competent which, in turn, affects students' motivation to learn.

Children's self-confidence in mastering tasks encountered in school declines with age and experience in school. The literature indicates that types of feedback and praise may explain these declines. Negative feedback undermines perceptions of competence.

Research studies suggest ways to enhance self-perceptions of competence in school settings. Mastery-oriented help, differentiated class structure, and the way in which tasks are introduced, can influence students' beliefs in their ability.

Research on Effective Teaching Techniques and Practices

Three perspectives dominate the research on effective techniques and practices for middle schools: structural, which focuses on how schools are organized; developmental, which considers developmental needs of adolescents; and the practitioner approach, which relates to classroom practice (Braddock and McPartland, 1993).

The structural perspective, while recognized as important, will not be considered in this review because it focuses on variables outside of the classroom such as departmentalization, tracking, and interdisciplinary teaming, all of which would appear to have less influence in a five week summer program. The developmental perspective will be addressed briefly because recent research indicates a strong relationship between the developmental needs of adolescents and effective practices in the middle school setting (Eccles, Midgley, et al., 1993). The main focus of the review will be on the practitioner approach with a concentration on classroom practices which enhance preference for challenge, curiosity and self-perceptions of competence.

Lipsitz (1984) brought attention to the importance of considering the developmental needs of adolescents in creating effective middle schools. Later, Caught in the Middle, a report

of California's Middle Grade Task Force (1987) underscored the need for developmentally appropriate middle school practices. More recent studies (Eccles, et.al., 1993; Harter, Whitesell, and Kowalski, 1992) reinforce the idea that typical middle schools are not meeting the developmental needs of adolescents.

Data from a two-year, four-wave longitudinal study of 1,450 seventh graders (Eccles, Wigfield, Flanagan, and Miller, 1989) who had made the transition from elementary school to junior high showed declines in self esteem and attitudes toward school. Eccles speculated that declines resulted from the mismatch between the needs of early adolescents and their school environments.

Developmentally, middle school students have a need for competence and achievement, social interaction with adults, and physical activity (Lipsitz, 1984). The middle school environment tends to focus on stricter discipline and control. Teachers appear to use a higher standard in judging students' competence and in grading their performance. Teacher-student relations become more formal. Work is repetitive and requires lower cognitive skills (Eccles, Midgley, et al., 1993).

Results indicating a higher standard in grading as well as an increase in social comparison were found in a study with 338 middle-school students (Harter, et al., 1992). A perceived

academic change scale was constructed to examine the perceived changes in the educational environment between students' last and present grades. The eight questions from the scale asked about the teachers' emphasis on getting good grades, knowing the right answer, and comparison with other students. In a factor analysis of perception of change, the large majority of subjects reported an increasing emphasis on grades, competition, and performance evaluation. A year by grade level analysis of variance revealed a highly significant main effect for year ($p<.001$).

Each grade level involved greater emphasis on evaluation and performance than the previous grade with the biggest increase occurring for eighth graders. There was also a slight but significant increase in the use of social comparison between the previous and currents years ($p<.05$).

The findings regarding the differences between elementary and middle school environments are significant considering the research relating self-perception of competence to motivational orientation (Harter and Connell, 1984; Gottfried, 1985). At a time when adolescents have a need to feel competent, the evaluation process is stricter and more comparative instead of focusing on mastery and improvement. Evaluation practices emphasizing performance and social

comparison negatively affect self-perception of competence which, in turn, influences motivation.

Developmentally, middle school students have a need for social interaction with adults (Lipsitz, 1984). In analyzing the data of the longitudinal study in different types of middle school settings, Eccles (1991) documented one of the changes from elementary to middle school as being a decrease in the quality of student-teacher relationships. The quality of student-teacher relationships was found to be associated with interest in the subject matter in a sample of 1,300 students (Midgley, Feldlaufer, and Eccles, 1989). Early adolescents who moved from high support to low support teachers showed declines in interest and valuing of the subject matter as well as in self-perceptions of competence.

This study, among others, led Eccles and colleagues to conclude that the declines are associated with specific types of changes in the nature of the classroom environment experienced by many adolescents as they made the junior high school transition (Eccles, Midgley, et al., 1993).

As Eccles and Harter point out, there are many grade-related changes in the school environment that affect self-evaluation and motivation. Although numerous laboratory studies indirectly address the question (Deci, 1971; Lepper,

1981; Butler and Nisan, 1986), few studies directly test the causal relationship between changes in the school environment and children's motivational patterns and attitudes.

While extensive research describes early adolescent changes, and different middle grade educational practices, few carefully controlled studies have attempted to determine the relationships between particular school or classroom practices and student outcomes. Similarly, for disadvantaged students, extensive research describes the attributes of at risk students or novel educational programs and practices now being used with disadvantaged students. However, carefully controlled studies to determine specific outcomes resulting from use of specific practices are rare.

Various studies in the form of meta-analyses (Slavin, Karweit, and Madden, 1989; Epstein and Salinas, 1992), questionnaires (Mac Iver and Epstein, 1992), and case studies (Teel, 1993) have attempted to determine practices which are effective with middle school students.

Slavin, Karweit, and Madden (1989) used a best-evidence synthesis combining meta-analytic and traditional narrative research, and a broad literature search to find commonalities in effective programs. The meta-analysis included programs for at-risk English speakers directed toward increasing reading

and/or math achievement within the regular classroom. The studies used by Slavin had to demonstrate control group designs with random assignments or convincing evidence that comparison groups were equivalent to ensure high methodological quality of evaluations. In addition, the duration of the program had to be at least one semester.

Slavin, et. al. (1989) found that consistently effective programs accomodate instruction to individual needs while maximizing direct instruction. Quality of instruction, appropriate level of instruction, appropriate level of incentive, and time were key elements.

The importance of appropriate level of instruction is consistent with preference for challenge studies which show that moderately difficult tasks result in greater effort, interest, and pleasure.

Epstein and Salinas' (1992) meta-analysis of effective programs for middle school students found content of lessons to be a significant component. Introducing higher level topics and expanding expectations to include the ability to analyze, apply and integrate material holds promise for low-achieving students. Helping students to link new teacher-presented material to what they already know assists them in going beyond the material presented.

Recommendations were that effective programs for disadvantaged students should include higher order thinking skills, should implement direct instruction (where teachers actively present lessons and provide guided practice in new academic skills), and should make use of small groups. Presenting higher level topics and requiring higher order thinking skills are consistent with the literature suggesting that optimal challenge enhances effort and interest.

Teel studied an innovative teaching program based on motivation theory and research on school failure. The project, developed in conjunction with the University of California, was used in a Bay Area middle school over a three-year period. Significant aspects of the program were that it was non-competitive; all students had the opportunity to get good grades through effort, mastery, and varied performance measures. The class was based on student responsibility, with students periodically assessing their own performance. Cultural diversity was valued. Reports of university observers, student surveys, and teachers reports were used to assess engagement and motivation. The author concluded that the elements of potential for good grades, praise, and respect were responsible for student motivation observed.

Meier (1995), as head of a Harlem High School from which 90% of the students graduate and 90% of the graduates go to college, compared to 50% and 66% citywide, has emphasized teaching that connects learning to the real world. She mentions challenging students and stimulating their curiosity as means to motivate them. However, she attributes much of the success of her school to its small size which allows for developing a sense of community and facilitates communication between students, teachers, and parents.

A study of school practices and curriculum offererings determined that middle schools, nationally, tend not to use challenging curricula (Mac Iver and Epstein, 1992). The study used data from the National Education Longitudinal Study of 1988, a survey of 24,600 middle school students in 1,035 public and independent schools as well as the Hopkins Enhancement Survey of school practices. The results reveal that in many schools students are not offered real challenges in advanced academic courses and have few opportunities to experience rich instructional approaches that develop higher level skills. However, when these opportunities to learn are extended, students of all levels of ability benefit in higher achievement and more positive attitudes. Other findings include the following: opportunities to learn through frequent

experiences with high level instructional approaches influence eighth graders' achievements and attitude. Access to advanced curriculum offerings and challenging instructional approaches should be available to all students.

From a student perspective, effective practices include challenge, curiosity, and perceptions of competence (Theobald, 1995). One hundred fifty-five seventh grade students from two urban schools were asked to rate seven basic instructional strategies commonly used by teachers. A convenience sample of 79 males and 76 females ranging from 12 to 14 years of age was surveyed. In the small school in a town of 30,000, almost one-third of the seventh graders were on the "free lunch" program indicating economically disadvantaged status. In the other school, almost 23% of the population was on the "free lunch" program.

Students were asked if they really liked, liked, disliked, or really disliked the following practices: lectures, discussions, questioning, games and simulations, problem solving, skill practice, or media and visual aids. Students were also asked to explain reasons for the ratings they gave. These reasons were organized into five categoreies: helpful, boring, fun, stressful, and interesting.

Fifty-two percent of the students liked problem solving because of the challenge ("makes you think") and the feeling of competence it engenders ("helps when you don't understand" and "makes you feel smart"). Students also voiced discouragement with problem solving if it is too difficult. Students suggested that teachers make the problem solving challenging, but make solutions reachable, and help students reach solutions.

Ninety-three percent of the students liked or really liked games and simulations because they were fun and helped them understand and learn about "real" things. Students disliked a strategy when it was over their heads or too competitive. Again students suggested challenging them while staying on their level.

When discussing lectures, 72% of the students expressed dislike because lectures are either long and boring, students already know the information, or they have to sit still for too long. They suggested keeping lectures interesting, finding out what students already know, and including student participation in discussions and activities.

The importance of appropriate level of instruction as a key element in effective programs (Slavin, Karweit, and Madden, 1989) is consistent with preference for challenge

studies, which show that moderately difficult tasks result in greater effort, interest, and pleasure. Use of higher level topics and higher order thinking skills (Epstein and Salinas, 1992), is consistent with the literature suggesting that optimal challenge enhances effort and interest. Research studies on rewards and evaluation practices reinforce Teel's (1993) observations that potential for good grades based on effort motivated students. Research provides strong evidence for Meier's (1995) recommendation to use challenge and curiosity to motivate students. And finally, students' expressed desire to be challenged, yet feel competent, and to understand and learn interesting things reinforces the studies suggesting the value of challenge, perceptions of competence, and curiosity in motivating students.

In summary, recommendations for enhancing motivation include challenging students with appropriate levels of instruction and fostering a feeling of competence by using non-competitive grading practices. Students benefit from a middle school environment which provides social interaction with adults. Particularly for disadvantaged students, higher content materials and higher order thinking skills promote motivation.

Conclusion

The literature reviewed for this study has identified the relationship between effective practices, intrinsic motivation, and self-perception of competence. Harter's model introduced variables used to measure intrinsic motivation (preference for challenge and incentive to satisfy curiosity) and self-perception of competence (scholastic competence).

Several studies were reviewed establishing that, in classroom situations focusing on mastery or task orientation, students exhibit an increased preference for challenge and a higher self perception of competence. Increased preference for challenge, higher self-perception of competence, and greater incentive to satisfy curiosity are also exhibited in situations without evaluation. Students also exhibit a greater incentive to satisfy curiosity when teacher behavior is non-threatening,

Other studies suggest that for middle school students in general, effective practices include: grading systems which involve less competition and social comparison, more informal teacher-student relationships, and work which requires higher cognitive skills. Particularly for disadvantaged students, effective practices include higher content materials and higher order thinking skills.

If the summer enrichment program evaluated in this study is to influence intrinsic motivation and competence, effective program practices would be those known to enhance preference for challenge, curiosity, and self-perceived competence. Initial observations indicate that a non-competitive evaluation system, supportive teachers, and innovative lessons requiring higher order thinking are features of the program. The study suggests that the summer enrichment program offers an ideal environment for studying intrinsic motivation and self-perception of competence.

CHAPTER III

METHODOLOGY

Purpose of the Study

The purpose of this study was to examine students' intrinsic motivation as a measure of effectiveness for a summer enrichment program for economically disadvantaged middle school students. Specifically, the study investigated three factors in relation to effective teaching practices: preference for challenge, incentive to satisfy curiosity, and self-perceptions of scholastic competence. The challenge and curiosity variables were measured through a pretest, posttest of students' motivational orientation (intrinsic versus extrinsic). A scale of perceived competence was used to measure self-perceptions of scholastic competence. Teacher and student interviews were conducted to investigate effective program practices.

Data from the pre- and posttests were related to the effective practices and techniques discussed by program students and teachers in interviews. Findings were interpreted on the basis of White's and Deci's theories of

effectance and intrinsic motivation and Harter's model of effectance/intrinsic motivation.

Research Questions

In measuring economically disadvantaged students' motivational orientation before and after participation in a summer enrichment program, the study answered the question: Does the motivational orientation of students in the program move in the direction from extrinsic to intrinsic? Specifically, after participation in a summer enrichment program:

1. Do students prefer challenging work to easier assignments?

2. Do students work to satisfy their own interest and curiosity rather than to satisfy the teacher and get good grades?

In measuring economically disadvantaged students' perceived competence before and after participation in the program, the study answered the question, after participation in the summer enrichment program:

3. Do students perceive themselves as more scholastically competent?

By interviewing teachers, the study answered the question:

4. Can teachers identify specific program features and practices which enhance intrinsic motivation and self-perceived competence?

By interviewing students, the study answered the question:

5. Can students identify specific program features and practices which enhance intrinsic motivation and self-perceived competence?

Design and Variables

This was a descriptive evaluation of a high intensity, summer enrichment program for economically disadvantaged urban middle school students. Three intrinsic motivation variables were measured: preference for challenge, curiosity, and perceived competence. Two subscales of The Scale of Intrinsic Versus Extrinsic Motivation and one subscale of the Self-Perception Profile for Children were used as the pre- and posttest measures.

Subjects

The program is a tuition-free summer enrichment program for middle school students attending San Francisco

public and private schools. Classes meet from 8 a.m. to 3:15 p.m., five days a week, for five weeks beginning in late June through July. The program is offered at four locations in San Francisco, two private schools and two public schools. All students from one private school site and one public school site participated. Of the 166 students enrolled at the two sites, 125 completed both the pre- and posttests. Of these subjects, 51 were from Site 1 and 74 from Site 2.

The majority of students enrolled in the program are economically disadvantaged. All are middle school students recruited from approximately 25 public and private schools in San Francisco after attending classroom or assembly presentations made by program staff members. The presentations emphasize that students of all achievement levels are welcome to apply.

The program is for students who want to challenge themselves academically, but who also want to have an enjoyable summer school experience. In addition to academic classes, outdoor activities, field trips, retreats and other outings are essential parts of the summer school experience. The program includes the following: academic instruction four hours daily, physical education one hour daily, one hour

participation in a scheduled activity of students' choice each day, once-a-week cultural days and field trips.

Interested students must submit an application which includes a statement of understanding regarding commitment to attend, do homework, and behave acceptably which the student and parent must sign. Parental permission is required for students to participate in the program.

Students submit the names of two teachers to call for recommendations. To complete the application, students are expected to write six essays in response to the following prompts:

a) Discuss two activities that you like to do and why you like to do them.

b) What makes me different from most people is. . .

c) What do you hope to gain by attending "the summer program" this summer?

d) Describe a positive experience you have had in the classroom.

e) What I am most proud of is. . . .

f) In order to help us get to know you better, think about an important experience you have had and what you learned from it.

Based on these essays, program directors at each site decide which students can best be served by the program. Economically disadvantaged and ethnically diverse students are given priority in the selection process. Then students are admitted on the basis of their potential.

High potential is defined by the four on-site program directors based on information from the students' applications to the program and conversations with the students' parents and teachers. Students must meet one or more of the following criteria to be considered high potential: (1) the student values an education; (2) the student lacks basic reading and writing skills, but demonstrates higher cognitive skills such as integrating information and applying it to different situations; (3) the student recognizes the possibility of learning from experiences; (4) the student functions adequately in school (gets promoted) but is bored by school; and/or (5) the student has had positive school experiences.

In 1995, approximately fifty-five percent of the applicants were accepted. The profile of reported family income for students who participated in the program in 1995 is presented in Table 1. The ethnic profile of the students is presented in Table 2.

TABLE 1

Reported Family Income

Income	Percent
Under $10,000	16%
$10,000-$20,000	34%
$20,000-$25,000	20%
$25,000-$30,000	23%
Over $35,000	7%

TABLE 2

Ethnic Profile

Ethnicity	Percent
African-American	36%
Latino	24%
Chinese	8%
Filipino	7%
Other Asian	9%
White	7%
Other Non-White	9%

Instrumentation

Scale of Intrinsic Versus Extrinsic Motivation

Harter and her colleagues developed the Scale of Intrinsic Versus Extrinsic Motivation to test the Mastery Model of Motivation (Harter, 1981a). The 30-item scale consists of five subscales, each with six items, measuring Preference for Challenge, Curiosity and Interest, Independent Mastery, Independent Judgement, and Internal Criteria for Success. For this study, data from two subscales, Preference for Challenge and Curiosity, were analyzed.

For each item, respondents were presented with a description of two kinds of students and a four-point scale. For each type of student described, the respondents decided whether the description is "Really True" or "Sort of True" for them. The format is an alternative to forced choice and was developed to offset the tendency to give socially desirable responses. Students could complete the entire scale in approximately ten minutes.

Possible scores on the subscale Preference for Challenge range from six to twenty-four. Six designates an orientation toward extrinsic motivation. Twenty-four designates an orientation toward intrinsic motivation. On the Curiosity subscale, scores also range

from six to twenty-four, with six representing extrinsic motivation and twenty-four representing intrinsic motivation.

The subscales of the instrument are based on repeated assessments with 3,000 students of varying ages (third-ninth graders) in different geographic regions (Connecticut, New York, Colorado and California). The reliability of each subscale was established using the Kuder & Richardson Formula 20. Using samples from New York, California and Colorado, the results were as follows:

challenge .78-.84

curiosity .54-.78

Test-retest reliability was based on a nine month period using 761 third-sixth graders in New York and a one year period for 793 third-ninth graders in California. Results ranged from .48-.63. For 120 third-sixth graders in Colorado, results ranged from .58-.76 over a five-month period.

Discriminant validity was determined using 26 pupils in a private open school and sixty-one educable mentally retarded students. A behavioral task was used for predictive validity. Construct validity was demonstrated by relating perceived competence and motivational orientation with the following results:

r=.57 perceived competence and challenge

r=.33 perceived competence and curiosity

Harter suggests using the instrument as a predictive device to determine more appropriate curriculum or to evaluate programs in which classroom interventions are designed to influence motivation.

Self-Perception Profile for Children

The 36-item scale consists of six subscales, each with six items, measuring Scholastic Competence, Social Acceptance, Athletic Competence, Physical Appearance, Behavioral Conduct, and Global Self-Worth. In this study, data from the Scholastic Competence subscale were analyzed.

For each item, respondents were presented with a description of two kinds of students and a four-point scale. For each type of student described, the respondents decided whether the description is "Really True" or "Sort of True" for them. The format is an alternative to forced choice and was developed to offset the tendency to give socially desirable responses. Students could complete the entire scale in approximately fifteen minutes.

Possible scores on the Scholastic Competence subscale range from six to twenty four. A score of six indicates low self-perceived competence. A score of twenty-four indicates high self-perceived competence.

The standardization population was comprised of students in grades three through nine in New York, California, Connecticut and Colorado. Most students were from low-middle to upper-middle socioeconomic levels. Ninety percent were Caucasian.

The factorial validity of the subscales of the instrument was based on repeated assessments of 879 students of varying ages (nine-twelve) and various grades (third-ninth) in California.

Face validity was established by interviewing individuals and revising items based on the feedback. The revised scale was then administered to 215 third through sixth graders.

Internal consistency reliabilities were based on Cronbach's Alpha. Sample A consisted of 748 sixth and seventh graders. Sample B consisted of 390 sixth, seventh and eighth graders. For the subscale Scholastic Competence, results were as follows:

Sample A .80

Sample B .85

Test-retest reliability was based on a three month period using 208 students in Colorado and a nine month period for 810 students in New York. Results were .78 for both populations.

Discriminant validity was determined using learning disabled and normal students. There was a significant difference ($p<.005$) for learning disabled students.

Construct validity was provided by correlating perceived competence and motivational orientation with the following results:

r=.57 perceived competence and challenge

r=.33 perceived competence and curiosity

Convergent validity was provided by comparing teachers ratings with perceived competence. Scores on the Iowa Test of Basic Skills were also compared with perceived competence. The correlation coefficients. were as follows:

Grade Level	3	4	5	6	7	8
Teacher Rating	.28	.32	.50	.55	.31	.66
Iowa Test	.27	.40	.45	.45	.29	.44

Systematic grade effects were obtained for the two middle school samples on Scholastic Competence. In Sample A the sixth graders had significantly higher Scholastic Competence scores (2.94) than did seventh graders (2.79, $F=11.22$, df 1/744, $p<.005$).

In Sample B, scores decreased with grade level:

6th = 2.99

7th = 2.89 $F=5.33$, df= 2/384, $p<.005$

8th = 2.73

Interview Questions for Teachers

Near the end of the summer enrichment program, teachers were asked three questions specifically targeting the methods or techniques they used to: (1) challenge students, (2) stimulate students' interest, and (3) increase students' perceptions of competence. The questions were developed by the researcher and reviewed by the program directors and the researcher's dissertation committee.

Interview Questions for Students

Students were asked ten questions comparing the summer enrichment program to their regular schools, finding out what they liked or disliked about the program, and why they attended. The questions were intended to elicit responses that would indicate the techniques and practices students recognized as being effective.

The first questions, "Why did you come to this program?" or "Why did you return to this program?", were selected as non-threatening, introductory questions which would encourage students to begin talking about the program.

The question, "Do you try harder in this program or in your regular school?" specifically targeted preference for

challenge. Students were asked, "why" in order to elicit a number of program practices.

The question, "Are the classes in this program more interesting than classes at your regular school?", specifically targeted curiosity. Asking "how" was intended to make students elaborate on techniques used by teachers to make the classes more interesting.

The question, "Do you learn more in this program or in your regular school?", targeted competence. Students were asked why so they would name practices that enhanced self-perceptions of competence.

Students were asked what they liked about the program. This question was based on the assumption that the methods and techniques used by teachers to make students work harder and learn more might not be the practices students liked.

Asking students what they would change about the program attempted to elicit any negative opinions about the program without directly asking what they disliked. The phrasing of the questions was intentionally positive in order to obtain honest answers.

The questions were developed by the researcher and reviewed by the program directors and the researcher's dissertation committee.

Procedure

Pre-test, posttest

The Scale of Intrinsic versus Extrinsic Orientation in the Classroom (Appendix C) and the Self-Perception Profile for Children (Appendix D) were administered in the Humanities class, which students were required to take as part of the program of study. The eight classroom teachers, three from Site 1 and five from Site 2, administered the 30-item and 36-item questionnaires. Teachers were instructed to:

1. Start at the beginning of the class period to allow sufficient time to complete the survey.
2. Have the students fill in the information on the top of the second page (Name, age, birthday, grade, gender).
3. Read the "Instructions to the Children" which accompany the manual (Appendix C).
   Do one example with them. Read through the second example only if necessary.

4. Encourage students to answer all items.
5. Put the completed surveys and any extra copies in the envelope, seal it, and return it to the director.

The scales were to be administered on the first day students attended the Humanities class. At Site 1, students completed the survey the fifth day of class. Students at Site 2 completed the survey the fourth day of class, almost attending an entire week. The scales were administered again as a posttest during the final meeting of the Humanities class which occurred during the last day of the five week session.

Teacher Interviews

At Site 1, three teachers and one teacher's assistant were interviewed (Appendix A). Each subject area and each grade level were represented. Interviews were conducted after school the fourth week the program was in session. Due to restrictions by subject area and grade level considerations, the teachers could not be chosen at random. The director chose the most available teacher or teacher assistant from each subject area, making sure each grade was represented.

At Site 2, all teachers and teachers assistants participated in the interview (Appendix A). All subject areas and grade levels were represented. Interviews were conducted during lunch period the fourth week the program was in session.

The interviews were taped. The tape machine malfunctioned at Site 1. The next day teachers were given a copy of the three interview questions and a self-addressed envelope. A note accompanying the questions asked them to jot down a few words to help remind the interviewer of their responses to the questions. For Site 2, responses to the questions were tape recorded and transcribed.

Responses from both sites were compared with strategies common to effective schools and related to preference for challenge, curiosity and perceived competence. Responses were used in the discussion of results of the data analysis for the pre- and posttests.

Student Interviews

At Site 1, two students from each grade level were interviewed (Appendix B). The two sixth graders were new students and the other four were returning students. The director chose the students by walking down the hall during

lunch and asking students if they would be willing to talk with someone about the program. Interviews were conducted on Thursday during the fourth week the program was in session during lunch period.

At Site 2, two students from each grade level were interviewed (Appendix B). The two sixth graders were new students and the other four were returning students. The director chose the students by walking around the yard after school asking students if they would be willing to talk with someone about the program. Interviews were conducted after school on Wednesday during the fourth week the program was in session.

The interviews were taped and transcribed. Responses were compared with effective practices and methods related to preference for challenge, curiosity, and self-perception of competence. The results were used in a discussion of the results of the data analysis of the pre and posttests for scholastic perceived competence, challenge and curiosity.

DATA ANALYSIS

Preference for Challenge and Incentive to Satisfy Curiosity

Individual items from The Scale of Intrinsic Versus Extrinsic Motivation in the Classroom were scored according to

the scoring key (Appendix E). A two-letter code under the item number indicates the subscale to which the item pertains. After individual items were scored, the scores for each subscale were calculated. For the purposes of this study, the mean scores were analyzed for only two subscales:

Preference for Challenge versus Preference for Easy Work

Incentive to Satisfy Curiosity/Interest versus Teacher Approval

For each subscale, a score of twenty-four designates maximum intrinsic motivation. A score of six designates maximum extrinsic motivation.

Analysis of the posttest followed the same procedure. Pre-test, posttest means were recorded for the challenge and curiosity subscales. Means of the pre-test and posttest data were compared using a two-tailed t-test for paired samples.

Self-Perception of Competence

For the Self-Perception Profile, individual items from the Scholastic Competence subscale were scored according to the scoring key (Appendix F). A two-letter code under the item number indicates the subscale to which the item pertains.

After individual items were scored, scores for each subscale were calculated. For the purposes of this study, the scores were analyzed for one subscale, Scholastic Competence.

A score of twenty-four designates high perceived competence. A score of six designates low perceived competence.

Analysis of the posttest followed the same procedure. Means for the subscale were compared for pre-test and posttest data using a two-tailed t-test for paired samples.

Interview Questions For Teachers and Students

Teachers were asked how they challenged students, stimulated curiosity and interest, and fostered competence. The responses were categorized into three groups, according to methods and practices suggested in the literature to promote challenge, curiosity, and perceived competence.

Students were asked ten questions comparing the summer enrichment program to their regular schools, finding out what they liked or disliked about the program, and why they attended. The responses were categorized into three groups, according to methods and practices suggested in the literature to promote challenge, curiosity, and perceived competence.

CHAPTER IV

RESULTS

Introduction

This study compared 125 students' intrinsic motivation and self-perceived competence before and after participation in a summer enrichment program for economically disadvantaged middle school students. Program participants completed the Scale of Intrinsic versus Extrinsic Motivation in the Classroom (1981b) and the Self-Perception Profile for Children (1982) during the initial week of the program and again upon completion of the program. Pretest and posttest means from three subscales, Preference for Challenge, Incentive to Satisfy Curiosity, and Scholastic Competence, were analyzed using a t-test for paired samples.

In addition, 12 students and 14 teachers were interviewed to identify effective program methods and practices that would contribute to motivation and competence. Teachers were asked what techniques they used to challenge students, stimulate curiosity, and foster competence.

In order to determine challenging program practices, students were asked whether or not they worked harder and learned more in the program than in regular school, and, if so, why. To determine practices that stimulated curiosity, students were asked if the program was more interesting than regular school, and in what way it was more interesting. To determine practices that enhance self-perceived competence, students were asked whether or not they learned more, and if so, why. The responses to the interviews were compared with findings from the effective schools literature regarding suggested practices for enhancing intrinsic motivation and fostering self-perceived competence.

Chapter IV presents the results of these comparisons. The findings appear in Tables 1-9.

Findings for Research Question 1

Question 1 asked if middle school students' preference for challenge would move in the direction from extrinsic to intrinsic after participation in a five-week summer enrichment program as measured by six items from the Preference for Challenge subscale of the Scale of Intrinsic versus Extrinsic Orientation (1981). Each item had four possible choices, one and two representing an extrinsic

orientation and three and four representing an intrinsic orientation. Items assessed whether or not students preferred: (a) hard work, (b) subjects that made them think, (c) figuring out difficult problems, and (d) moving on to more difficult work. Students were also asked whether or not they: (e) liked difficult work and (f) wanted to learn as much as they could.

Each of the four responses was assigned a value from one to four, one being the most extrinsic, four being the most intrinsic. The Preference for Challenge subscale had a possible range of six to twenty-four, six being the most extrinsic, twenty-four being the most intrinsic. Means and standard deviations were calculated on the pre-tests and posttests and analyzed using a t-test for paired samples.

One hundred twenty-five students were included in the analysis. Out of a possible score of twenty-four points, the pre-test mean was 16.90 with a standard deviation of 4.26. The posttest mean for the six items representing preference for challenge was 17.03 with a standard deviation of 3.98. The t-test of paired comparison resulted in a value of -.49, df=124. While students did move slightly in the direction toward a more intrinsic orientation with regard to preference for challenge, the difference was not significant (see Table 1).

Table 1
Comparison of Pre-test, Posttest Means and Standard Deviations on the Preference for Challenge Subscale (PC) of The Scale of Intrinsic versus Extrinsic Orientation (N=125)

	Pre		Post		
	M	SD	M	SD	t
Preference for Challenge	16.90	4.26	17.03	3.98	-.49

Findings for Research Question 2

Question 2 asked if middle school students' incentive to satisfy curiosity would move in the direction from extrinsic to intrinsic after participation in a five-week summer enrichment program as measured by six items from the Incentive to Satisfy Curiosity subscale of the Scale of Intrinsic versus Extrinsic Orientation (1981). Each item had four possible choices, one and two representing an extrinsic orientation and three and four representing an intrinsic orientation. Items assessed whether or not students worked because they: (a) were interested in the subject, (b) wanted to learn, and (c) wanted to find out what they have been wanting to know; (d) asked questions to learn new things; (e) solved problems to learn how to solve them; and (f) did extra work to learn about things that interest them.

Each of the four responses was assigned a value from one to four, one being the most extrinsic, four being the most intrinsic. The Incentive to Satisfy Curiosity/Interest subscale had a possible range of six to twenty-four, six being the most extrinsic, twenty-four being the most intrinsic. Means and standard deviations were calculated on the pre-tests and posttests and analyzed using a t-test for paired samples.

One hundred twenty-five students were included in the analysis. Out of a possible score of twenty-four points, the pre-test mean was 16.72. with a standard deviation of 3.46. The posttest mean for the six items representing incentive to satisfy curiosity was 16.36 with a standard deviation of 3.64. The t-test of paired comparison resulted in a non-significant value of 1.19, df=124 (See Table 2).

Table 2

Comparison of Pre-test, Posttest Means and Standard Deviations on the Incentive to Satisfy Curiosity Subscale (CI) of The Scale of Intrinsic versus Extrinsic Orientation (N=125)

	Pre		Post		
Incentive to Satisfy Curiosity	M	SD	M	SD	t
	16.72	3.46	16.36	3.64	1.19

Findings for Research Question 3

Question 3 asked if middle school students' self-perception of scholastic competence would move in the direction from lower to higher after participation in a five-week summer enrichment program as measured by six items from the Scholastic Competence subscale of the Self-Perception Profile for Children (1982). Each item had four possible choices, one being the lowest and four being the highest. Items assessed whether or not students felt like they were: very good in school and with classwork; and just as smart as other kids. Students were asked whether or not they felt they could do work quickly, remember things easily, and figure out answers.

Each of the four responses was assigned a value from one to four, one being the lowest, four being the highest. The Scholastic Competence subscale had a possible range of six to twenty-four, six being the most extrinsic, twenty-four being the most intrinsic. Means and standard deviations were calculated on the pre-tests and posttests and analyzed using a t-test for paired samples.

One hundred twenty-five students were included in the analysis. Out of a possible score of twenty-four points, the pre-test mean was 16.71 with a standard deviation of 3.60.

The posttest mean for the six items representing self-perception of scholastic competence was 16.90 with a standard deviation of 3.44. The t-test of paired comparison resulted in a value of -.95, df=124. While students did move slightly in the direction toward a more intrinsic orientation with regard to self-perception of scholastic competence, the difference was not significant (See Table 3).

Table 3

Comparison of Pre-test, Posttest Means and Standard Deviations on the Scholastic Competence Subscale of The Self-Perception Profile for Children (N=125)

	Pre		Post		
	M	SD	M	SD	t
Scholastic Competence	16.71	3.60	16.90	3.44	-.95

Findings for Research Question 4

By interviewing teachers, the study attempted to answer whether or not teachers could identify specific program features and practices which enhance intrinsic motivation and foster competence. The findings were categorized, by the researcher, into three types of practices

which may enhance (1) preference for challenge, (2) incentive to satisfy curiosity, and (3) self-perception of competence. The categories were based on the literature and research supporting the three types of practices.

The researcher did the initial classification of comments about effective practices. Categories and the classification of comments with effective practices were then reviewed by five educators who had completed a doctoral level course in motivation theory. Reviewers were asked whether, in their opinion, the effective practices corresponded to the designated categories: (1) preference for challenge, (2) incentive to satisfy curiosity, and (3) self-perception of competence. Reviewers were also asked to examine the classifications of teachers' comments. Reviewers were to indicate any comments which did not correspond to the effective practice designated by the researcher.

Reviewers agreed with the categories for effective practices. If a reviewer did not agree with the classification of a comment, the comment was added to the effective practice suggested by the reviewer.

Preference for Challenge Program Features

Teachers were asked specifically what they do to challenge students. Responses indicated that teachers attempt to challenge students by asking thought-provoking questions, presenting different points of view, and having students apply previous knowledge to new problems. Teachers attempt to introduce the appropriate level of challenge by increasing difficulty incrementally and providing extension materials for those who complete the work quickly. Teachers do not use grades to evaluate, although they do reward by praising and acknowledging improvement. Finally, teachers focus on process, not product, emphasizing strategies and skills rather than the right answer.

Teachers' responses were compared with effective techniques and practices identified in the literature to affect students' preference for challenge. Results of this comparison are presented in Table 4.

Table 4

Comparison of Teachers' Comments and Program Features Identified as Enhancing Preference for Challenge

Effective Practices	Supporting Literature	Teacher Comments
Present difficult tasks	(Purkey & Smith, 1985)	Try to bring knowledge to a higher level; Begin with an ideal; students can grasp a lofty idea or concept Not a time for memorizing formulas
Appropriate level of challenge	(McMullin & Steffan, 1982)	Build on previous knowledge then increase difficulty incrementally As long as they are learning, let them shape the class on their own
Higher level material/ Higher order thinking	(Epstein & Salinas, 1992) (Slavin, Karweit, & Madden, 1989)	Teach strategies and skills, not to a test. Ask thought provoking, open-ended question Give them something they have not seen that forces them to apply something they know to the problems Make them explain why they got answers Try to make them think from a different perspective Present several viewpoints
Evaluation practices	(Harter, 1978)(Shapira, 1976) (Maehr & Stallings, 1972)	Can teach strategies and skills knowing I don't have to give the CTBS or grades
Adjust to individual differences	(Stipek, 1993)(Amabile, 1984) (Epstein & Salinas, 1992)	Give them time to think Provide extension materials
Task oriented goals	(Ames & Archer, 1988) (Elliot & Dweck, 1988)	Focus on process, not product As long as they are learning, let them shape the class on their own Have them construct and discover knowledge

Incentive to Satisfy Curiosity Program Features

Teachers were asked specifically what they did to stimulate students' interest. Responses indicated that teachers attempt to stimulate curiosity by presenting relevant tasks in innovative ways. Teachers ask students what they want to learn and try to teach to students' interests, if appropriate. Teachers, recognizing the physical nature of adolescents, do many "hands on" projects and try to make many of these tasks into games. Again, teachers do not use grades to evaluate. Finally, teachers attempt to develop personal relationships with students.

Teachers' responses were compared with effective techniques and practices identified in the literature to affect students' incentive to satisfy curiosity and interest. Results of this comparison are presented in Table 5.

Table 5

Comparison of Teachers' Comments and Program Features Identified as Enhancing Curiosity

Effective Practices	Supporting Literature	Teacher Comments
Present tasks in innovative ways	(Berlyne & Frommer, 1966)	Make the skill being worked on into a game
Novel approach	(Brophy, 1987)(Ryan, 1982) (Stipek, 1993)	When students did not understand concept, teachers staged fight together
Relevant to student	(Meece, 1991) (Benaware & Deci, 1984)	Start with something they know; try to bring up connection
Interests & stage of development	(Lipsitz, 1984)	Ask students what they want to learn Go on a tangent to catch interest
Supportive teachers	(Peters, 1978)	Be a student and remember what it was like to be a student Bond with students so they see us as human
Hands on learning	(Lipsitz, 1984)	A lot going on physically, no time to be learning formulas; lots of hands on
Evaluation	(Harackiewicz, et al., 1987)	Students aren't compared to or judged against other students

Self-Perception of Scholastic Competence Program Features

Teachers were asked specifically what they did to foster students' self-perceptions of scholastic competence. Responses indicated that teachers attempt to foster competence by giving students clear guidelines for assignments and providing continuous and specific feedback. Teachers make certain that students understand how they are progressing by having frequent discussions with students. Instead of grades, students are given a final evaluation by their advisor which incorporates explanations of overall strengths and areas for improvement.

Teachers adjust to individual differences by accomodating different learning styles and allowing students to show their different talents within the basic subject matter.

Teachers' responses were compared with effective techniques and practices identified in the literature to affect students' self-perceptions of scholastic competence. Results of this comparison are presented in Table 6.

Table 6

Comparison of Teachers' Comments and Program Features Identified as Enhancing Self-Perception of Competence

Effective Practices	Supporting Literature	Teacher Comments
Appropriate level of instruction	(Slavin,Karweit, & Madden, 1989)	Build on previous knowledge, then increase difficulty incrementally
Adjust to individual differences	(Epstein & Salinas, 1992)	Note improvement in weaker students (who may not be able to achieve mastery)
Varying tasks	(Marshall & Weinstein,1984) (Blumenfeld, et.al., 1982)	Teach to all different learning styles Focus on different ability levels instead of saying everyone has to do the same activity
Flexibility in how to complete assignments	(Stipek, 1993)	Allow students to showcase different talents within the basic subject matter Can draw their ideas or write them
Clear guidelines	(Csikszmihaliky, 1990)	Be prepared. Be organized. Set ground rules early
Continuous feedback	(Epstein & Salinas, 1992)	Frequent discussions of performance
Specific feedback	(Pintrich & Blumenfeld, 1985)	Positive messages and comments with new achievements
Immediate feedback	(Csikszmihaliky, 1990)	Because classes are small, teachers can work with students immediately
Evaluation process	(Amabile, 1984)(Teel, 1993) (MacIver, 1993)	Knowing them as a full person in different contexts helps with evaluation
Mastery-oriented help	(Nelson Le-Gall & Jones, 1990)	Acknowledge what they know, adjust for what they want to learn Expect them to understand how they got the answer Having them teach other students helps them to understand

Findings for Research Question 5

By interviewing students, the study attempted to answer whether or not students could identify specific program features and practices which enhance intrinsic motivation and foster competence. Students were asked ten questions comparing the summer enrichment program to their regular schools, finding out what they liked or disliked about the program, and why they attended. The questions were intended to elicit responses that would indicate techniques and practices used in the program. The findings were categorized, by the researcher, into three types of practices which may enhance (1) preference for challenge, (2) incentive to satisfy curiosity, and (3) self-perception of scholastic competence. The effective practices were categorized according to the literature and research supporting the three types of practices.

The initial classification of comments with effective practices was performed by the researcher using a content analysis of the interview transcripts. Both the categories and classification of comments were reviewed by five educators who had completed a doctoral level course in motivation theory. Reviewers were asked whether the effective practices corresponded to the designated categories: (1) preference for

challenge, (2) incentive to satisfy curiosity, and (3) self-perception of competence. Reviewers were also asked to compare the classifications of students' comments. Reviewers were to indicate any comments which did not correspond to the effective practice designated by the researcher.

Reviewers agreed with the categories for effective practices. If a reviewer did not agree with the classification of a comment, the comment was added to the effective practice suggested by the reviewer.

Preference for Challenge Program Features

Students were asked specifically whether they tried harder in the summer enrichment program or their regular schools and if so why? The questions intended to elicit responses indicating program practices which challenged students. Some students thought the work was harder in the summer enrichment program and that it challenged them. One student commented that, although the work in regular school was harder because there was more of it and there were so many rules to obey regarding the assignments, that the work was pointless. Other individual responses indicated that the work in the summer enrichment program was not more difficult than regular school, but students worked harder because the work interested them, teachers expected them

and helped them to learn, and they wanted to work to stay on top of things. Individual students also said they tried harder because, without grades, there was less pressure.

Student responses were classified according to effective techniques and practices identified in the literature to affect students' preference for challenge. Results of this comparison are presented in Table 7.

Table 7
Comparison of Students' Comments and Program Features Identified as Enhancing Preference for Challenge

Effective Practices	Supporting Literature	Student Comments
Present difficult tasks	(Purkey & Smith, 1985)	Regular schools don't challenge me I came to have a challenge
Appropriate level of challenge	(McMullin & Steffan, 1982)	Make you realize that if you want to fit into the program, you have to try hard
Higher order thinking/ Higher level material	(Epstein & Salinas, 1992) (Slavin, Karweit,Madden, 1989) (Maehr & Stallings, 1972)	You are always questioning You learn more because it's advanced stuff
Adjust to individual differences	(Stipek, 1993)(Amabile, 1984) (Epstein & Salinas, 1992)	Teachers have you write your goals and make sure you reach them Teachers make sure you "get it"
Evaluation practices	(Harter, 1978)(Shapira, 1976) (Maehr & Stallings, 1972)	They give you alot more than A,B,C,D; they tell you what you need to work on
Task oriented goals	(Ames & Archer, 1988) (Elliot & Dweck, 1988)	You're not trying to prove something, you're trying to get better If you don't do home work, you miss out on activities and discussion Homework is what you are involved in; you don't want to be left out.

Incentive to Satisfy Curiosity Program Features

Students were asked specifically if the classes in the summer enrichment program were more interesting than classes in regular school and if so how? The questions intended to elicit responses indicating program practices which stimulate students' curiosity. Responses indicated that teachers in the program participate in lessons and care about what students think. Mixing in activities that are fun and having lots of "hands on" activities stimulate interest. Students are often assigned work they want to learn. Because they do not always do the same tasks and activities, the work is not boring. Students reported that teachers are supportive academically in that they do not "get on you if you do something wrong." Finally, to emphasize the value of not having grades, students said, "It's always funner to do what you don't have to."

Students' responses were compared with effective techniques and practices identified in the literature to affect students' incentive to satisfy curiosity and interest. Results of this comparison are presented in Table 8.

Table 8

Comparison of Students' Comments and Program Features Identified as Enhancing Curiosity

Effective Practices	Supporting Literature	Student Comments
Present tasks in innovative ways	(Berlyne & Frommer, 1966)	Don't do the same things, not boring Instead of just laying it out, they do something with it
Novel approach	(Brophy, 1987)(Ryan, 1982)(Stipek, 1993)	Don't teach the way regular teachers do; they participate They experiment on stuff. It's unique
Relevant to student	(Meece, 1991)	In regular school, work is pointless This program assigns things we want to learn There are things we want to talk about Always funner to do what you don't have to
Interests & stage of development	(Lipsitz, 1984)	Mix fun stuff with stuff you don't know They know what kids like
Supportive teachers	(Peters, 1978)	Teachers care about what you think If you do something wrong, they don't get on you They are willing to listen You're not scared of them
Hands on learning	(Lipsitz, 1984)	Lots of hands on
Evaluation	(Butler & Nissan, 1986)	Always funner to do what you don't <u>have</u> to (not graded)

Self-Perception of Scholastic Competence Program Features

Students were asked specifically if they learned more in the summer enrichment program or in regular school and if so why. The questions intended to elicit responses indicating program practices which foster students' self-perceptions of competence. Responses indicated that teachers give more individual attention. If students do not understand, teachers talk it out with them until they get it. Students said they wanted to do the work because the teachers wanted them to understand and helped them until they did.

Students do not receive grades. Because of the system of evaluation, students feel they are not trying to prove anything, rather they are trying to get better at something. Students are told in which areas they are doing well and in which areas they need to work harder. If they do not complete an assignment, they get help instead of having the teachers "get on them."

Students' responses were compared with effective techniques and practices suggested by the literature to affect students' self-perceptions of scholastic competence. Results are presented in Table 9.

Table 9

Comparison of Students' Comments and Program Features Identified as Enhancing Self-Perception of Competence

Effective Practices	Supporting Literature	Student Comments
Appropriate level of instruction	(Slavin, Karweit, & Madden, 1989)	Review things we had a hard time with in regular school It's easier to learn
Adjust to individual differences	(Epstein & Salinas, 1992)	More individual attention They find out things you are good at
Varying tasks	(Marshall & Weinstein,1984) (Blumenfeld, Pintrich, et.al.,1982)	Don't stay on a topic for too long You know you are going to have a different experience in each class
Clear guidelines	(Csikszmihaliky, 1990)	The schedule is laid out; You know what is expected
Continuous feedback	(Epstein & Salinas, 1992)	They talk it out with you if you don't get it
Specific feedback	(Pintrich & Blumenfeld,1985)	They praise you if you do good They give you a lot more than ABCD, they tell you what you need to work on
Immediate feedback	(Csikszmihaliky, 1990)	If you don't know something, they have time right after class to help you
Mastery-oriented help	(Nelson Le-Gall & Jones,1990)	They help us a lot. They don't just give us a book and say, "learn it". They encourage you to try. You want to do good.
Evaluation process	(Amabile, 1984)(MacIver, 1993) (Teel, 1993)	You're not pressured so you want to do good You want to try your best They won't punish you if you don't do homework, they help you

Summary of Findings

The comparison of pre- and posttest scores on the Preference for Challenge subscale of the instrument measuring motivation showed students moving slightly in the direction toward intrinsic motivation, although the difference was not statistically significant. For the Incentive to Satisfy Curiosity/Interest subscale of the instrument, there was no significant difference in pre- and posttest means. Comparing pre- and posttest means for the Scholastic Competence subscale of the self-perception instrument did not result in a significant difference although students moved slightly in the direction toward higher self-perceived scholastic competence. Possible explanations for these findings will be discussed in Chapter V.

Interviews suggested teachers and students can identify techniques and practices in the program which may enhance intrinsic motivation and self-perceived competence. Both teachers' and students' responses focused on the importance of the teacher-student relationship and the process of evaluation in fostering motivation and self-competence. Teachers' comments emphasized the challenging aspect of the program, while students comments tended to emphasize interest and curiosity. These findings will be discussed in Chapter V.

Internal consistency and test-retest reliabilities were assessed for the scales used in the study. The findings will be discussed in Chapter V.

CHAPTER V

DISCUSSION OF THE RESULTS

Summary of the Results

The purpose of this study was to examine students' motivational orientation and self-perception of competence before and after participation in a summer enrichment program for economically disadvantaged middle school students. This study specifically investigated two facets of intrinsic motivation, preference for challenge and incentive to satisfy curiosity, as well as self-perception of scholastic competence in relation to effective program practices. The challenge and curiosity components of intrinsic motivation and self-perception of scholastic competence were measured through pre- and posttests using instruments designed to measure these variables. Effective techniques and practices used in the program were identified through interviews with teachers and students.

Two research questions addressed the motivational components preference for challenge and incentive to satisfy curiosity/interest. Six items from the Scale of Intrinsic versus Extrinsic Orientation (1981) in the classroom were used to measure

students' preference for challenge. Six different items from the same scale were used to measure students' incentive to satisfy curiosity/interest. Pretest and posttest means for the subscale were compared. A change toward more intrinsic motivation was not supported for either preference for challenge or incentive to satisfy curiosity. The findings, which will be discussed later in the chapter, are not consistent with previous research on motivation nor with findings from the student interviews.

The third research question addressed self-perception of competence for the component scholastic competence. Six items from the Self-Perception Profile for Children (1982) were used to measure self-perception of scholastic competence. Pretest and posttest means for the subscale were compared. A change toward a more competent self-perception was not supported for the scholastic competence component. The findings, which will be discussed later in the chapter, are not consistent with previous research on self-perceived competence nor with the findings from teacher and student interviews.

The fourth and fifth questions addressed the specific features and practices of the summer enrichment program which enhance intrinsic motivation and competence. Interviews with teachers and students generated lists of practices used to challenge students, stimulate interest, and foster self-competence. These findings, which

will be discussed later in the chapter, suggest possible explanations for the lack of statistical significance for the other research questions.

Discussion of the Findings for Questions 1, 2, and 3

On the subscale targeting preference for challenge, the pretest mean was 16.90 out of a possible 24. The posttest mean was 17.03. There was no difference between these scores. The results are surprising in view of the literature which suggests that when students are in situations where they are given a choice of activities and there are no rewards (grades or monetary compensation) or punishment, they prefer work which is just beyond their capabilities (Danner and Lonky, 1981; Harter, 1978; McMullin and Steffan, 1982). In this study, students' responses to interview questions suggest they had a choice in what they learned in the summer enrichment program. Students were not rewarded or punished by grades, but instead received immediate, ongoing feedback regarding their strengths and areas which needed improvement. Previous research indicates, in the presence of choice and absence of evaluation, students show a preference for challenge. Because these conditions existed in the summer enrichment program, it was expected that students' preference for challenge would move in the direction toward intrinsic motivation.

Furthermore, the tasks presented in the summer enrichment program were intended to challenge students. The evaluation system allowed students to focus on learning, causing them to work harder. As recommended by Slavin et al. (1989) and Epstein and Salinas (1992), all students had exposure to high content, higher order thinking material. Students could be expected to demonstrate an increased preference for challenge after participation in the program, although in this case they did not. Although posttest scores were slightly higher, the result of the comparison with pretest scores was not statistically significant.

On the six questions targeting incentive to satisfy curiosity/interest, the pretest mean was 16.72 out of a possible 24. The posttest mean was 16.36. There was no difference between the pre- and posttest scores. In light of the innovative, hands-on curriculum of the summer enrichment program and the supportive teacher-student relationship, these results are also surprising.

In the summer enrichment program, tasks were presented with enthusiasm, with materials relevant to the students' interests. Many "hands on" activities took into account the need for adolescents to be actively engaged in the learning process. In the interviews, students repeatedly stressed how comfortable they were in expressing their opinions and talking to teachers in the program.

Research indicates students tend to be more curious in non-threatening situations (Lepper, 1981; Peters, 1978) where material is presented with enthusiasm (Meece, 1991), and when it is relevant to their interests (Anderson, 1981). Furthermore, students rate their work as more interesting in the absence of evaluation (Butler and Nisan, 1986; Lepper, 1981). This suggests that students in the program should have demonstrated an increased incentive to satisfy curiosity after participation in the program, although this was not the case.

The degree to which the program challenged students and stimulated interest may account for the failure to obtain a significant effect size for preference for challenge and incentive to satisfy curiosity. The materials and activities may not have challenged all students at the optimum level even though teachers provided extension material for students who completed work quickly. Observations of the summer enrichment program and anecdotal reports prior to the study led to the expectation that the program's goal to allow teachers to develop innovative curriculum would influence students' incentive to satisfy curiosity. However, the materials and activities may not have stimulated interest and aroused curiosity to the level necessary to influence motivational orientation as measured by the scale.

The failure to obtain significant results may also be explained by several other factors including the caliber of the students, the short duration of the program, and the nature of the instruments used to measure intrinsic motivation.

Overall, students' scores on the pretest were higher than anticipated and tended toward intrinsic motivation on both the preference for challenge and incentive to satisfy curiosity subscales. Some responses to the interview questions "Why did you come to this program? (new students) or "Why did you return to this program?" (returning students) indicate that students who self-selected to enter this program were motivated to learn. For example, several students said they attended the program because they wanted to learn something new, to do better in school, and to improve their grades. Others said the program was more fun than staying home.

Three factors may be responsible for the high motivation of the students who self-select to enter the program. First, the presentations that familiarized students with the program emphasized both the enjoyable and challenging nature of the program. Students were made aware that academics were an integral part of the program. Students who self-selected to be in the program may have been attracted by the challenging and interesting nature of the program.

Second, the screening process may be credited with selecting students who believe education is important and have a desire to learn. Applicants were further screened to eliminate students with severe behavior problems and learning disabilities because the program could not accommodate students with special needs.

The majority of students in the program are economically disadvantaged and/or are ethnic or linguistic minorities--two factors which are significant predictors of academic risk. However the degree of parental support of their children's education may explain, in part, students' motivation upon entering the program. Students have to complete an application and have parental consent in order to be considered for the program. Students have to sign agreements that they will attend the program daily and complete all assignments. Parents have to agree to make sure the student attends daily and oversee their children's homework. The literature (Eccles and Harold, 1993; Epstein, 1987) indicates that parental support is a significant factor in student motivation.

The third reason for the high motivation pretest scores may be cultural differences. While some studies have tried to suggest that academic achievement is lower for minority students, particularly African-American males, other studies suggest that minority students may be more intrinsically motivated. In a study of high school students who had been retained, Bishop (1993) found African-

American males had higher intrinsic motivation than all other groups including White males. This may need to be explored in further studies.

Another explanation for the failure to obtain significant results may be the short duration of the program. Five weeks may not be a sufficient amount of time to produce the expected changes in motivational orientation as measured by the instrument, particularly for preference for challenge. The length of the enrichment program, five weeks, may not have been sufficient time for teachers to judge the optimal level of challenge for each student and adjust the curriculum accordingly.

Finally, the instruments used to measure motivation and competence may not have had sufficient range to measure the expected changes. Students entered the program with an orientation toward more intrinsic motivation. Because the highest possible score for each subscale was 24 and the pretest means approached 17 on the pretests, it is possible that the instruments could not discriminate enough to show significant change. The potential for change toward intrinsic orientation was limited by the maximum score of 4 on each individual item. The format of the questions established two choices representing intrinsic and two representing extrinsic motivation.

In summary, the summer enrichment program appears to use techniques and practices which motivate students. Failure to obtain a significant effect for preference for challenge and incentive to satisfy curiosity in the summer enrichment program may be explained by the degree to which students perceive the program as providing challenging and stimulating material. The factors of self-selection and parental support may affect students' motivational orientation upon entering the program. The short duration of the program and the limited range of the instrument may further affect the results.

The summer enrichment program also appears to use techniques and practices which foster competence. However, the data for the research question predicting a move in the direction toward higher self-perceived competence after participation in the program did not support the hypothesis. The absence of an increase in self-perceived scholastic competence was also surprising considering the literature.

One aspect of this summer enrichment program is the focus on learning goals (Ames and Archer, 1988). Students were given continuous feedback and immediate help (Cskiszentmihalyi, 1975) in mastering competencies, so all students had the opportunity to improve (Mac Iver, 1993). Students were not given grades (Harter, et al., 1992). Evaluations emphasized students' strengths and gave

suggestions for areas that need work. Immediate feedback with a focus on improvement was used to help students maintain the attitude that ability is changeable through effort (Elliot and Dweck, 1988).

Teachers, particularly those at Site 2, emphasized how work is adjusted to meet each student's level (Amabile, 1984; Epstein and Salinas, 1992; Stipek, 1993). Because of the high teacher-student ratio, teachers were able to give individual attention to enable students to master the material.

Students at both sites emphasized the amount of help they received from the teachers. In explaining the type of help, students expressed the specific ways teachers showed them their strengths and weaknesses, encouraged them to understand the process, not just the result, and worked with them until they understood (Nelson-Le Gall and Jones, 1990).

Given these features of the summer enrichment program, students were expected to move toward greater self-perceived scholastic competence. If students receive immediate feedback and are not compared to other students, their self-perception of scholastic competence should improve (Harter and Connell, 1984; Elliot and Dweck, 1988). The failure to obtain significant results may be explained by several factors including the somewhat high self-perceived scholastic competence of the students upon entering the program, the short

duration of the program, and the nature of the instruments used to measure self-perceived scholastic competence.

Overall, student scores on the pretest were higher than anticipated and tended toward higher self-perceived competence. Some responses to the interview questions indicate that students who self-selected to enter this program believe scholastic competence is important and desire scholastic competence. For example, several students said they attended the program to do better in school and to get better grades.

Another explanation for the failure to obtain significant results may be the length of the enrichment program. Five weeks may not be sufficient time to compensate for attitudes and perceptions developed over seven to nine years in school and produce the expected changes in self-perceived scholastic competence.

The instruments used to measure self-perceived scholastic competence may not have had sufficient range to measure the expected changes. Students entered the program with scores tending toward higher self-perceived scholastic competence. Because the highest possible score for each subscale was 24 and the mean approached 17 on the pretests, it is possible that the instruments could not discriminate enough to show significant change. The potential for change toward higher self-perceived competence was limited by the maximum score of 4 on each individual item. The format of the questions established two

items representing high scholastic competence and two representing low scholastic competence. Subjects were limited to two choices respresenting higher self-perceived scholastic competence.

The study focused on preference for challenge, incentive to satisfy curiosity, and self-perception of scholastic competence. The research questions suggested a change toward a more intrinsic motivational orientation and a more positive self-perception of competence. Although the analysis of the data showed no significant increase in motivation or perceived competence, other unexpected results deserve comment. Maintenance of high motivation and self-perceived scholastic competence and the reliability of the instruments with disadvantaged students are two outcomes which should be discussed.

Previous studies show a decline in intrinsic motivation and self-perceptions of competence for middle school students, particularly in the transition from elementary to middle school (Harter, 1981a; Eccles, 1991). Students in this study maintained their intrinsic orientation and high self-perceived competence at all grade levels. Even the sixth graders who were experiencing a transition to a new environment did not show declines. This must be investigated as a separate issue.

Research suggests that self-perceptions of scholastic competence for minority adolescents tend to be lower because they don't consider the classroom a relevant domain for achievement (Stevenson, Chen and Uttal, 1990). The fact that the posttest measure of competence moved

in the direction toward higher self-perceived scholastic competence, although not at a significant level, suggests that the students in the program did not demonstrate a similar tendency.

The pre- and posttest responses correlate highly. Although Harter used a broader sample population than the other instruments considered for the study (Gottfried, 1985; Ryan & Connell, 1989), the majority of the students from Harter's sample were White and middle class. In Harter's sample, the pretest-posttest correlations for the motivation scale ranged from .48 to .63 for 793 third-ninth graders in California over a one year period. In this study, the pretest, posttest correlations for a four week period were .66 and .57 for the preference for challenge and incentive to satisfy curiosity subscales. Harter found the pretest-posttest correlations for the self-perceived scholastic competence subscale to be .78 for 208 students over a three month period. In this study, the correlation was .77 for 125 students over a four week period.

In Harters's sample using 3000 third-ninth graders, internal consistency reliabilities ranged from .78-.84 on Preference for Challenge and from .54-.78 on the Curiosity subscale. Reliability for 390 sixth, seventh and eighth graders was .85 on the Scholastic Competence subscale. The reliabilities for this study were .79-.82 (Preference for Challenge), .59-.71 (Curiosity), .73 (Scholastic Competence). The data

give credence to the reliability of the instrument for economically disadvantaged students.

Discussion of Findings From the Interviews

Observations of the summer enrichment program for economically disadvantaged students led to the conclusion that the program gave all students exposure to complex tasks. Teachers expected students to question, think, learn strategies, and engage in the learning process (Slavin, et al., 1989; Epstein and Salinas, 1992). Interviews with teachers and students led to the conclusion that flexible staffing allowed students to get a different degree of academic help. Teaching assistants who recently learned the material were available to explain difficult concepts during class or immediately after class. Because there were no exams or external evaluations, students and teachers were free to focus on developing students' strengths and improving areas of weakness.

During the interviews, teachers and students frequently mentioned giving students some control over what was taught, encouraging staff members to accept and respect students and develop close relationships with them, and providing students with individual attention.

During the interviews, students repeatedly mentioned the help and support they received from teachers. Students emphasized the

importance of these relationships, specifically that their teachers understood them, communicated with them, cared about them, and tried to help them.

The students seemed to emphasize the system of continuous feedback and the use of written evaluations at the completion of the program as being preferable to the use of grades. Students credited the absence of grades with allowing them to focus on learning, do better, and enjoy activities.

Responses to the interview questions indicate that teachers and students could identify techniques and practices which enhance motivation and foster competence. Both teachers and students stressed the importance of the teacher-student relationship in the program and how this differed from the typical teacher-student relationship in regular middle school programs.

Teachers' comments corresponded to the effective techniques and practices suggested in the literature to enhance preference for challenge more so than the students' comments. Teachers' responses may be interpreted to mean that having a challenging curriculum is important to them. Students' comments corresponded to the effective techniques and practices suggested in the literature to enhance curiosity more so than the teachers' comments. Students' responses may be interpreted to mean that having an interesting curriculum is important to them.

Problems with instrumentation

Based on the initial administration of the instrument, it was obvious that some students found it confusing. Harter, who developed the instrument, specifically selected a format which removes the focus from the student so the responses reflect what the student believes rather than what the student assumes the survey wants the student to say. For each item, two responses indicate one type of student and two responses indicate another type of student. The subject selects the one response which is most similar to his or herself. On the pre-test, 9 out of 134 students (6.7%) checked two responses for each item, so their tests were disqualified. Fewer students checked two on the posttest because of more specific instructions. For the posttest, teachers were asked to emphasize that the students mark only one choice for each item.

Problems with Procedure

At Site 1, students completed the scale the fifth day of class. They had already attended one full week of a five week program. Students at Site 2 completed the scale the fourth day of class, almost attending an entire week. The importance of administering the instrument immediately at the beginning of the program had been emphasized.

Administrators, however, made the choice to wait until the survey would not be intrusive.

At Site 1, three teachers and one teacher's assistant were interviewed (Appendix A). Each subject area and each grade level were represented. Interviews were conducted after school, the fourth week the program was in session. Due to restrictions by subject area and grade level considerations, the teachers could not be chosen at random.

Three of the program teachers at the site were experienced teachers. These teachers did not participate because of prior commitments. The three teachers participating in the interview were college students who had taught in the program for 2-3 years, but did not have regular teaching experience. The teacher assistant was a high school student. The program director's choice of teachers to be interviewed was not ideal.

The interviews were taped, but, at Site 1, the recorder tape malfunctioned. The next day teachers were given a copy of the three interview questions and a self-addressed envelope. A note accompanying the questions asked them to jot down a few words to help remind the interviewer of their responses to the questions. Only one of the four responded.

At Site 1, two students from each grade level were interviewed (Appendix B). The director chose the students by walking down the hall during lunch and asking students if they would be willing to talk with someone about the program.

At Site 2, two students from each grade level were interviewed (Appendix B). The director chose the students by walking around the yard after school asking students if they would be willing to talk with someone about the program.

Since the researcher was an outsider, it was necessary to rely on the cooperation of the director and staff. Much of the selection of teachers and students for interviewing, and the timing for testing and interviewing was out of the researcher's control.

Conclusions

The first aspect of this study was to examine intrinsic motivation and self-perceived scholastic competence as measures to assess the effectiveness of a summer enrichment program for economically disadvantaged middle school students. Traditionally the focus of the evaluation process for programs targeting disadvantaged youth has been on academic achievement and standardized test scores. Results of research showing the

relationship between intrinsic motivation and attention to task, cognitive engagement, enhanced conceptual learning, and creativity suggest that intrinsic motivation is a desired learning outcome. As indicated by the literature, observations conducted prior to the study, and responses to student interviews, focus on grades may negatively affect intrinsic motivation. Furthermore, indicators of success such as standardized achievement tests and grades are inconsistent with the developmental needs of adolescents.

A study with three classes of urban, multi-ethnic sixth graders (Marshal, 1982) underscores the differences in outcome with respect to standardized evaluation and intrinsic motivation. Teachers from three types of classrooms were observed and interviewed over a two to four week period. Students' end of the year CTBS Reading Achievement scores were compared with scores for the previous year. Teacher X introduced 68% of the lessons with motivational statements regarding challenge to think, joy of learning, and belief in students' ability to learn. Teacher Y introduced 41% of the lessons with statements focusing on external motivation such as test performance, rewards, demands, and threats. Teacher Z seemed to promote work avoidance and minimal learning. On grade equivalent scores measuring reading gain, students of teacher X had a mean gain of .92, teacher Y, 1.5, and teacher Z, -.09. The gains on standardized tests were higher for students of teacher Y who emphasized extrinsic motivation.

Observations of the students indicated that students of teacher X exhibited more attention to task and on-task behavior, completed assignments, and even asked for more work.

Assuming that intrinsic motivation is a desired outcome for programs targeting disadvantaged middle school students, grades and standardized test scores grades may be a less appropriate measure of program effectiveness than motivation itself. Similarly, self-perceived competence may be a more appropriate evaluative measure than grades due to the relationship between self-perceived competence and intrinsic motivation and the negative effect of grades on self-perceived competence (Harter, et al., 1992).

In this study, the examination of intrinsic motivation and self-perception of competence as measures of program effectiveness did not produce the expected changes that would indicate that the summer enrichment program was meeting its goals. Simply looking at the results of the pretest, posttest measures could lead to the conclusion that increases in intrinsic motivation and self-perceived competence are not effective measures of the program. However, the data should not be interpreted as a failure of the program to meet its goals. Program teachers and students were able to identify practices suggested by the literature to enhance intrinsic motivation and foster competence. Comments from students in the interviews ("We try harder because there is no pressure for grades." "They make

learning fun." "They expect you to learn and they make sure you understand.") suggest that the students in the program were challenged, interested, felt competent, and that practices in the program may have enhanced this motivation and competence. Because the students did not show gains on the three subscales used to measure intrinsic motivation and self-perceived competence, it cannot necessarily be concluded that the program did not challenge students, stimulate interest, or foster competence. Interviews suggest otherwise.

The second aspect of this study was to examine two factors of intrinsic motivation and one factor of self-perceived scholastic competence in an attempt to assess whether or not the summer enrichment program for economically disadvantaged students was meeting its goals of challenging students, providing innovative curriculum, and fostering competence.

Harter's model provided the basis for using preference for challenge and incentive to satisfy curiosity to identify students' tendency toward intrinsic versus extrinsic orientation in the classroom. Harter's model also provided the basis for using scholastic competence to assess students' self-perceived competence.

In this study, challenge and curiosity were factors which related to the goals of the program. Current trends in studies point to a general interest in the two classifications, preference for

challenge and incentive to satisfy curiosity, to determine motivational factors in computer programs (Burt, 1993), motivational factors as they relate to achievement in a computerized math program (Alvestad, 1991), and middle school students' motivation to learn in the classroom (Wilson, 1994). Preference for challenge and incentive for curiosity are being recognized as significant motivational factors. This study concludes that the focus on preference for challenge, incentive to satisfy curiosity, and scholastic competence were appropriate for the purpose of the study in spite of the failure to show changes for these categories on Harter's instruments. Not only do these categories match the goals of the summer enrichment program, but teachers and students were able to identify effective practices for challenge, curiosity, and self-perceived competence.

The third aspect of the study was to interview teachers and students to identify program practices that enhance intrinsic motivation and foster self-perceived competence. While teachers and students agreed on the importance of the supportive teacher-student relationship, there was some discrepancy regarding other motivational variables. Teachers emphasized the challenging aspects of the program, while students emphasized program practices that stimulated interest as being significant in motivating their learning. Another study (Geary, 1988) used interviews with teachers and students to determine teacher and

student perceptions of what constitutes success. Although teachers and students had similar opinions about obeying rules, attending school, and working hard, students included variables which teachers omitted such as inner drive, learning, personal fulfillment, and encouragement from teachers.

A conclusion drawn from the interviews with teachers and students is that there is sometimes a discrepancy between what teachers believe motivates students and leads to their success and what students believe.

Recommendations for Future Research

This study attempted to show a relationship between intrinsic motivation and self-perceived scholastic competence, and effective teaching practices for economically disadvantaged middle school students in a summer enrichment program by demonstrating change in motivation and competence. Failure to find significant change in this particular study, might imply that teaching practices expected to enhance motivation and competence, do not affect preference for challenge, incentive to satisfy curiosity, and self-perceived scholastic competence in the summer enrichment program. Because of the goals and quality of the summer enrichment program, the dedication of staff members, and the student learning, specific recommendations for follow up research for this study focus on

altering and repeating the study in an attempt to demonstrate the program is meeting its goals. Recommendations include:

1. Pre-test the students' motivational orientation and self-perceived competence while they are still attending their regular school program or, at least, before attending any classes in the summer enrichment program. The posttest should be administered the final day of class. Pre- and post test comparisons would follow the same procedure.

2. To follow the procedure above, and conduct interviews with more students to clarify practices which enhance preference for challenge, incentive to satisfy curiosity, and self-perceived competence.

3. To follow the procedures above and, in addition to group interviews, conduct individual interviews to ensure that students' responses are not influenced by the most vocal students.

4. To measure the degree to which students perceive the practices as being implemented in the program by revising existing classroom environment instruments, or by creating a new instrument more specific to the summer enrichment program.

5. To correlate the results of the findings from the subscales of the motivation and perceived competence scales with the findings from the scales measuring the classroom environment (Trickett and Moos, 1973) to determine which effective practices are related to

preference for challenge, incentive to satisfy curiosity, and self-perceived competence in this particular program.

6. To use pre-test results to attempt to match students with a group of students attending a traditional summer school program and compare results on a posttest.

More research is needed to determine the effects of program participation on students who enter the program with low preference for challenge, incentive to satisfy curiosity, and self-perceived competence. One recommendation is to implement the program with a group of students who are not self-selected, for example middle school students who are required to attend summer school due to failure.

This study was based on the need to target techniques and practices which foster intrinsic motivation and self-perceived competence in economically disadvantaged middle school students. Extensive research has provided information about development of middle school students, motivation, effective school practices, and characteristics of disadvantaged learners. Some researchers have explored the relationship between adolescent development and middle school environment and its effect on motivation (Eccles et al., 1984), effective classroom practices to motivate students (Brophy, 1987), or effective practices to motivate disadvantaged learners (MacIver, 1993; Teel, 1993). Few studies have attempted to use the

knowledge about adolescent development, middle school environment, effective practices and motivation to determine effective motivational practices for disadvantaged middle school students.

Implications for future research are to design carefully controlled studies to determine which practices are effective in motivating disadvantaged students.

Preference for challenge and incentive for curiosity are being recognized as significant motivational variables (Alvestad, 1991; Burt, 1993; Wilson, 1994). Recommendations for future study are to relate these factors to effective practices under more controlled conditions to determine their role in motivating disadvantaged students.

Another recommendation is to attempt to isolate practices which have been shown to be effective with middle-class White students and study them in more controlled situations with economically disadvantaged students to determine which practices are effective in developing intrinsic motivation and self-perceived competence.

In this study, student interviews appeared to give more insight into the effectiveness of the summer enrichment program than actual measures of preference for challenge, incentive to satisfy curiosity, and self-perceived competence. One recommendation is to

conduct studies involving interviews with students, particularly disadvantaged students, to determine which educational practices such as system of evaluation and which factors such as student/teacher ratio and teacher behaviors affect their enjoyment of learning and motivation to learn.

Because teacher and student interviews emphasized different techniques for motivating students, another recommendation is to conduct more studies which determine the discrepancies between teachers and students opinions regarding what motivates students. The information can be used to educate teachers about what works with students.

One of the assumptions of this study was that a goal of education should be to enhance intrinsic motivation. Results from the study did not provide conclusive evidence for the ability to empirically assess the success of the motivational goal in this particular program. The literature reviewed and student comments suggest the importance of intrinsic motivation factors. Intrinsically motivated learners display characteristics such as willingness to attempt challenging tasks, curiosity, and self-perceived competence. Assuming these are desired behaviors, one final recommendation is to emphasize the intrinsic value of schoolwork. For educators, emphasizing intrinsic motivation involves focusing on teaching practices which enhance students' intrinsic motivation rather than

increased grades and standardized test scores. For evaluators, emphasizing intrinsic motivation involves a shift in focus from measuring grades and standardized test scores to measuring affective variables. For researchers, emphasizing intrinsic motivation may involve developing instruments which measure affective variables such as intrinsic motivation and self-perceived competence more accurately, particularly for economically disadvantaged, culturally diverse populations.

REFERENCES

Allender, J. (1969). A study of inquiry in school children. American Educational Research Journal, 6, 543-558.

Alvestad, K. (1991). "Relationship of motivational orientation to achievement in the computer-assisted instruction lab." Unpublished doctoral dissertation, University of Maryland.

Amabile, T. (1984). Growing up creative. New York: Crown Publishers.

Ames, C. & Ames, R. (1984). Goal structures and motivation. Elementary School Journal, 85, 39-52.

Ames, C. & Archer, J. (1988). Achievement goals in the classroom: Students' learning strategies and motivation processes. Journal of Educational Psychology, 80, 260-267.

Anderman, E. & Maehr, M. (1994). Motivation and schooling in the middle grades. Review of Educational Research, 64, 287-309.

Anderson, L. (1981). Short-term students' responses to classroom instruction. Elementary School Journal, 82, 97-108.

Benware, C. & Deci, E. (1984). Quality of learning with an active versus passive motivational set. American Educational Research Journal, 21, 755-765.

Berlyne, D. (1966). Exploration and curiosity. Science, 15 (3), 25-33.

Berlyne, D. & Frommer, F. (1966). Some determinants of the incidence and content of children's questions. Child Development, 37, 177-189.

Bishop, J. (1993). "A qualitative study of retention in middle grades." Unpublished doctoral dissertation, University of North Carolina at Chapel Hill.

Blumenfeld, P., Pintrich, P., Meece, J., & Wessels, K. (1982). The formation and role of self-perceptions of ability in elementary classrooms. Elementary School Journal, 82, 401- 420.

Braddock, J. & McPartland, J. (1993). Education of early adolescents. In L. Darling-Hammond (Ed.), Review of research in education. (pp. 135-170). Washington: American Educational Research Association.

Brophy, J. (1987). Synthesis of research on strategies for motivating students to learn. Educational Leadership, 45 (2), 40-48.

Burt, B. (1993). "Elementary gifted students' perceptions of motivating factors in computer software environments." Unpublished doctoral dissertation, University of New Orleans.

Butler, R. and Nisan, M. (1986). Effects of no feedback, task-related comments and grades on intrinsic motivation and performance. Journal of Educational Psychology, 78, 210-216.

Cameron, J. and Pierce, D. (1994). Reinforcement, reward, and intrinsic motivation: A meta-analysis. Review of Educational Research, 64, 363-423.

Connell, J. (1985). A new multidimensional measure of children's perceptions of control. Child Development, 56, 1018-1041.

Covington, M. (1992). Making the grade: A self-worth perspective on motivation and school reform. NY: Cambridge University Press.

Covington, M. & Omelich, C. (1984). Task-oriented versus competitive learning structures: Motivational and performance consequences. Journal of Educational Psychology, 7, 1038-1050.

Csikszentmihalyi, M. (1975). Beyond boredom and anxiety. Washington: Jossey-Bass.

Csikszentmihalyi, M. (1990). Flow: The psychology of optimal experience. New York: Harper and Row.

Cuban, L. (1992). What happens to reforms that last? The case of the junior high. American Educational Research Journal, 29 (2) 227-251.

Danner, F. & Lonky, E. (1981). A cognitive developmental approach to the effects of rewards on intrinsic motivation. Child Development, 52, 1043-1052.

David, D. and Witryol, S. (1990). Gender as a moderator variable in the relationship between an intrinsic motivation scale and short-term novelty in children. Journal of Genetic Psychology, 151, 153-167.

deCharms, R. (1976). Enhancing motivation. New York: Irvington Publishers.

Deci, E.L. (1971). Effects of externally mediated rewards on intrinsic motivation. Journal of Personality and Social Psychology, 18, 105-115.

Deci, E.L. (1975). Intrinsic motivation. New York: Plenum Press.

Deci, E.L. & Ryan, R. (1985). Intrinsic motivation and self-determination in human behavior. New York: Plenum Press.

Deci, E.L., Schwartz, A., Sheinman, L., & Ryan, R. (1981). An instrument to assess adults' orientations toward control and autonomy with children: Reflections on intrinsic motivation and perceived competence. Journal of Educational Psychology, 73, 642-650.

Dweck, C. (1986). Motivational processes affecting learning. American Psychologist, 41, 1040-1048.

Eccles, J. (1991). What are we doing to early adolescents? The impact of educational contexts on early adolescents. American Journal of Education, 99, 521-542 .

Eccles, J. & Harold, R. (1993). Parent involvement during the early adolescent years. Teachers College Record, 94, 568-587.

Eccles, J., Midgley, C., & Adler, T. (1984). Grade related changes in the school environment: Effects on achievement motivation. In J. Nichols (Vol. Ed.). Advances in motivation and achievement: Vol. 3. The development of achievement motivation. Greenwich, CT & London, England: Jai Press.

Eccles, J., Midgley, C., Wigfield, A., Buchanan, C.M., Reuman, D. Flanagan, C. & Mac Iver, D. (1993). Development during adolescence: The impact of stage-environment fit on young adolescents' experiences in schools and in families. American Psychologist, 48, (2) 90-101.

Eccles, J., Wigfield, A., Flanagan, C., Miller, C., Reuman, D., & Yee, D. (1989). Self-concepts, domain values, and self-esteem: Relations and changes at early adolescence. Journal of Personality and Social Psychology, 57, 283-310.

Eccles, J., Wigfield, A., Harold, R., & Blumenfeld, P. (1993). Age and gender differences in children's self- and task perceptions during elementary school. Child Development, 64, 830-847

Elliot, E. & Dweck, C. (1988). Goals: An approach to motivation and achievement. Journal of Personality and Social Psychology, 54, 5-12.

Epstein, J. (1987). What principals should know about parent involvement. Principal, 66 (3), 6-9.

Epstein, J. & Salinas, K. (1992). Promising programs in the middle grades. Reston, Virginia: National Association of Secondary School Principals.

Epstein, K. (1989). Early school leaving: What the leavers say. Unpublished doctoral dissertation, University of California, Berkeley.

Geary, P. (1988). "Defying the odds?: An ethnographic investigation of successful at-risk minority teenagers in an urban high school." Unpublished doctoral dissertation, Georgia State University.

Gottfried, A. (1983). Research in review. Intrinsic motivation in young children. Young Children, 39, 64-73.

Gottfried, A. (1985). Academic intrinsic motivation in elementary and junior high school students. Journal of Educational Psychology, 77, 631-645.

Gottfried, A. (1990). Academic intrinsic motivation in young elementary school children. Journal of Educational Psychology, 82, 525-538.

Harackiewicz, J. Abrahams, S., Wageman, R. (1987). Performance evaluation and intrinsic motivation: The effects of evaluative focus, rewards, and achievement orientation. Journal of Personality and Social Psychology, 53, 1015-1023.

Harter, S. (1974). Pleasure derived from cognitive challenge and mastery. Child Development, 45, 661-667.

Harter, S. (1978). Pleasure derived from challenge and the effects of receiving grades on children's difficulty level choices. Child Development, 49, 788-799.

Harter, S. (1981a). A model of mastery motivation in children: Individual differences and developmental change. In A. Collins (Ed.), Minnesota symposia on child psychology: Vol. 14. Aspects of the development of competence. (pp. 215-254). Hillsdale, NJ: Lawrence Erlbaum.

Harter, S. (1981b). A new self-report scale of intrinsic versus extrinsic orientation in the classroom: Motivational and informational components. Developmental Psychology, 17, 300-312.

Harter, S. (1982). The Perceived Competence Scale for Children. Child Development, 53, 87-97.

Harter, S. & Connell, J. (1984). A model of children's achievement and related self-perception of competence, control, and motivational orientation. In J. Nichols (Ed.), Advances in motivation and achievement. Vol. 3. The development of achievement motivation. (pp. 219-250). Greenwich, CT: Jai Press, Inc.

Harter, S., Whitesell, N., & Kowalski, P. (1992). American Educational Research Journal, 29, 777-807.

Huelskamp, R. (1993). Perspectives on Education in America. Phi Delta Kappan, 74, 718-721.

Hughes, B., Sullivan, H. & Mosley, M. (1985). External evaluation, task difficulty, and continuing motivation. Journal of Educational Research, 78, 210-215.

Jordan, T. (1981). Self-concepts, motivation, and academic achievement of black adolescents. Journal of Educational Psychology, 73, 509-517.

LeMahieu, P. & Foss, H. (1994). Standards at the base of school reform. The School Administrator, 51 (5), 16-22.

Lepper, M.R. (1981). Intrinsic and extrinsic motivation in children: Detrimental effects of superfluous social controls. In A. Collins (Ed.), Minnesota Symposia on child psychology: Vol. 14. Aspects of the development of competence. (pp.155-214). Hillsdale, NJ: Lawrence Erlbaum.

Lipsitz, J. (1984). Successful schools for young adolescents. New Brunswick, NJ: Transaction Books.

Mac Iver, D. (1987). Classroom factors and student characteristics predicting students' use of achievement standards during ability self-assessment. Child Development, 58, 1258-1271.

Mac Iver, D. (1993). Effects of improvement-focused student recognition on young adolescents' performance and motivation in the classroom. In Maehr and Pintrich (Eds.), Advances in motivation and achievement: Vol. 8. Motivation and adolescent development. (pp.191-216). Greenwich, CT: JAI Press.

Mac Iver, D. & Epstein, J. (1992). Middle grades education. In M. Alkin (Ed), Encyclopedia of Educational Research: Vol. 3, (pp.834-844). NY: MacMillan.

Mac Iver, D., Stipek, D. & Daniels, D. (1991). Explaining within-semester changes in student effort in junior high school and senior high school courses. Journal of Educational Psychology, 83, 201-211.

Maehr, M. & Stallings, W. (1972). Freedom for external evaluation. Child Development, 43, 177-185.

Marshall, H. (1987). Motivational strategies of three fifth-grade teachers. Elementary School Journal, 88, 135-150.

Marshall, H. & Weinstein, R. (1984). Classroom factors affecting students' self-evaluation: An interactional model. Review of Educational Research, 54, 301-325.

McGraw, K. & McCullers, J. (1979). Evidence of a detrimental effect of extrinsic incentives on breaking a mental set. Journal of Experimental Social Psychology, 15, 285-294.

McMullin, D. & Steffen, J. (1982). Intrinsic motivation and performance standards. Social Behavior and Personality, 10, 47-56.

Means, B., Chelemer, C., & Knapp, M. (Eds). (1991). Teaching advanced skills to at-risk students. San Francisco: Jossey-Bass.

Meece, J. (1991). The classroom context and students' motivational goals. In M. Maehr and P. Pintrich (Eds.), Advances in motivation and achievement: Vol 7. (pp. 261-285). Greenwich, CT: JAI Press.

Meier, D. (1995). The power of their ideas: Lessons for America from a Small School in Harlem. Boston: Beacon Press.

Midgley, C., Feldlaufer, and Eccles, J. (1989) Student/teacher relations and attitudes toward mathematics before and after the transition to junior high school. Child Development, 60, 981-992.

Miller, A. (1985). A developmental study of the cognitive basis of performance impairment after failure. Journal of Personality and Social Psychology, 49, 529-538.

Miller, A. (1986). Performance impairment after failure; Mechanism and sex differences. Journal of Educational Psychology, 78, 486-491.

National Commission on Excellence in Education, (1983). A nation at risk. United States.

National Council on Education Standards and Testing (1992). Raising Standards for American Education. Washington, DC: United States Department of Education.

Nelson-Le Gall, S. & Jones, E. (1990). Classroom help-seeking behavior of African-American children. Education and Urban Society, 24, 27-40.

Nicholls, J. (1983). Conception of ability and achievement motivation: A theory and its implications for education. In S. Paris, G. OLson, and H. Stevenson (Eds.), Learning

and motivation in the classroom (pp.211-237). Hillsdale, NJ: Erlbaum.

Nicholls, J. (1984). Achievement motivation; Conceptions of ability, subjective experience, task choice, and performance. Psychological Review, 91, 328-346.

Pearlman, C. (1984). The effects of effectance motivation, IQ, and a penalty/reward contingency on the choice of problem difficulty. Child Development, 55, 537-542.

Peters, R. (1978). Effects of anxiety, curiosity, and perceived instructor threat on student verbal behavior in the classroom. Journal of Educational Psychology, 70, 388-395.

Piaget, J. (1952). The origins of intelligence in children. NY: W.W. Norton.

Pintrich, P. & Blumenfeld, P. (1985). Classroom experience and children's self-perceptions of ability, effort, and conduct. Journal of Educational Psychology, 77, 646-657.

Pintrich, P. & De Groot, E. (1990). Motivational and self-regulated learning components of classroom academic performance. Journal of Educational Psychology, 82, 33-40.

Pittman, T., Boggiano, A. & Ruble, D. (1983). Intrinsic and extrinsic motivational orientations: Limiting conditions on motivation. In J. Levine and M. Wang (Eds.) Teacher and student perceptions: Implications for learning. (pp. 319-340). Hillsdale, NJ: Lawrence Erlbaum.

Purkey, S., & Smith, M. (1985). School reform: The district policy implications of the effective schools literature. Elementary School Journal, 85 (3), 353-389.

Richardson, V., Casanova, U., Placier, P. & Guilfoyle, K. (1989). School children at-risk. London, New York, Philadelphia: Falmer Press.

Ryan, R. (1982). Control and information in the intrapersonal sphere: An extension of cognitive evaluation theory. Journal of Personality and Social Psychology, 43, 450-461.

Ryan, R. & Connell, J. (1989). Perceived locus of causality and internalization: Examining reasons for acting in two domains. Journal of Personality and Social Psychology, 57, 749-761.

Schiefele, U. and Csikszentmihalyi, M. (1993). Interest and the quality of experience in classrooms. Studies in Educational Psychology, No. 6, Munich.

Schlechty, P. (1991). Schools for the 21st century. San Francisco: Jossey-Bass.

Shapira, Z. (1976). Expectancy determinants of intrinsically motivated behavior. Journal of Personality and Social Psychology, 34, 1235-1244.

Sizer, T. (1992). Horace's school: Redesigning the American high school. New York: Houghton-Mifflin.

Slavin, R., Karweit, N. and Madden, N. (1989). Effective programs for students at risk. Boston: Allyn and Bacon.

Stevenson, H., Chen, C., & Uttal, D. (1990). Beliefs and achievement: A study of Black, White, and Hispanic children. Child Development, 61, 508-523.

Stipek, D. (1993). Motivation to learn: From theory to practice. Boston: Allyn and Bacon.

Stringfield, S., Winfield, L., Millsap, M.A., Puma, M., Gamse, B. & Randall, B. (1994). Urban and suburban/rural special strategies for educating disadvantaged children. Washington, D.C.: The Office of the Under Secretary, U.S. Department of Education.

Teel, K. (1993). "Addressing low achievement among inner-city African-American middle school students: A teacher-researcher's classroom study." Unpublished doctoral dissertation, University of California, Berkeley.

Theobald, M. (1995). What students say about common teaching practices. Middle School Journal, 26(4), 18-22.

Trevino, S. (1991). Success for at-risk students. Principal, 70 (3), 31-34.

Trickett, E. & Moos, R. (1973). Social environment in the classroom. Journal of Educational Psychology, 65, 93-102.

Wagner, T. (1995). What's school really for anyway? And who should decide? Phi Delta Kappan, 76 (5), 393-398.

Wehlage, G., & Rutter, R.A. (1986). Dropping out: How much do schools contribute to the problem? Teachers College Record, 87, 374-392.

White, R. (1959). Motivation reconsidered: The concept of competence. Psychological Review, 66, 297-333.

Wigfield, A., Eccles, J., MacIver, D. & Reuman, D. (1991). Transitions during early adolescence: Changes in children's domain-specific self-perceptions and general self-esteem across the transition to junior high. Developmental Psychology, 27, 552-565.

Wilson, J. (1994). "Situational motivation: Structuring classrooms to enhance intrinsic motivation to learn." Unpublished doctoral dissertation, University of California, Santa Barbara.

APPENDIX A

Interview Questions for Teachers

What methods or techniques do you use to challenge students?

What methods or techniques do you use to stimulate interest?

What methods or techniques do you use to increase students' perceptions of competence?

APPENDIX B

Interview Questions for Students

Why did you come to "the summer enrichment program"? (new students only)

Why did you come back to "the summer enrichment program"? (returning students only)

How is "the summer enrichment program" different from your regular school?

Are "the summer enrichment program" classes more interesting than classes at your regular school? How?

Do you try harder at "the summer enrichment program" or your regular school? Why?

Do you learn more at "the summer enrichment program" or your regular school? Why?

What do you like about "the summer enrichment program" classes?

What would you change about "the summer enrichment program" classes?

APPENDIX C

Intrinsic Versus Extrinsic Orientation in the Classroom

INSTRUCTIONS TO THE CHILD

We have some sentences here and, as you can see from the top of your sheet where it says "In the Classroom," we are interested in what kinds of things you like to do in school. This is not a test. There are no right or wrong answers. Since kids are very different from one another, each of you will be putting down something different.

First let me explain how these questions work. There are two sample questions at the top. I'll read the first one out loud, which is marked (a), and you follow along with me. (Examiner reads first sample question.) This question talks about two kinds of kids.

(1) What I want you to decide *first* is whether you are more like the kids on the left side who would rather play outdoors, or whether you are more like the kids on the right side who would rather watch T.V. Don't mark anything down yet, but first decide which kind of kid is most like you, and go to that side.

(2) Now, the *second* thing I want you to think about, now that you have decided which kind of kid is most like you, is to decide whether that is only *sort of* true for you, or *really* true. If it's only *sort of* true, then put an X in the box under *sort of* true; if its *really* true for you, then put an X in that box, under *really* true.

(3) For each sentence you only check *one* box. Sometimes it will be on one side of the page, and other times it will be on the other side of the page, but you can only check one box for each sentence. Do you have any questions?

(4) OK, let's try the second sample one, which is (b). (Examiner reads and goes through the same explanation above in points 1, 2, and 3.)

(5) OK, those were just for practice. Now we have some more sentences which I'm going to read out loud. For each one, just check one box, the one that goes with what is true for *you*, what *you* are most like

In the Classroom

Pupil's Form

Name _____ Age _____ Birthday (Month) _____ (Day) _____

Grade _____ Teacher _____ Boy or Girl (circle which)

Sample Questions

Really True for Me	Sort of True for Me				Sort of True for Me	Really True for Me
☐	☐	Some kids would rather play outdoors in their spare time	**BUT**	Other kids would rather watch T.V.	☐	☐
☐	☐	Some kids like hamburgers better than hot dogs	**BUT**	Other kids like hot dogs better than hamburgers.	☐	☐

☐	☐	Some kids like hard work because its a challenge	**BUT**	Other kids prefer easy work that they are sure they can do	☐	☐
☐	☐	When some kids don't understand something right away they want the teacher to tell them the answer	**BUT**	Other kids would rather try and figure it out by themselves	☐	☐
☐	☐	Some kids work on problems to learn how to solve them	**BUT**	Other kids work on problems because you're supposed to	☐	☐
☐	☐	Some kids almost always think that what the teacher says is O.K.	**BUT**	Other kids sometimes think their own ideas are better	☐	☐
☐	☐	Some kids know when they've made mistakes without checking with the teacher	**BUT**	Other kids need to check with the teacher to know if they've made a mistake	☐	☐
☐	☐	Some kids like difficult problems because they enjoy trying to figure them out	**BUT**	Other kids don't like to figure out difficult problems	☐	☐
☐	☐	Some kids do their schoolwork because the teacher tells them to	**BUT**	Other kids do their schoolwork to find out about alot of things they've been wanting to know	☐	☐

	Really True for Me	Sort of True for Me				Sort of True for Me	Real Tru for M
8.	☐	☐	When some kids make a mistake they would rather figure out the right answer by themselves	**BUT**	Other kids would rather ask the teacher how to get the right answer	☐	☐
9.	☐	☐	Some kids know whether or not they're doing well in school without grades	**BUT**	Other kids need to have grades to know how well they are doing in school	☐	☐
10.	☐	☐	Some kids agree with the teacher because they think the teacher is right about most things	**BUT**	Other kids don't agree with the teacher sometimes and stick to their own opinion	☐	☐
11.	☐	☐	Some kids would rather just learn what they have to in school	**BUT**	Other kids would rather learn about as much as they can	☐	☐
12.	☐	☐	Some kids like to learn things on their own that interest them	**BUT**	Other kids think its better to do things that the teacher thinks they should be learning	☐	☐
13.	☐	☐	Some kids read things because they are interested in the subject	**BUT**	Other kids read things because the teacher wants them to	☐	☐
14.	☐	☐	Some kids need to get their report cards to tell how they are doing in school	**BUT**	Other kids know for themselves how they are doing even before they get their report card	☐	☐
15.	☐	☐	If some kids get stuck on a problem they ask the teacher for help	**BUT**	Other kids keep trying to figure out the problem on their own	☐	☐
16.	☐	☐	Some kids like to go on to new work that's at a more difficult level	**BUT**	Other kids would rather stick to the assignments which are pretty easy to do	☐	☐
	☐	☐	Some kids think that what the teacher thinks of their work is the most important thing	**BUT**	For other kids what *they* think of their work is the most important thing	☐	☐
17.	☐	☐	Some kids ask questions in class because they want to learn new things	**BUT**	Other kids ask questions because they want the teacher to notice them	☐	☐
	☐	☐	Some kids aren't really sure if they've done well on a test until they get their papers back with a mark on it	**BUT**	Other kids pretty much know how well they did even before they get their paper back	☐	☐

Really True for Me	Sort of True for Me				Sort of True for Me	Really True for Me
☐	☐	Some kids like the teacher to help them plan what to do next	**BUT**	Other kids like to make their own plans for what to do next	☐	☐
☐	☐	Some kids think they should have a say in what work they do in school	**BUT**	Other kids think that the teacher should decide what work they should do	☐	☐
☐	☐	Some kids like school subjects where its pretty easy to just learn the answers	**BUT**	Other kids like those school subjects that make them think pretty hard and figure things out	☐	☐
☐	☐	Some kids aren't sure if their work is really good or not until the teacher tells them	**BUT**	Other kids know if its good or not before the teacher tells them	☐	☐
☐	☐	Some kids like to try to figure out how to do school assignments on their own	**BUT**	Other kids would rather ask the teacher how it should be done	☐	☐
☐	☐	Some kids do extra projects so they can get better grades	**BUT**	Other kids do extra projects because they learn about things that interest them	☐	☐
☐	☐	Some kids think its best if they decide when to work on each school subject	**BUT**	Other kids think that the teacher is the best one to decide when to work on things	☐	☐
☐	☐	Some kids know they didn't do their best on an assignment when they turn it in	**BUT**	Other kids have to wait til the teacher grades it to know that they didn't do as well as they could have	☐	☐
☐	☐	Some kids don't like difficult schoolwork because they have to work too hard	**BUT**	Other kids like difficult schoolwork because they find it more interesting	☐	☐
☐	☐	Some kids like to do their schoolwork without help	**BUT**	Other kids like to have the teacher help them do their schoolwork	☐	☐
☐	☐	Some kids work really hard to get good grades	**BUT**	Other kids work hard because they really like to learn things	☐	☐

ian Harter, Ph.D., University of Denver (Colorado Seminary), 1980

APPENDIX D

What I Am Like

Name _____ Age _____ Birthday _____ (Month / Day) Group _____

Boy or Girl (circle which)

SAMPLE SENTENCE

	Really True for me	Sort of True for me				Sort of True for me	Really True for me
(a)	☐	☐	Some kids would rather play outdoors in their spare time	BUT	Other kids would rather watch T.V.	☐	☐
1.	☐	☐	Some kids feel that they are very *good* at their school work	BUT	Other kids *worry* about whether they can do the school work assigned to them.	☐	☐
2.	☐	☐	Some kids find it *hard* to make friends	BUT	Other kids find it's pretty *easy* to make friends.	☐	☐
3.	☐	☐	Some kids do very *well* at all kinds of sports	BUT	Other kids *don't* feel that they are very good when it comes to sports.	☐	☐
4.	☐	☐	Some kids are *happy* with the way they look	BUT	Other kids are *not* happy with the way they look.	☐	☐
5.	☐	☐	Some kids often do *not* like the way they *behave*	BUT	Other kids usually *like* the way they behave.	☐	☐
6.	☐	☐	Some kids are often *unhappy* with themselves	BUT	Other kids are pretty *pleased* with themselves.	☐	☐
7.	☐	☐	Some kids feel like they are *just as smart* as as other kids their age	BUT	Other kids aren't so sure and *wonder* if they are as smart.	☐	☐
8.	☐	☐	Some kids have *alot* of friends	BUT	Other kids *don't* have very many friends.	☐	☐

	Really True for me	Sort of True for me				Sort of True for me	Really True for me
9.	☐	☐	Some kids wish they could be alot better at sports	BUT	Other kids feel they are good enough at sports.	☐	☐
10.	☐	☐	Some kids are *happy* with their height and weight	BUT	Other kids wish their height or weight were *different.*	☐	☐
11.	☐	☐	Some kids usually do the *right* thing	BUT	Other kids often *don't* do the right thing.	☐	☐
12.	☐	☐	Some kids *don't* like the way they are leading their life	BUT	Other kids *do* like the way they are leading their life.	☐	☐
13.	☐	☐	Some kids are pretty *slow* in finishing their school work	BUT	Other kids can do their school work *quickly.*	☐	☐
14.	☐	☐	Some kids would like to have alot more friends	BUT	Other kids have as many friends as they want.	☐	☐
15.	☐	☐	Some kids think they could do well at just about any new sports activity they haven't tried before	BUT	Other kids are afraid they might *not* do well at sports they haven't ever tried.	☐	☐
16.	☐	☐	Some kids wish their body was *different*	BUT	Other kids *like* their body the way it is.	☐	☐
17.	☐	☐	Some kids usually *act* the way they know they are *supposed* to	BUT	Other kids often *don't* act the way they are supposed to.	☐	☐
18.	☐	☐	Some kids are *happy* with themselves as a person	BUT	Other kids are often *not* happy with themselves.	☐	☐
19.	☐	☐	Some kids often *forget* what they learn	BUT	Other kids can remember things *easily.*	☐	☐
20.	☐	☐	Some kids are always doing things with *alot* of kids	BUT	Other kids usually do things *by themselves.*	☐	☐

	Really True for me	Sort of True for me				Sort of True for me	Really True for me
21.	☐	☐	Some kids feel that they are *better* than others their age at sports	**BUT**	Other kids *don't* feel they can play as well.	☐	☐
22.	☐	☐	Some kids wish their physical appearance (how they look) was *different*	**BUT**	Other kids *like* their physical appearance the way it is.	☐	☐
23.	☐	☐	Some kids usually get in *trouble* because of things they do	**BUT**	Other kids usually *don't* do things that get them in trouble.	☐	☐
24.	☐	☐	Some kids *like* the kind of *person* they are	**BUT**	Other kids often wish they were someone else.	☐	☐
25.	☐	☐	Some kids do *very well* at their classwork	**BUT**	Other kids *don't* do very well at their classwork.	☐	☐
26.	☐	☐	Some kids wish that more people their age liked them	**BUT**	Other kids feel that most people their age *do* like them.	☐	☐
27.	☐	☐	In games and sports some kids usually *watch* instead of play	**BUT**	Other kids usually *play* rather than just watch.	☐	☐
28.	☐	☐	Some kids wish something about their face or hair looked *different*	**BUT**	Other kids *like* their face and hair the way they are.	☐	☐
29.	☐	☐	Some kids do things they know they *shouldn't* do	**BUT**	Other kids *hardly ever* do things they know they shouldn't do.	☐	☐
30.	☐	☐	Some kids are very *happy* being the way they are	**BUT**	Other kids wish they were *different.*	☐	☐
31.	☐	☐	Some kids have *trouble* figuring out the answers in school	**BUT**	Other kids almost *always* can figure out the answers.	☐	☐
32.	☐	☐	Some kids are *popular* with others their age	**BUT**	Other kids are *not* very popular.	☐	☐

	Really True for me	Sort of True for me				Sort of True for me	Really True for me
33.	☐	☐	Some kids *don't* do well at new outdoor games	**BUT**	Other kids are *good* at new games right away.	☐	☐
34.	☐	☐	Some kids think that they are good looking	**BUT**	Other kids think that they are not very good looking.	☐	☐
35.	☐	☐	Some kids behave themselves very well	**BUT**	Other kids often find it hard to behave themselves.	☐	☐
36.	☐	☐	Some kids *are* not very happy with the way they do alot of things	**BUT**	Other kids think the way they do things is *fine*.	☐	☐

APPENDIX E

Intrinsic Versus Extrinsic Orientation in the Classroom

SCORING KEY: 4 = most intrinsic, 1 = most extrinsic

Scores (4, 3, 2, or 1) are in the box for each individual item.
Subscale designations are indicated under each item number coded in terms of the intrinsic pole:
PC: Preference for Challenge vs. Preference for Easy Work Assigned
CI: Curiosity/Interest vs. Pleasing the Teacher, Getting Grades
IM: Independent Mastery vs. Dependence on the Teacher
IJ: Independent Judgment vs. Reliance on the Teacher's Judgment
IC: Internal Criteria for Success/Failure vs. External Criteria

	Really True for Me	Sort of True for Me				Sort of True for Me	Really True for Me
1. (PC)	4	3	Some kids like hard work because it's a challenge	**BUT**	Other kids prefer easy work that they are sure they can do	2	1
2. (IM)	1	2	When some kids don't understand something right away they want the teacher to tell them the answer	**BUT**	Other kids would rather try and figure it out by themselves	3	4
3. (CI)	4	3	Some kids work on problems to learn how to solve them	**BUT**	Other kids work on problems because you're supposed to	2	1
4. (IJ)	1	2	Some kids almost always think that what the teacher says is O.K.	**BUT**	Other kids sometimes think their own ideas are better	3	4
5. (IC)	4	3	Some kids know when they've made mistakes without checking with the teacher	**BUT**	Other kids need to check with the teacher to know if they've made a mistake	2	1
6. (PC)	4	3	Some kids like difficult problems because they enjoy trying to figure them out	**BUT**	Other kids don't like to figure out difficult problems	2	1
7. (CI)	1	2	Some kids do their schoolwork because the teacher tells them to	**BUT**	Other kids do their schoolwork to find out about alot of things they've been wanting to know	3	4

	Really True for Me	Sort of True for Me				Sort of True for Me	Real Tru for M
8. (IM)	4	3	When some kids make a mistake they would rather figure out the right answer by themselves	BUT	Other kids would rather ask the teacher how to get the right answer	2	1
9. (IC)	4	3	Some kids know whether or not they're doing well in school without grades	BUT	Other kids need to have grades to know how well they are doing in school	2	1
10. (IJ)	1	2	Some kids agree with the teacher because they think the teacher is right about most things	BUT	Other kids don't agree with the teacher sometimes and stick to their own opinion	3	4
11. (PC)	1	2	Some kids would rather just learn what they have to in school	BUT	Other kids would rather learn about as much as they can	3	4
12. (IJ)	4	3	Some kids like to learn things on their own that interest them	BUT	Other kids think it's better to do things that the teacher thinks they should be learning	2	1
13. (CI)	4	3	Some kids read things because they are interested in the subject	BUT	Other kids read things because the teacher wants them to	2	1
14. (IC)	1	2	Some kids need to get their report cards to tell how they are doing in school	BUT	Other kids know for themselves how they are doing even before they get their report card	3	4
15. (IM)	1	2	If some kids get stuck on a problem they ask the teacher for help	BUT	Other kids keep trying to figure out the problem on their own	3	4
16. (PC)	4	3	Some kids like to go on to new work that's at a more difficult level	BUT	Other kids would rather stick to the assignments which are pretty easy to do	2	1
17. (IJ)	1	2	Some kids think that what the teacher thinks of their work is the most important thing	BUT	For other kids what *they* think of their work is the most important thing	3	4
18. (CI)	4	3	Some kids ask questions in class because they want to learn new things	BUT	Other kids ask questions because they want the teacher to notice them	2	1
19. (IC)	1	2	Some kids aren't really sure if they've done well on a test until they get their papers back with a mark on it	BUT	Other kids pretty much know how well they did even before they get their paper back	3	4

	Really True for Me	Sort of True for Me				Sort of True for Me	Really True for Me
20. (IM)	1	2	Some kids like the teacher to help them plan what to do next	BUT	Other kids like to make their own plans for what to do next	3	4
21. (IJ)	4	3	Some kids think they should have a say in what work they do in school	BUT	Other kids think that the teacher should decide what work they should do	2	1
22. (PC)	1	2	Some kids like school subjects where it's pretty easy to just learn the answers	BUT	Other kids like those school subjects that make them think pretty hard and figure things out	3	4
23. (IC)	1	2	Some kids aren't sure if their work is really good or not until the teacher tells them	BUT	Other kids know if it's good or not before the teacher tells them	3	4
24. (IM)	4	3	Some kids like to try to figure out how to do school assignments on their own	BUT	Other kids would rather ask the teacher how it should be done	2	1
25. (CI)	1	2	Some kids do extra projects so they can get better grades	BUT	Other kids do extra projects because they learn about things that interest them	3	4
26. (IJ)	4	3	Some kids think it's best if they decide when to work on each school subject	BUT	Other kids think that the teacher is the best one to decide when to work on things	2	1
27. (IC)	4	3	Some kids know they didn't do their best on an assignment when they turn it in	BUT	Other kids have to wait til the teacher grades it to know that they didn't do as well as they could have	2	1
28. (PC)	1	2	Some kids don't like difficult schoolwork because they have to work too hard	BUT	Other kids like difficult schoolwork because they find it more interesting	3	4
29. (IM)	4	3	Some kids like to do their schoolwork without help	BUT	Other kids like to have the teacher help them do their schoolwork	2	1
30. (CI)	1	2	Some kids work really hard to get good grades	BUT	Other kids work hard because they really like to learn things	3	4

APPENDIX F

What I Am Like

SCORING KEY

SELF-PERCEPTION PROFILE FOR CHILDREN
(Revision of the Perceived Competence Scale for Children

Susan Harter, Ph.D., University of Denver, 1985

1.	4	3	Some kids feel that they are very *good* at their school work	**BUT**	Other kids *worry* about whether they can do the school work assigned to them.	2	1
2.	1	2	Some kids find it *hard* to make friends	**BUT**	Other kids find it's pretty *easy* to make friends.	3	4
3.	4	3	Some kids do very *well* at all kinds of sports	**BUT**	Other kids *don't* feel that they are very good when it comes to sports.	2	1
4.	4	3	Some kids are *happy* with the way they look	**BUT**	Other kids are *not* happy with the way they look.	2	1
5.	1	2	Some kids often do *not* like the way they *behave*	**BUT**	Other kids usually *like* the way they behave.	3	4
6.	1	2	Some kids are often *unhappy* with themselves	**BUT**	Other kids are pretty *pleased* with themselves.	3	4
7.	4	3	Some kids feel like they are *just as smart* as as other kids their age	**BUT**	Other kids aren't so sure and *wonder* if they are as smart.	2	1
8.	4	3	Some kids have *alot* of friends	**BUT**	Other kids *don't* have very many friends.	2	1

	Really True for me	Sort of True for me				Sort of True for me	Really True for me
9.	1	2	Some kids wish they could be alot better at sports	BUT	Other kids feel they are good enough at sports.	3	4
10.	4	3	Some kids are *happy* with their height and weight	BUT	Other kids wish their height or weight were *different.*	2	1
11.	4	3	Some kids usually do the *right* thing	BUT	Other kids often *don't* do the right thing.	2	1
12.	1	2	Some kids *don't* like the way they are leading their life	BUT	Other kids *do* like the way they are leading their life.	3	4
13.	1	2	Some kids are pretty *slow* in finishing their school work	BUT	Other kids can do their school work *quickly.*	3	4
14.	1	2	Some kids would like to have alot more friends	BUT	Other kids have as many friends as they want.	3	4
15.	4	3	Some kids think they could do well at just about any new sports activity they haven't tried before	BUT	Other kids are afraid they might *not* do well at sports they haven't ever tried.	2	1
16.	1	2	Some kids wish their body was *different*	BUT	Other kids *like* their body the way it is.	3	4
17.	4	3	Some kids usually *act* the way they know they are *supposed* to	BUT	Other kids often *don't* act the way they are supposed to.	2	1
18.	4	3	Some kids are *happy* with themselves as a person	BUT	Other kids are often *not* happy with themselves.	2	1
19.	1	2	Some kids often *forget* what they learn	BUT	Other kids can remember things *easily.*	3	4
20.	4	3	Some kids are always doing things with *alot* of kids	BUT	Other kids usually do things *by themselves.*	2	1

	Really True for me	Sort of True for me				Sort of True for me	Really True for me
21.	4	3	Some kids feel that they are *better* than others their age at sports	BUT	Other kids *don't* feel they can play as well.	2	1
22.	1	2	Some kids wish their physical appearance (how they look) was *different*	BUT	Other kids *like* their physical appearance the way it is.	3	4
23.	1	2	Some kids usually get in *trouble* because of things they do	BUT	Other kids usually *don't* do things that get them in trouble.	3	4
24.	4	3	Some kids *like* the kind of *person* they are	BUT	Other kids often wish they were someone else.	2	1
25.	4	3	Some kids do *very well* at their classwork	BUT	Other kids *don't* do very well at their classwork.	2	1
26.	1	2	Some kids wish that more people their age liked them	BUT	Other kids feel that most people their age *do* like them.	3	4
27.	1	2	In games and sports some kids usually *watch* instead of play	BUT	Other kids usually *play* rather than just watch.	3	4
28.	1	2	Some kids wish something about their face or hair looked *different*	BUT	Other kids *like* their face and hair the way they are.	3	4
29.	1	2	Some kids do things they know they *shouldn't* do	BUT	Other kids *hardly ever* do things they know they shouldn't do.	3	4
30.	4	3	Some kids are very *happy* being the way they are	BUT	Other kids wish they were *different*.	2	1
31.	1	2	Some kids have *trouble* figuring out the answers in school	BUT	Other kids almost *always* can figure out the answers.	3	4
32.	4	3	Some kids are *popular* with others their age	BUT	Other kids are *not* very popular.	2	1

	Really True for me	Sort of True for me				Sort of True for me	Really True for me
33.	1	2	Some kids *don't* do well at new outdoor games	**BUT**	Other kids are *good* at new games right away.	3	4
34.	4	3	Some kids think that they are good looking	**BUT**	Other kids think that they are not very good looking.	2	1
35.	4	3	Some kids behave themselves very well	**BUT**	Other kids often find it hard to behave themselves.	2	1
36.	1	2	Some kids *are* not very happy with the way they do alot of things	**BUT**	Other kids think the way they do things is *fine.*	3	4

Susan Harter, Ph.D., University of Denver, 1985