

Increasing Academic, Behavioral, and Psychological Engagement Among At Risk Junior High Students*

Patty Grady

Santa Maria Bonita School District

Abstract

The purpose of this study was to determine the effectiveness of incorporating academic, behavioral, and psychological engagement interventions into a junior high school alternative program for students identified as at risk of dropping out of high school. A Matching-Only/Pretest-Posttest/ Control Group Design was used to investigate the program's effectiveness. The study incorporated both qualitative and quantitative instruments, including student and teacher surveys, classroom observations, and individual student data on academic grades, behavioral referrals, suspensions, and attendance. Statistically significant differences favoring the program were found in academic engagement, using student GPA and level of motivation. Differences were also found for behavioral referrals, suspensions, attendance, and students' perceived sense of belonging and acceptance by adults. These findings assist current and future school administrators in implementing an alternative program at the junior high level for identified students at risk of dropping out of school.

KEYWORDS: dropouts, school engagement, junior high school, at risk students' intervention programs

Students who drop out of school are a serious problem in American K–12 education. The statistics on dropouts, as reported by the National Center for Educational Statistics (NCES) and the National Dropout Prevention Center/Network (NDPC/N), are alarming and an area of concern. The NCES (2005) reports that five out of every 100 students enrolled in high school in October 2000 left school before October 2001 without successfully completing a high school program; from 1990 through 2001 between 347,000 and 544,000 students in grades 10–12 dropped out of high school; in October 2001, 3.8 million students were not enrolled in a high school program and 77% of these students were between 15–18 years in age; and males were more likely than females to be high school dropouts. These dropout rates threaten our economy, the safety of our communities, and the life prospects of many of our strug-

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gling young people (Brown, 2005). Because of the gravity of this dropout issue, it receives a great deal of attention from parents, educators, policymakers, politicians, and the media.

Literature Review

Dropouts and the Economy

The economic impact of young people leaving school before obtaining a diploma continues to be an area of concern for many educational professionals and the larger business community. As workforce needs and national expectations about school completion have changed, high school graduation has become the expected minimum level of schooling for all children (Montecel, Cortez, & Cortez, 2004). The National Research Council (NRC) (2004) reports that manufacturing jobs with good wages once available to unskilled workers are rapidly disappearing, resulting in higher unemployment rates. The NCES (2005) found that the unemployment rate for the group of students who dropped out between October 2000 and October 2001 was 29.8%, almost 13% higher than the unemployment rate for recent high school graduates who were not enrolled in college.

The U.S. Department of Education (1996) found that high school dropouts who succeed in finding jobs earn less money compared to high school graduates. It is estimated that half of all young people ages 17 to 24 who have not completed high school are unemployed or hold jobs paying less than \$300 per week (NRC, 2004). The median annual earnings of men ages 25 to 34 who dropped out of high school plummeted from \$30,346 in 1970 to \$18,582 in 1999 (NRC, 2004). The difference in full-time earnings may not be as prominent as expected between graduates and non-graduates; however, the ability to sustain these full-time earnings by maintaining stable, long-term employment is also an issue for dropouts. Research has found that individuals who do not complete high school tend to be employed in low wage jobs or are unable to maintain employment at all due to a lack of basic skills (Horne, 1997).

Lerman and Schmidt (1999) examined the relationship between individuals in low-wage jobs and literacy level. Low-wage jobs have been found to be concentrated among young workers and workers with low levels of educational and/or functional literacy. A substantial share of the US population between the ages of 25–54 lacks the basic skills expected for a wide range of well-paying jobs. Approximately 14% of

the working population cannot systematically perform such tasks as understanding an appliance warranty or totaling a list of costs. Also, 30% of male workers and 56% of female workers at the lowest literacy level are in low-earning positions. Literacy skills and educational level was found to have a strong positive relationship when predicting job market outcomes (Lerman & Schmidt, 1999).

Changes in the structure of society and the workplace have led to a greater need for a broad range of skills and capabilities in people as they transition from school to work. More jobs are requiring skills that call for mastery of basic reading, writing, math, and workplace skills. New technologies are eliminating less-skilled positions and expanding demand for people who can work in an increasingly complex service sector (Lerman & Schmidt, 1999). Young people leaving school early will not only lack the skills and capabilities necessary for the workplace, but they will also lack the capacity to effectively participate in today's society (Lerman & Schmidt, 1999).

Dropouts and Social Costs

Dropping out of school has long-term social costs. Dropouts who are poorly educated often lack adequate skills to secure employment and become self-sufficient adults (Ingersoll & LeBoeuf, 1997). High school dropouts who are employed tend to be compensated at the low end of the pay scale and rarely have job security and benefits (Ingersoll & LeBoeuf, 1997). Consequently, many high school dropouts struggle to maintain a basic standard of living and often require the assistance of the welfare system, at an economic and social cost to society.

Society pays a high economic price for students who drop out of school. JDP faculty member, Russell Rumberger (cited in Civil Rights Project, 2005), estimated that 66,657 students dropped out of public schools in California during the 2002–2003 school year, and these dropouts cost the state of California \$14 billion in lost wages. Annual losses exceed \$50 billion in federal and state income taxes for all high school dropouts ages 18–67 years old (Rouse, 2005). America also loses \$192 billion in combined income and tax revenue losses with each group of 18 year olds who never complete high school (Rouse, 2005).

One report found that employers report difficulties finding employees with the skills, knowledge, habits, and attitudes required for technologically sophisticated positions (Eric Clearinghouse on Assessment and Evaluation, 1999). The report states that though the pay that such employers offer is excellent, the supply of competent,

educated workers is too meager to fill available jobs. Ingersoll and Leboef (1997) noted that:

The staggering economic and social costs of providing for the increasing population of youth who are at risk for leaving or who have left the education system are an intolerable drain on the resources of federal, state, and local governments and the private sector. (p. 3)

Dropouts and Incarceration

A percentage of youth who leave the educational system early are being incarcerated for high-risk crimes, also a cost to federal, state, and local governments. The Women In Prison Project (2005) found a correlation between dropout rates and the rate of incarceration. The study reported that from 2002–2003 the number of female prisoners nationwide rose by 6.3%, nearly double the increase in men. The Project also noted that among the incarcerated women, more than 60% lacked a high school diploma and only 44% could read above the eighth-grade level.

Gay (2003) also found a strong relationship between failure in school and the odds that young males, especially African American males, will end up behind bars. Justice Policy Institute statistics showed that 13% of white school dropouts had prison records by the time they were in their early thirties, as compared to 52% of black male dropouts in the same age brackets (Gay, 2003). The same report found that the jail population grew by 3.7% between 2001 and 2002, three times the previous year's growth (Gay, 2003). This research found that 29% of inmates had completed high school and 17% of youth under the age of 18 entering adult prisons had not completed the eighth grade.

In 1999, 3.1% of the nation's adult population (6.3 million adults) were under some form of correctional supervision including incarceration, probation or parole. Additionally, 98,913 juveniles were incarcerated in public or private juvenile facilities. In 1999, the federal, state, and local inmate population was 1,851,062. The average cost per year to incarcerate an inmate in the United States is \$20,674, the federal average cost is \$23,542, and the state average is \$20,261 (Office of Juvenile Justice and Delinquency Prevention [OJJDP], 2000). Individuals who are costing federal, state, and local governments large amounts of money to incarcerate also represent a high percentage of the dropout population nationwide (Lerman & Schmidt, 1999).

Student Engagement

The decision to drop out may be related to students' steady decline in their levels of engagement and motivation as they progress through secondary school, as documented by a number of studies. Student engagement is an integral part of students' school persistence (Finn, 1993). Society has a responsibility to use what we know to better engage adolescents in learning and prepare them for future opportunities and the responsibilities they are to assume (NRC, 2004). High motivation and engagement in learning have been linked to reduced dropout rates and increased levels of school success (Morse, Anderson, Christenson, & Lehr, 2004).

Various scholars have investigated student engagement, and although engagement has been defined to include similar components, it is often defined to include dissimilar components, too (Christenson, 2002; Johnson, Crosnoe, & Elder, 2001; Morse et al., 2004; Ryan, 2000; Rumberger & Larsen, 1998). Most recently, Christenson (2002) defines engagement as a "multi-dimensional construct" that involves four types of engagement and associated indicators:

- *Academic engagement* refers to time on task, academic engaged time, and number of credits earned
- *Behavioral engagement* includes attendance, suspension, class participation, and extra-curricular activities
- *Cognitive engagement* refers to focus on academic tasks, processing information, and self-directed learning
- Psychological engagement includes identification with school, sense of belonging, and positive peer relationships

This study proposes a model that is based on previous scholarship and that focuses explicitly on three out of the four types of engagement as defined by Christenson (2002): academic, behavioral, and psychological engagement. Christenson's research concludes that interventions designed to enhance school completion must address the core issues associated with student alienation and disengagement from school. This study proposed to investigate how these three components of Christenson's model influenced the attitudes and behaviors of 30 at-risk students in an alternative program at four local junior high schools. Students who have been identified as at-risk were placed in the program and were provided with interventions designed to improve their level of academic, behavioral, and psychological engagement.

Research Questions

The following questions regarding at risk students and student engagement were addressed in this study:

1. Prior to participation, how do at risk students' academic, behavioral, and psychological engagements differ between students placed in a dropout prevention program and those who are not so placed?
2. Do at risk students in a self-contained program, with a specialized curriculum, have different outcomes in academic, behavioral, and psychological engagement from at risk students who do not participate in the program?

Method

Research Design

A treatment with comparison group design was used to structure the study. The study did not use random sampling or random assignment because the classes chosen for this study were intact from the beginning of the 2005/6 school year. The students had been placed in the classes due to excessive behavior problems and low academic grades from the previous year. The design chosen to test the research questions was a Matching-Only/Pretest-Posttest/Comparison group design.

Selection of Study Sample

The Central Coast District (pseudonym) is located in Santa Maria, California, a city of 82,000 people, located 60 miles north of Santa Barbara and 30 miles south of San Luis Obispo. Central Coast District includes 15 elementary schools and four junior high schools. The study was conducted at the four district junior high campuses throughout the third quarter of the 2005/6 school year.

The subjects included seventh and eighth-grade alternative program students. Research has found that students placed in such programs are usually behind their peers academically and exhibit severe disciplinary problems (Lehr & Lange, 2003). Participants chosen for the study exhibited three or more of the following behaviors: a) below a 2.0 grade point average (GPA); b) excessive absences; c) suspension(s)

from school; d) numerous disciplinary referrals; and e) not involved in extracurricular activities.

Treatment group. The participants in the treatment group were chosen based on purposive sampling. Although the participants may not be representative of all students at risk for dropping out of high school, students in this investigation possessed many of the characteristics and criteria articulated in the extant literature for dropping out of school. Students at the participating junior high schools were placed in the alternative classroom at the start of the 2005/6 school year due to the nature of their academics, behaviors, and attendance the previous year. Each of these students exhibited behavior problems, in and out of the classrooms, that led to excessive disciplinary referrals and their eventual suspension from school. The behaviors that were found in the treatment group were violations of Education Code (A) fights and (C) drug possession or being under the influence while on campus. Academically, students in these programs did not complete homework or classwork and the majority of them maintained a GPA of less than 2.0 the previous year. Attendance was also an issue. Many of the students had accumulated numerous truant and/or unexcused absences the previous academic year.

Comparison group. The comparison group consisted of students who qualified for the study based on the same criteria as the treatment group; however, these students were not placed in the alternative program on campus. The majority of the suspensions resulted in Education Code (K) for disruptions, defiance, and disobedience. Academically the students maintained a 1.0 to a 1.9 cumulative GPA from the previous year. Attendance was also an issue for these students, although many of the absences were classified as illness and had been excused.

Program Implementation

Academic, behavioral, and psychological engagement, as defined by Christenson (2002), was the conceptual lens for this study and was incorporated into a dropout prevention program. The program was implemented with approximately 30 students during the third quarter of the 2005/6 school year at four junior high schools. The students assigned to the programs were selected by the administration on each campus and identified as at-risk for not graduating from high school.

The treatment group was placed in a self-contained alternative program on the school site for 75% of the day. Students completed a survey that measured their perception of their level of engagement at school at the beginning of the treatment

period. Teachers also completed a rating scale on each student during this time. Academic grades and grade point averages were also collected at the end of the second quarter of the 2005/6 school year. Information was also gathered on behavioral referrals, numbers of suspensions, and attendance for the second quarter of the school year. A post-test was administered three months after students began the intervention program at the end of the third quarter. The post-test included the student engagement survey, teacher rating scale, and the students' academic and behavioral data.

The curriculum for the self-contained program included lessons based on grade-level standards in math, English, and science along with an intervention component based on improving academic, behavioral, and psychological performance. Academically, the students were provided with a grade-appropriate curriculum and assistance with assignments before, during, and after school through a tutorial program. Weekly progress reports, six-week progress reports, and quarter grades all measured academic progress. Behaviorally, students received individual and group counseling that focused on personal and family issues. A character education curriculum was also incorporated to assist students in conflict resolution. The students' attendance and any disciplinary incidents were monitored weekly, and students were rewarded for improved attendance and behaviors on campus.

The study compared the students placed in the alternative program with a comparable group of at-risk students not receiving the engagement curriculum for a three-month intervention period that was implemented during the third quarter of the 2005/6 school year. Student engagement for the comparison group was measured with the same instruments and intervals as the treatment group as a form of comparison. Both groups completed a student engagement survey at the beginning of the study and again at the conclusion of the study to determine a student's increased or decreased level of engagement; a teacher rating scale was also completed on the students. Student data were collected again at the end of the third quarter and compared to the second-quarter data. Pre- and posttest data were compared and analyzed.

Instrumentation

The instruments used to determine the effectiveness of the intervention program were both qualitative and quantitative. On the qualitative front, the researcher observed classrooms so as to ensure proper implementation of the program, reduce threats to

the study's internal validity, and provide qualitative data for analysis. Observations included a written narrative on teacher and student discussion. Classroom participation, such as responding to questions and participating in the lesson, were also noted. On the quantitative front, data were collected by administering a Likert-scale survey, Psychological Sense of School Membership (PSSM) (Goodenow, 1993). The PSSM survey measured sense of belonging and peer relationships. A Teacher Rating scale was also completed by the students' homeroom teachers which measured a student's sense of school membership and of class participation. Data were also collected on each student in the areas of academic grades, attendance, behavioral referrals, and suspensions at the end of the second quarter of the 2005/6 school year and at the end of the third quarter of the same school year.

Procedural Details

Effective components associated with alternative classes for at-risk students are: a) small and low teacher/pupil ratio; b) faculty who develop caring relationships with students; c) high expectations for student achievement; d) fostering of positive peer relationships; and e) development of student self-esteem (Duttweiler, 1995). The alternative classes participating in the study have been developed based on these criteria and current research. Extant literature guided the structure of the class and set the tone for the environment.

Students in the treatment and comparison group completed the PSSM survey prior to participation in the three-month intervention. The Teacher Survey was also completed by a group of selected teachers. For grouping purposes, data on student attendance, academic grades, behavioral referrals, and suspensions accumulated over the second quarter of the 2005/6 school year were also collected prior to implementation of the intervention.

Curricular Components

According to Christenson (2002), the window of time between grades six through nine provides an ideal opportunity to implement academic, behavior, and psychological interventions to help guide students towards academic success.

Academic engagement. Academic engagement is defined as time on task, academic engaged time, and the number of credits earned (Christenson, 2002). The ac-

ademic component of the student engagement curriculum included assistance with academics before, during, and after school. Before-school, teachers were available to assist students with academics subjects in a small tutorial program. During the school day, approximately ten students were placed in a self-contained classroom. The curriculum included both collaborative grouping and one-on-one instruction as needed. Tutorial assistance with all course subjects was also available during the lunch hour. After-school assistance included small tutorial groups and a Tuesday Late Class (TLC) program. Students attended the TLC program for six consecutive Tuesdays from 3:45 p.m. to 7:15 p.m. Students participating in this program were given assistance with English language arts, mathematics, study skills, and conflict management. The academic component of the student engagement curriculum also included weekly and six-week progress reports to monitor academic progress, as well as quarter grades at the end of a 12-week quarter.

Behavioral engagement. Christenson (2002) defines behavioral engagement as students' attendance, number of suspensions, and amount of time spent participating in class and extra curricular activities. The behavioral component of the student engagement program included counseling, character education lessons, attendance, and disciplinary monitoring and rewards. The counseling component involved individual and group counseling provided to the students on a weekly and as-needed basis. Individual counseling and group counseling focused on students' personal and family issues. Character education was taught on a daily basis; the lessons included a variety of topics such as handling emotions, dealing with pressure, courage, integrity, responsibility, and trust. Student attendance and disciplinary referrals were also monitored weekly, and students were rewarded for improved attendance and a decrease in disciplinary referrals and suspensions.

Psychological engagement. Psychological engagement is defined as identification with school, sense of belonging, and positive peer relationships (Christenson, 2002). The psychological component of the program included adult mentoring and an environment where students felt connected to the school. Adult mentoring included an adult on campus assigned to each student who made daily contact regarding academics, behavior, and any friend or family issues. The students developed a sense of belonging by assisting academically, behaviorally and socially in the special education classes three days a week. Students were also encouraged to participate in extra-curricular activities on campus.

Data Collection

Data collection for the study began by administering the PSSM survey, followed by classroom observations. A group of selected teachers also completed the Teacher Survey for all participants in both the treatment and comparison groups prior to the implementation of the study. Data were also collected on all participants in the areas of academic grades, behavior (including referrals and suspension), and attendance. Pre-test data were collected at the end of the second quarter of the 2005/6 school year. At the completion of the third quarter, the same data were collected for both the treatment group and the comparison group, and these data were then analyzed to determine if there was a statistical significance between the comparison and treatment groups regarding the pre and post-test data.

Data Analysis

The study was conducted using a mixed method, triangulation design. The qualitative and quantitative data were collected simultaneously and the results compared to answer the research questions posed. Qualitative data were recorded on the observation protocol and coded based on notes obtained through observations. The data were collected through a non-participant observation where the investigator acted as a complete observer by observing and not participating in the activities. The complete observer is most likely to get the truest picture of group activities and is less likely to affect the actions of the group being studied (Fraenkel & Wallen, 2006).

An observation was conducted during the first week of the intervention and again during week twelve at the completion of the intervention. Observations focused on the students' level of participation in class among other students as well as with the teacher. Narrative notes were recorded by recording student responses throughout the lesson. The investigator used the category construction process to code the data in order to capture the recurring patterns that cut across the "preponderance" of the data (Merriam, 1998).

The quantitative data included the results of the PSSM survey, Teacher Survey, and data on academic grades, disciplinary referrals, suspensions, and attendance. Data obtained from the surveys, academic grades, referrals, suspensions and attendance were analyzed using a two-sample t-test assuming equal variances.

Results

Research Question 1: Prior to participation, do at-risk students' academic, behavioral, and psychological engagements differ between students placed in a dropout prevention program and those who are not?

Prior to participation, the comparison and treatment group involved 30 students from each group. The students in the treatment group were previously placed in the alternative program at the beginning of the 2005/6 school year. Placement of students was based on site-administration selection due to excessive behaviors, attendance, and lack of academic effort. The comparison group was selected from a large population of at-risk students who exhibited the same qualifying criteria as the treatment group, but who were not placed in the alternative program.

Classroom observations were conducted to record student responses throughout a teacher-directed lesson for both the comparison group and the treatment group. Student participants were asked to complete a survey that focused on the students' perception of their level of engagement at school prior to participation. Teachers were instructed to complete a survey on their perception of the level of involvement and participation of the students in the classroom as compared to other students in the classroom. Data were also collected, from the second quarter of the 2005/6 school year, on each student's academic grades, behavioral referrals, suspensions and attendance.

Classroom observations were conducted in all four of the alternative classrooms and in math and English classes for the comparison group. Student responses were recorded on the observation form, and then the responses were analyzed on the Category Construction form. Based on these observations, students were categorized as non-participants, partial participants, and full participants.

These data revealed that in general, the level of participation in the classroom did not significantly differ between students placed in the treatment group and those selected for the comparison group prior to the treatment. The PSSM data paint an additional picture that the treatment and control group were similar in their level of participation prior to the implementation of the treatment.

The PSSM was used to measure each of the student participants perceived level of engagement at school. The survey was an 18-question Likert scale with (1) representing a low score and (5) a high score. Three constructs were identified from the 18 questions: 1) School Belonging, 2) Acceptance at School, and 3) Sense of Belonging and Acceptance by Adults.

Each construct was analyzed separately and a two-sample t-test assuming equal variances was used to determine if a statistically significant difference was found between the two groups (see Table 1).

Table 1. Pre-Test Mean Scores for the Psychological Sense of School Membership Survey (PSSM) Comparison Group (n=30)/ Treatment Group (n=30)

Construct	Mean	p-value
<i>Construct 1</i>		
School Relationships		p= 0.98
Comparison	2.71	
Treatment	2.71	
<i>Construct 2</i>		
Acceptance at school		p= 0.30
Comparison	3.44	
Treatment	3.18	
<i>Construct 3</i>		
Sense of belonging		p= 0.12
Acceptance by adults		
Comparison	2.92	
Treatment	3.12	

Note: All constructs represent the mean of the mean responses to particular questionnaire items. Student data covered the period of one quarter (3 months) and was collected at the end of the second quarter of the 2005–2006 school year.

The data from the PSSM revealed that prior to the intervention the comparison and treatment group had similar feelings of psychological engagement. No statistically significant difference ($\alpha=.05$) was found between the groups in any of the identified constructs.

Teacher ratings, however, suggested that the groups were not comparable at the start of the study in terms of motivational level. The Teacher Rating scale was completed by each of the student's teachers. The teachers of the comparison group were selected based on the amount of student contact time spent with each student participant. The rating scale was completed by five English teachers and five math teachers for the comparison group. The teachers of the alternative program completed the survey for each student participant in the treatment group. The rating scale asked each teacher to compare the student participants to other students in the classroom based on their observations. The responses ranged from 1 to 7, with 7 being a high score. Each question was then analyzed through a two-sample t-test to determine if a statistically significant difference existed between the two groups

prior to the intervention.

Prior to the intervention, the teachers perceived the students in both the comparison and treatment groups as requiring the same amount of supervision in the classroom. The pretest data for the Teacher Rating scale indicated, however, a statistically significant difference between the comparison and treatment group in how teachers perceived the students' motivational level in the classroom. The students in the treatment groups were perceived as more motivated in class compared to the students in the comparison group. The treatment group was also perceived as having stronger social interaction skills and academic potential and as being easier to teach, compared to the comparison group.

Data were also collected on student GPA, behavioral referrals, suspensions and attendance at the end of the second quarter of the 2005/6 school year. A two sample t-test was used to determine if a statistically significant difference existed between the comparison and treatment group, for each factor, prior to the intervention (as presented in Table 2).

Table 2. Pretest Mean Scores for Student Data (N=30)

Factors	Comparison	Treatment	p-value
	\bar{M}	\bar{M}	
GPA	1.70	1.45	$p= 0.05$
Behavioral Referrals	0.23	8.66	$p= 0.01^{**}$
Suspensions	0.1	1.45	$p= 0.01^{**}$
Absences	4.36	12.06	$p= 0.01^{**}$

*denotes a statistically significant difference at $p < .05$; **at $p < .01$.

Student data covered the period of one quarter (3 months) and were collected at the end of the second quarter of the 2005–2006 school year.

The pretest data revealed that prior to the intervention there was a statistically significant difference between the comparison and treatment group in behavioral referrals, suspensions, and attendance but not in GPA. The data also revealed that the student participants in the treatment group received more referrals and suspensions and were absent from school more often than the comparison group prior to the intervention.

Taken as a whole, all of the pretest data suggest that the two groups, the treatment and the control, were not quite equivalent to one another. These initial differences must be kept in mind when interpreting the final results of the intervention. Some of

these differences may be due to the initial non-equivalency to the two groups.

At the conclusion of the three-month intervention period, the pre-data collection instruments were completed again for post-data collection by the students and teachers in both the comparison and treatment groups. Qualitative data were also collected at the end of the third quarter and analyzed through the category construction process. Unfortunately, though, there was a loss of some subjects over the course of the treatment period due to attrition. One student in the comparison group was expelled from the district for an Education Code violation. The treatment group lost five students to an alternative county placement, and two students returned to the regular education classes. So, posttest data were analyzed by matching the number of subjects in the comparison group to the number remaining in the treatment group (N=23). The 23 members of the comparison group were selected at random.

Research Question 2: Do at-risk students in a self-contained program with a specialized curriculum have a different outcome in academic, behavioral and psychological engagements from at-risk students who do not participate in the program?

Classroom Observations

A comparison was made using the student observation data between pre- and post-student participation observations. Classroom observations conducted at the conclusion of the intervention period revealed an increase in student participation for both the comparison and treatment group. Sixty-five percent of the treatment group was observed participating in classroom discussions and asking questions to extend their learning, as compared to 56% of the comparison group. Students in the treatment group identified as full participants increased by 15% after the intervention, as compared to a 2% increase for the comparison group.

Student Perceptions

The PSSM was completed again at the end of the intervention period. A two-sample *t*-test was used to determine if a statistically significant difference was found between the comparison and treatment groups after the treatment period (see Table 3). Data revealed that there was no statistically significant difference between the comparison and treatment group for any of the constructs after the intervention

period. However, the comparison group perceived themselves as having stronger school relationships compared to the treatment group. Both the comparison and treatment groups had similar feelings after the intervention regarding acceptance at school, a sense of belonging, and being accepted by adults.

Teacher Perceptions

Teachers were asked to complete the Teacher Rating scale again at the end of the intervention period. Responses ranged from (1), the lowest score, to (7), the highest score. A two-sample *t*-test was used to determine if there was a statistically significant difference between the comparison and treatment group. Each question was analyzed separately

Data revealed a statistically significant difference in the area of motivation between the comparison and treatment group favoring the latter group. After the intervention period, the data also revealed that the treatment group continued to have higher social skills and academic potential and were easier to teach compared to the comparison group.

Table 3. *Post-Test Mean Scores for the PSSM (N=23)*

Factors	Comparison	Treatment	<i>p</i> -value
	\bar{M}	\bar{M}	(<i>p</i> <.05)
School Relationships	2.60	2.37	<i>p</i> = 0.31
Acceptance at School	3.38	3.40	<i>p</i> = 0.95
Sense of Belonging Accepted by Adults	2.69	2.72	<i>p</i> = 0.83

(1) indicate a low score and (5) a high score

Student data covered the period of one quarter (3 months) and was collected at the end of the third quarter of the 2005/06 school year.

A chi-square was also used as a comparison for the Teacher Rating Scale. A significant difference was also found for motivation through the chi-square (*p*=<0.02). More people in the comparison group gave responses (1, 2 and 3) more often than the treatment group. Thirteen people in the comparison group rated motivation (question 2) by giving a response of 1, 2 and 3. Contradistinctively, 13 students in the comparison group gave responses (5–7) to question 2, while only 6 people in the comparison group did so.

Individual Student Data

Individual student data were also collected after the intervention period. The data revealed that a statistically significant difference continued to exist between the comparison and treatment group. The students in the treatment group also continued to receive more behavioral referrals and suspensions on average and were absent from school more often than students in the comparison group.

The primary analysis of this study consisted of comparing the two groups prior to the intervention (n=30) and again at the conclusion of the intervention (n=23). Each measurement was analyzed separately to determine if there was a significant difference between the control and treatment groups.

Prior to the intervention period, the data revealed a statistically significant difference in the areas of motivation and GPA between the two groups. The two groups were very similar in their perceptions of school relationships, acceptance at school, sense of belonging, and feeling accepted by adults at school. Teachers perceived the treatment group as having stronger social skills and academic potential, and being easier to teach than the comparison group. The students in the treatment group also received, on average, more referrals and suspensions than the comparison group and were absent from school more often.

The post-test data also revealed a statistically significant difference between the comparison and treatment groups in motivation and GPA after the intervention period. The two groups continued to having similar feelings regarding school relationships, acceptance at school, a sense of belonging, and being accepted by adults. The teachers also perceived the students in the treatment period as having stronger social skills and academic potential, and being easier to teach as compared to the comparison group. Although the number of referrals, suspensions and days of absences decreased over the quarter, the data revealed that the treatment group continued to receive more referrals and suspensions, and were absent from school more often, than the comparison group.

When comparing pre- and posttest data for the two groups to determine the effect of the specialized curriculum on the treatment group, statistically significant differences were found in student GPA ($p= 0.01$), behavioral referrals ($p<0.01$), suspensions ($p<0.01$), attendance ($p< 0.01$), and students' perceived sense of belonging at school and acceptance by adults ($p=0.02$). A statistical difference was also found in the comparison group when comparing the teachers' perception of the level of motivation students exhibited in class ($p=<0.01$). Teachers of the comparison group

observed a higher level of motivation in the comparison group from the beginning of the third quarter to the end of the quarter.

Comparisons were also made to determine the progression of each group and to determine if the changes between the groups were significantly different. When comparing the differences between the groups a statistical difference was found in teacher supervision ($p= 0.01$), GPA ($p=0.01$), behavioral referrals ($p< 0.01$), suspensions ($p< 0.01$) and attendance ($p< 0.01$). The results suggest that the two groups are not equivalent to one another, however, to repeat, it is important to keep these initial differences in mind when interpreting the final results of the intervention.

Discussion

Many students who drop out of school are expressing an extreme form of disengagement from school. This action is preceded by indicators of withdrawal (attendance) and unsuccessful school experience (academic and behavioral difficulties). Schools are using alternative programs to help youth who are disciplinary problems and are exhibiting academic difficulties. Intervention is important for students entering high school who have been identified as at risk for dropping out. Finn (1993) states that intervention is needed long before the high school student with low academic grades decides school does not matter and leaves without graduating. By the time students reach middle school, lack of interest in school work has become evident in more and more students; by high school, some students have become so disengaged from education values and pursuits that they leave school (Morse et al., 2004).

This study identified at risk junior high students, placed them in an alternative program on the school site, and incorporated a curriculum that focused on student engagement. The following section will present the importance of this study's findings, with comparisons being made to the extant literature on student engagement.

The data revealed that the academic engagement component was the most successful result of the study. Student GPAs and motivation to learn increased over the three-month period. This study focused on improving academic engagement through programs with small academic classes for targeted students. Small and low teacher/pupil ratios provided low achievers with clear and frequent feedback regarding their performance, such as what they are doing well and how they can improve. Smaller class size was also effective in providing an atmosphere of personalized attention in which caring adult(s) could actively engage students on academic, emotional, and behavioral levels. Individualized instruction and tutorial programs were

also provided to the students before, during, and after school to assist students academically. Students in the opportunity program were observed participating in class discussions and asking questions to extend their learning. Research found that academic success affects self-concept and that those students with higher self-esteem and a greater sense of efficacy are more likely to graduate from high school (Larrivee & Bourge, 1991).

The behavioral engagement component included attendance, number of suspensions and office referrals. Behavioral engagement can differentiate between successful and unsuccessful students in and out of the classroom. Successful students attend classes and arrive on time; they come to class prepared; they participate, rather than disrupt, classroom activities; and they do more homework and participate more actively in extracurricular activities.

The data on behavioral engagement revealed a decrease in absences, suspensions and behavioral referrals. Attendance for students participating in the study was monitored weekly. Students who improved their attendance in school were rewarded with positive recognition and certificates. Students in the program began to attend school regularly and on time. Students who do not attend school are not exposed to learning activities in the classroom, which leads to a lack of student involvement at school. Finn (1993) found that absences as early as grade six were related to dropping out of school and that non-attendance was related to both disruptive behaviors in the classroom and juvenile delinquency.

The study also found that as students began to attend school on a regular basis, behavioral referrals and suspension days decreased, and there was an increase in students' level of participation in class and at school. At-risk students were receiving fewer suspensions for fights, drugs, and disruptions by choosing alternative coping strategies when involved in a conflict. The students in the treatment group were provided with counseling and individual small group activities. Counseling provided students opportunities to discuss personal and family issues. Munoz (2002) found that youth who are exposed to risk factors early on and experience negative effects throughout the school years can be reduced by providing a program that assists youths in developing coping strategies. The students were provided with a curriculum on character education designed to provide them with techniques to resolve conflict while at school or away from school grounds. Students in the treatment group were perceived by the teachers to be more motivated to learn in the classroom, and there was an increase in class participation after the three-month period.

Positive school performance can lead to positive identification with school, which

allows students to feel they belong in school; students begin to share common values with other students and teachers (Morse, et al., 2004). The psychological engagement component of the treatment program addressed positive peer relationships, identification and acceptance at school, and a sense of belonging and acceptance by adults. The results of the PSSM revealed that the students' school relationships and feelings of acceptance at school remained relatively the same over the three-month period. Yet, there was also a decrease in students' feelings of being accepted by adults on campus, and contact between students and adults was not consistent. If students begin to trust their teachers and receive informal guidance regularly, they are more likely to persist through graduation (Croninger & Lee, 2001). Bhaerman & Kopp (1988) found that students are less likely to leave school when they work with teachers who are flexible, positive and creative, and person-centered rather than rule-oriented. Research has also found that students tend to associate their feelings about school, in general, with the level of respect and interest they perceive from their teachers.

A student must also feel a sense of belonging at school in order to be psychologically engaged. The students in the treatment group were assigned to the students in the special education class as peer tutors. They assisted the students with academics, behavior, and social skills. This component of the curriculum gave students a sense of purpose and commitment at school. Teachers observed students attending school more often on the days they were assigned to their "buddies". The students looked forward to coming to school and, over a longer period, may have perceived themselves as establishing a stronger sense of belonging at school.

The data revealed that certain aspects of academic, behavioral, and psychological engagement improved for at-risk students in the alternative program with a specialized curriculum. The extant literature states that students who like school may attend more consistently and have higher grades. The investigator found a relationship between the students who showed an improvement in the areas of academic grades, attendance, suspensions, and behavioral referrals and their psychological engagement at school. Students who felt they belonged at school and were respected and recognized by adults on campus attended school more often, participated more in class, and decreased the number of behavioral referrals and suspensions. Students need to feel they are valued at school and can identify with peers and depend on adults on campus for support. If students are psychologically invested in themselves and are academically engaged, they will perceive school as a worthwhile investment of their time and energy.

The findings from the study can also be compared to the evidence of effectiveness of three other dropout prevention programs at the middle school level: Check and Connect, The Belief Academy, and ALAS. Check and Connect and ALAS found that persistence was a critical dropout prevention element. Check and Connect found that the program would have been more successful had students exhibiting high risk behaviors received some level of on-going support. The greatest weakness of the middle school intervention was not being able to follow students with Check and Connect after they left the treatment period. ALAS also found that after a two-year follow up, only 37% of the students who received intervention in grades seven through nine had remained in school. Such findings suggest to this researcher that in order for the program to be successful, the intervention period must be sustained over time. The findings of this study showed some improvement in student engagement for the three-month period; however, students who continue into high school with minimal support will probably eventually become disengaged again.

Trust-building was an ongoing process of Check and Connect and focused on developing long term relationships. The need to promote levels of trust with teachers, students, and parents was an important finding. The researchers found that students will begin to trust and build relationships with an adult if the adult is persistent, reliable, and honest with the student (Thorton, 1995). Similar findings were identified in this study. Students who felt connected to an adult on campus decreased their number of suspensions, behavioral referrals, and days absent.

The Belief Academy discovered the importance of psychological engagement among at risk students. Although the students in the Belief Academy study did not progress academically, the researchers stated “we continue to believe that these students can be successful if they receive support and come to believe in themselves” (Thorton, 1995, p. 132). The importance of psychological engagement was also evident in this study. Students in the treatment group consistently perceived their level of motivation as reasonably high compared to the comparison group. The motivation to learn was also reflected in the academic progress made by students in the treatment group.

The low teacher/student ratio was also evaluated in the Belief Academy study. Although the parents of the identified students did not like the separateness of the Belief Academy, they did like its consistency and “family-like” atmosphere (Thorton, 1995). The self-contained component of the alternative programs in this study proved to be successful for at-risk students. The low teacher/student ratio provided immediate feedback and individualized instruction and resulted in higher academ-

ic grades. Immediate feedback, academically and behaviorally, also decreased the number of behavior incidents that had occurred prior to the intervention.

Implications for Practice

While the dropout rate has remained constant over the past ten years, there is currently no effort in place to comprehensively identify research-based and effective dropout prevention programs (Montecel et al., 2004). There have been a variety of state, local, and private dropout prevention programs whose effectiveness is unknown because they have not been rigorously evaluated. This lack of rigorous evaluation leaves schools without the data necessary to make informed choices for their students. Although the majority of current dropout prevention models are not reducing the dropout rate by statistically significant amounts, some programs do provide interventions that improve some outcomes (Montecel et al., 2004).

The findings of this study provided district and school site administrators with implications for practice necessary to assist junior high students identified as at-risk for dropping out of high school. These data demonstrated how improved student engagement (academically, behaviorally, and psychologically) can increase the opportunity for at-risk students to stay in school. The findings (both qualitative and quantitative) indicated that successful implementation requires key components and/or tasks to be completed by school leaders.

Alternative programs with a low student/teacher ratio at the junior high level have been found to be effective and beneficial to the students involved. The four junior high programs averaged seven to ten students in each class. The students in each of the programs were provided with an atmosphere of personalized attention in which caring adult(s) actively engaged students academically, behaviorally, and psychologically. Students received individualized instruction and immediate feedback. Student behaviors were addressed at the onset, which led to a decrease in behavioral referrals and suspensions.

The alternative programs in the study provided all students on campus with a positive school climate. Students' positive experiences of the school environment affected their commitment to school, at least as much as the academic curriculum. Students who improved academically also perceived an increase in level of engagement. The successful programs also recognized the need of at-risk students to have their efforts at improved attendance and behaviors validated.

It is important for the school site administrator to be a supportive leader. Strong

administrative support was evident at one of the junior high campuses. The at-risk students found a role model in a strong, supportive administrator, resulting in students who began to cope effectively with an authority figure. The behavioral component improved for at-risk students who found an authority figure who was “on their side”. The administrator met with students to encourage, motivate, problem-solve, monitor, plan, and give the students a reason for being at school.

Recommendations for Future Research

Students begin to drop out of school as early as the ninth grade. Implementing a program at the junior high level will assist in identifying students at risk for dropping out of school. However, the results of the study will have a larger impact when students enter high school. A suggested recommendation would be to follow students through the completion of ninth grade to determine if the junior high program truly made a difference.

Another recommendation for future research would be to incorporate student interviews as part of the qualitative data. Student interviews would clearly define a student’s level of engagement based on his or her perception. Many of the research studies reviewed to conduct this study utilized student interviews to allow open-ended responses from students.

A final area of focus for future research is an alternative program for psychological engagement. The results of the study revealed that a student’s level of connectedness at school is closely related to academic and behavioral performance. A program to improve psychological engagement can also begin as early as the elementary grades for all students.

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