

Effects of a School-Based Mentoring Program on School Behavior and Measures of Adolescent Connectedness

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Abstract

In an effort to increase students' success, schools and communities have begun to develop school-based mentoring programs (SBMP) to foster positive outcomes for children and adolescents. However, experts have called for more research into the effectiveness of these efforts for students across grade levels. Therefore, this study was designed to examine the impact of participation in a SBMP on behavioral and social outcomes for sixth through tenth grade students. Analyses revealed that compared to control students, SBMP participants had significantly fewer unexcused absences (with moderate effect size) and discipline referrals (with large effect size) and reported significantly higher scores on four measures of connectedness (with moderate to negligible effect sizes). First year participants also reported significantly higher scores on one measure of connectedness (with a large effect size). Implications for practice and suggestions for further research are provided.

Key Words: school-based mentoring, behavior, connectedness, social outcomes, adolescents, community mentors, middle, high schools, discipline referrals

Introduction

Our nation is currently in the midst of an unparalleled effort to increase academic achievement for all students. In this context, parents, teachers,

school leaders, and communities are looking for effective approaches to support learning, achievement, and success for both children and adolescents. The development of mentoring programs has been one approach adopted to provide assistance and support for a variety of students (Karcher & Herrera, 2007). Typically, the process of mentoring is viewed as “strengthening an individual at risk through a personal relationship with an experienced and caring person. Through shared activities, guidance, information, and encouragement, the individual gains in character and competence and begins setting positive life goals” (Barron-McKeagney, Woody, & D’Souza, 2000, p. 40). These programs seek to match nonparent adult mentors with students to serve as role models through sharing knowledge, skills, expertise, and offering personal support (Delgado, 2002).

Previous studies have classified mentoring programs according to a number of different dimensions such as whether the mentoring occurs in a group or one-on-one basis or whether it is community-based or site-based (Sipe & Roder, 1999). Each of these structures can have a differential effect on the mentoring experience due to variations in the screening, training, and support provided for mentors as well as the length of time and types of activities that mentors and mentees are asked to complete.

Mentoring programs that are located in school settings are referred to as school-based mentoring programs (SBMPs). These programs typically have four prominent characteristics: school personnel refer students for mentoring; an adult mentor meets with a student for one hour per week during the school year; mentors meet with their mentees on school grounds during the school day; mentors and mentees engage in both academic and social activities during their time together (Jucovy, 2000).

In a review of the research, Randolph and Johnson (2008) found that the primary benefits for students who participate in SBMPs are increased connectedness at school (e.g., King, Vidourck, Davis, & McClellan, 2002; Lee & Cramond, 1999; Martinek, Schilling, & Johnson, 2001; Portwood, Ayers, Kinmson, Waris, & Wise, 2005), as well as increased connectedness in the family (King et al., 2002) and in the community (Portwood et al., 2005). However, this finding appeared to be dependent on the quality and length of the mentoring relationship, with few improvements found in the first year of participation (e.g., Herrera, 2004; Lee & Cramond, 1999). To date, evidence regarding the effect of participation in a SBMP on students’ academic performance and prosocial peer relationships has been mixed (Dappen & Isernhagen, 2006; Herrera, 1999, 2004; Martinek et al., 2001; Portwood et al., 2005).

Research indicates that additional advantages of SBMPs include: reduced program costs, increased supervision available for mentors and mentees,

increased safety for mentees, increased advocacy for students, increased academic focus, and increased opportunities to reach higher-risk children and families (Rhodes, 2002). However, research also indicates that SBMPs tend to be limited in their ability to provide youth with a mentor for an extended period of time (Jekielek, Moore, Hair, & Scarupa, 2002). This may be a drawback of a SBMP, as research indicates that mentoring relationships lasting less than a year (typical in SBMPs) tend to demonstrate little significant improvement in mentees' academic, social, and substance use outcomes (Jekielek et al., 2002).

Given that SBMPs are gaining popularity across our nation (Karcher & Herrera, 2007), there is an urgent need for measures of accountability and evidence of effectiveness (Kyler, Bumbarger, & Greenberg, 2005). Thus, this study was designed to investigate the effectiveness of a SBMP administered by a nonprofit organization, Thrive, in a small city in the Rocky Mountain West. (Note: Organization name used with permission.)

Designing a Unique SBMP

Thrive is a nonprofit organization whose mission is to encourage healthy family development through community awareness, parent education, and support to children and families. The organization is deeply rooted in the local community and is currently supported by 15 organization sponsors, over 50 program sponsors, 34 event sponsors, and hundreds of individual sponsors. The organization's goals are to:

- ensure success for all children;
- promote optimal child growth and development;
- increase attachment and bonding between parent and child;
- provide support for children's achievement by providing strong role models;
- increase students' academic, social, and emotional intelligence;
- promote positive parenting practices that ensure healthy cognitive, social, and emotional development;
- increase families' ability to access community resources including health care, housing, jobs, child care, and transportation;
- improve quality of family life by teaching and modeling problem solving and communication skills; and
- assist other groups to provide family-centered programs that promote these goals.

In 1989, Thrive designed and implemented a SBMP to offer school-age children and adolescents a sense of connectedness with a caring adult and to provide academic, social, and emotional support and encouragement. The SBMP has developed a superior reputation in the city due to its high standards for recruitment, screening, training, and supervision of mentors and the

strength of the partnership between the organization and the school district. This innovative collaboration, the first of its kind in the state, has brought the community together with the schools for the single purpose of increasing the success of all children. The SBMP has been recognized as a successful model by the Governor’s Task Force and by a federal regional educational laboratory.

The strength of the SBMP’s reputation has been built upon a unique aspect of its design: This SBMP does not function as a stand-alone offering. Rather, this SBMP is part of a wraparound suite of strategies and services designed to work together to foster students’ healthy development and success. This SBMP is one of five closely connected strategies and services creating a partnership that integrates critical school, community, and family resources to promote academic success and the social and behavioral health of students (see Table 1).

Table 1. Thrive’s Integrated Strategies and Services Model

Strategies & Services	Objectives
Collaboration	Thrive developed and maintains a strong community partnership with the schools and the school district, as well as community organizations, professionals, and families.
Mentoring	Thrive designed the SBMP to pair referred students with mentors in order to improve students’ behavioral, social, and academic skills.
Parent Engagement	Thrive created a Parent Liaison program to provide trained professionals who offer support for parents throughout the community, building their ability to engage, communicate, and effectively solve problems with schools.
Professional Development	For K–12 teachers and school staff, Thrive provides professional development opportunities focused on developing a school climate that encourages family engagement.
Parent Education	Thrive offers classes and workshops for parents of children (birth through high school) designed to promote the view that school is a resource to the family and to build a foundation for effective communication.

Thrive’s integrated strategies and services model forms a community-wide partnership of organizations, professionals, and services to help meet the

unique needs of children, parents, and families. The integrated program model wraps around the SBMP, combining mentoring with communication, professional development, interdisciplinary teams, counseling, parent education, and family engagement to help students be both academically and socially successful. A list of the integrated strategies and services used to deliver the Thrive SBMP are listed in Table 1.

Collaboration: Developing the Partnership

Thrive has made it a priority to form a strong set of partnerships around resources critical to children's and families' success. This collaborative partnership involves multiple stakeholders including community organizations and professionals who all work together to support the growth and development of children and families. Each stakeholder has a valued role and makes a contribution in the planning, assessment, problem-solving, and funding of the integrated strategies and services model.

Thrive holds regular meetings at the school district level with the superintendent and the district principals. These meetings include the SBMP coordinators, the Parent Liaisons, Thrive's director, and school counselors. The purpose of these meetings is to maintain open communication with district personnel and evaluate, assess, plan, and address challenges faced by partners.

Mentoring: Building a School-Based Mentoring Program

The SBMP was launched over 20 years ago in order to meet the needs of children and adolescents who were "falling through cracks," often falling behind in school yet failing to qualify for available services. The founders of the SBMP had a holistic vision for the program; as they launched one of the first SBMPs in the country, they wanted to provide support for children but also for parents and teachers. Their vision included mentor recruiting, careful screening, thorough training, individualized matching, and adequate supervision and support to retain high-quality mentors. The SBMP currently has 560 K–12 students matched with a caring adult. The hallmarks of this SBMP include: referrals made by school personnel; participation open to any child (which helps to prevent labeling and stigmatization of participants); a highly individualized match; a one hour per week meeting in the controlled environment of a school setting; trained on-site supervision and resources; and direct interaction with teachers and counselors to identify students' areas of need. (Note: For further details about this SBMP's design, leadership, and curriculum, please contact the first author.)

The primary goal of the SBMP is to provide one-on-one mentoring for students to improve their academic, behavioral, and social skills. Students are referred to the program when their teacher believes that the student would gain

academic and/or social benefit from a mentor. The referring teacher, school principal, SBMP staff, counselors, and parents set goals for each referred student and determine how to best achieve those goals. Then, using a personalized matching protocol, students are matched with a mentor that can best help them to achieve their academic and personal goals.

At the start of the school year, mentors are matched with a student based on students' needs and mentors' strengths. For example, a student who needs encouragement and support in mathematics will be matched with a mentor who has indicated an aptitude in mathematics and a willingness to help a student with academics. On the other hand, a student with a strong interest in art will be matched with a mentor who also has a strong interest in art or is an artist. All matches in the middle and high school are gender specific. Ethnicity is not a factor in matching.

SBMP Coordinators from Thrive work to recruit, screen, train, and support volunteer mentors throughout the year. The Program Coordinators all have college degrees in either social services or education. Some have Master's degrees in the fields of social work, counseling, or education. In order to maintain program fidelity, all Program Coordinators participate in regular training including weekly team meetings, national and state conferences, and online webinars. In turn, Program Coordinators work closely with mentors to provide the information, training, resources, and support needed for the mentors to be able to deliver high-quality mentoring and fidelity to the program design.

First-year mentors attend two three-hour training sessions. The first session is held early in the school year and provides an overview of the program's procedures, policies, and types of situations that mentors might encounter. Program Coordinators meet the new mentors at the school site and provide an orientation on school procedures and introduce mentors to their students and teachers. The Program Coordinators provide weekly supervision throughout the school year for the mentors. They provide resources for mentors, tips on working with children, and—through discussion of successes and challenges—identify avenues to increase the effectiveness of the mentoring interactions. The second training session is held in the spring and is focused on problem-solving skills. Discussion revolves around opportunities to dialogue through situations that they may have encountered throughout the year.

Parent Engagement: Developing the Role of the Parent Liaison

In 1995, Thrive developed an additional set of services designed to increase parent engagement with the schools. The creation of the Parent Liaison role was substantiated by the belief that the child's ability to succeed is directly influenced by the ability of parents to communicate effectively with schools and

the ability of schools to engage parents as partners. Thus, the goal of the Parent Liaison is to support constructive dialogue between the parent, the teacher, and the school in a holistic effort to contribute to the success of the child.

Currently, Thrive has a one-half time Parent Liaison in each school for a total of 9 Parent Liaisons in the city's elementary and middle schools. The Parent Liaisons work in the schools every day; they talk with school personnel about students' needs and connect with parents to provide support and resources regarding parenting strategies and child development issues. They also connect families with sources of ongoing support, information, and resources aimed at meeting the families' needs. In addition, each Parent Liaison meets regularly with the school principal and counselor to address students' ongoing needs.

Professional Development: Supporting K–12 Teachers and School Staff

Thrive provides professional development workshops for teachers, counselors, and school staff designed to create a school climate that promotes family engagement. The curriculum is entitled *Beyond Involvement: Engaging Parents as Partners*. The school staff members attend two two-hour workshops each year focused on developing strategies to increase their ability to encourage parents as partners in their child's education. The workshops explore ways in which school staff can respect cultural differences and respond productively to different points of view. The workshops are scheduled on the school calendar in advance so that all staff can participate. Attendance is recorded and each workshop is evaluated by the participants to provide formative feedback for program improvement.

Parent Education: Building Parents' Knowledge and Skills

Thrive has developed a series of four two-hour classes for parents designed to increase adults' parenting knowledge and skills. There are three themes that are woven throughout the classes: schools are a resource for families; children are more successful when schools and families work together; and early learning is the foundation for all other learning.

The classes lay the foundation for effective communication between parents and teachers. Parents learn to set high expectations and clear boundaries to build a strong, supportive learning environment for their child as they progress through the stages of child development. Thrive builds ongoing relationships with families and provides support, information, and resources to each family based on their needs.

The Current Study

The purpose of this investigation was to determine the effect of the SBMP on students' behavioral and social outcomes. The SBMP specifically seeks to

reduce the number of students' discipline infractions as well as improve students' attendance, self-confidence, engagement in academics, and sense of connectedness. Experts have broadly defined connectedness as "acts of giving back to, being involved with, and investing oneself in an affective manner in places and activities as well as in relationships with other people" (Karcher, Holcomb, & Zambrano, 2008, p. 653). This connectedness to the world occurs within three related ecological systems that adolescents experience daily: (1) microsystems (e.g., parents, siblings, teachers, peers, friends), (2) macrosystems (e.g., family, school, neighborhood, religion, cultural group), and (3) mesosystems (e.g., processes of connection between macro and micro systems such as reading, media, technology). Thus, successful SBMPs should help to foster children's and teens' understanding of their connectedness to the world across time (Karcher et al., 2008). In order to investigate the effect of the SBMP on students' behavioral and social outcomes, this study was guided by three research questions:

1. Is there a difference in absenteeism and discipline referrals for 7th–10th grade students in the SBMP compared to students who are not in the SBMP? (Note: 6th is not included here because absence and discipline referral data were not tracked at the K–6 level at the schools.)
2. Do 6th–10th grade students in the SBMP report a greater sense of connectedness than students who are not in the SBMP?
3. Are perceptions of connectedness greater for 6th–10th grade students during their first year in the SBMP compared to students who are not in the SBMP?

Method

Given that the purpose of this investigation was to examine the effect of the SBMP on participants' behavioral and social outcomes, this study employed a quasi-experimental design (Campbell & Stanley, 1963). The treatment group consisted of participants in a SBMP, and the control group consisted of matched students from a different school district who met the SBMP referral criteria. The referral criteria was defined as a student who, in the referring teacher's opinion, would benefit academically or behaviorally from involvement with a mentor.

Setting and Participants

The school district where the school-based mentoring program was implemented was situated in a city of over 37,000 individuals located in the northern Rocky Mountain region of the United States. The middle school where the

school-based mentoring program was used had an enrollment of 578 students. A total of 121 6th–10th grade students participated in the SBMP treatment group ($N = 62$ female, $N = 59$ male). Of those 121, 82% (99) were Caucasian, 7% (8) were Native American, 8% (10) were Hispanic, 2% (3) were African American, and 1(1%) student was of Asian ethnicity. Twenty-two percent of the treatment group students were eligible for free or reduced lunch. These students were selected for the comparison treatment group because of the mentoring services offered by community members and students from a nearby university. Mentors for these students ranged in age from 18 to 80 years. Thrive records indicated that mentors met with their mentees from mid-October through June on the school campus approximately once a week. Mentees were excused from class during the best time identified by their teachers. During the one-hour visit, mentors and mentees engaged in a variety of activities such as playing board games, reading, working on homework or school projects, or talking together.

The control group consisted of 235 6th–10th grade students ($N = 104$ female, $N = 125$ male, $N = 6$ not reported) from two different school districts who met the same SBMP referral criteria as used for the treatment group. The first control group school ($N = 99$) was located in a town of 750 residents located in north central Washington State. The grade 7 through 12 enrollment for this school was approximately 300 students. Seventy-four percent of those students qualified for free or reduced lunch. The second control group school ($N = 154$) was located in a city with approximately 3,000 residents located in north central Washington State. The grade 7 through 12 school enrollment for the second control group school was approximately 280 students.

The ethnicities of the two control schools were different with respect to the numbers of White and Hispanic students. The ethnic composition for the first control group school was: 60% White, 37% Hispanic, 3% Native American, and 1% Asian. Twenty-seven percent of these students were eligible for free or reduced lunch. The ethnicity for the second control group school was 29% White, 69% Hispanic, 1% Native American, and 1% Asian. Sixty percent of these students were eligible for free or reduced lunch. Students in the control group were matched as much as possible to students in the SBMP treatment group by gender and grade level. Participating schools obtained parental consent for all students involved in the study.

Instrument

The instrument used to collect data regarding students' perceptions of connectedness was The Hemingway: Measure of Adolescent Connectedness Survey (MAC Adolescent Version 5.5: Grades 6–12; Karcher, 2005). This instrument

was used to measure the effects of the school-based mentoring on students after participating in the SBMP during the 2010–2011 school year. The MAC was designed to measure a student's perceptions of his or her connectedness to four important adolescent worlds: self, family, school, and friends (Karcher, 2001).

The MAC is a self-report survey consisting of 40 items designed to measure adolescents' degree of caring for and involvement in specific relationships, contexts, and activities (Karcher, 2005). The survey is comprised of 10 subscales; all items use a 5-point Likert Scale (1 = not at all true, 2 = not really true, 3 = sort of true, 4 = true, 5 = very true.) Eight of the 10 subscales include a reverse-coded item. The 10 subscales assessed by the MAC include: Connectedness to Neighborhood, Connectedness to Friends, Connectedness to Parents, Connectedness to Siblings, Connectedness to School, Connectedness to Peers, Connectedness to Teachers, Connectedness to Reading, Self-in-the-Present, and Self-in-the-Future.

Results from prior studies conducted by Karcher (2001) using both exploratory and confirmatory analysis support the 10 construct factor structure and provide evidence of convergent and discriminant validity and one-month test-retest reliability of .68-.91. The 10-factor structure was found across gender, age (teens vs. preteens), and risk status (delinquent vs. nondelinquent youth) using confirmatory factor analysis. Karcher (2001) reported the strongest evidence of convergent validity with measures of family connectedness, school connectedness, self-esteem, and future orientation. Cronbach's alpha ranged from weak ($r = .60$ and $.68$ for Connectedness to Peers and Self-in-the-Future, respectively) to strong ($r = .91$ and $.94$ for Connectedness to Reading and Connectedness to Siblings, respectively; Karcher, 2001).

Procedure

In order to best answer the research questions, two data sets were collected for this study during the 2010–2011 school year. Data regarding unexcused absences and discipline referrals for 7th–10th grade students in the treatment and control groups were gathered from the respective school districts. Data for 6th graders were not available (unexcused absences for 6th grade students in the control group were recorded in days rather than unexcused periods and therefore were not comparable to the absences reported for 6th grade students in the SBMP). Both school districts were able to provide two years of data regarding students' absenteeism and discipline referrals. Thus, to enhance the rigor of the analysis, both years of data were analyzed and reported in this study.

The MAC survey was administered in November 2010 and again in June 2011 to 6th–10th grade students in the SBMP and control group. To assess the effects of program participation, June 2011 MAC survey scores for all 6th–10th

grade students in the treatment and control group were compared for each of the ten subscales. Finally, a subset of the data from students who were new participants in the SBMP during the 2010–2011 was compared to matched controls in each of the ten subscales.

Results

Unexcused Absences

Using independent sample *t*-tests, attendance data for 7th–10th grade students participating in the SBMP (*N* = 114) were compared to control group students (*N* = 154) on the average number of unexcused absences. The mean number of unexcused absences for SBMP students (*M* = 5.95, *SD* = 27.98) was significantly lower than for control students (*M* = 18.00, *SD* = 32.66), $t_{(222)} = -2.69, p < .000, d = .79$ (see Table 2). The outcome was similar for the 2010–2011 school year, with the mean number of absences for SBMP students (*M* = 4.11, *SD* = 9.87) being significantly lower than for control students (*M* = 17.71, *SD* = 64.13), $t_{(183)} = -1.99, p < .002, d = 0.60$.

Discipline Referrals

Using independent sample *t*-tests, discipline referral data for 7th–10th grade students participating in the SBMP (*N* = 114) were compared to control group students (*N* = 154) on the average number of discipline referrals. These results are reported in Table 2. In the 2009–2010 school year, the mean number of discipline referrals for SBMP students (*M* = 0.97, *SD* = 2.20) was significantly lower than for control students (*M* = 2.71, *SD* = 2.93), $t_{(258)} = -5.38, p < .004, d = 1.43$. In 2010–2011, the mean number of discipline referrals for SBMP students (*M* = 1.52, *SD* = 2.34) was again significantly lower than for control students (*M* = 3.49, *SD* = 3.11), $t_{(212)} = -5.06, p < .041, d = 1.84$.

Table 2. Average Unexcused Absences and Discipline Referrals for SBMP and Control Students Grades 7–10

	2009–2010				2010–2011			
	SBMP		Control		SBMP		Control	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Unexcused Absences	5.95*	27.98	18.00	32.66	4.11*	9.87	17.71	64.13
Discipline Referrals	.97*	2.20	2.71	2.93	1.52*	2.34	3.49	3.11

*significant at $p \leq .05$

Measures of Connectedness

Independent samples *t*-tests were used to compare all 6th–10th grade students in the SBMP (*N* = 121) to control group students (*N* = 234) across the 10 subscales of the Measure of Adolescent Connectedness (MAC). An alpha level of .05 was set as the maximum Type I error rate for results to be judged significant. The first round of analysis examined the difference between treatment and control students’ mean total score on the MAC. No significant differences were found in participants’ total mean scores. This finding was not surprising given the vast developmental differences that exist across students in grades six and ten. Thus, a second round of analysis was conducted to examine the data from the 10 subscales of the MAC by grade level. Results for MAC subscale comparisons by grade level are reported in Table 3.

Table 3: Average MAC Scores for SBMP and Control Students Grades 6–10

	Grade 6		Grade 7		Grade 8		Grade 9		Grade 10	
	Trtmt	Cont	Trtmt	Cont	Trtmt	Cont	Trtmt	Cont	Trtmt	Cont
Neighborhood	3.46+	2.97	3.21	2.71	2.93+	2.86	2.79	3.12	2.73	3.22
Friends	3.92+	3.55	3.87+	3.83	4.25+	3.86	3.94+	3.86	4.00	4.10
Self-in-Present	3.88+	3.19	3.70*	3.32	3.94+	3.76	3.65	3.66	3.79+	3.76
Parent	4.16*	3.91	3.99+	3.70	3.73	3.95	3.77	3.84	3.59	3.86
Siblings	3.46	3.67	3.49+	3.17	3.28	3.70	3.48	3.72	3.50	3.76
School	3.63+	3.40	3.58+	3.39	3.60+	3.49	3.22	3.55	3.03	3.66
Peers	3.35+	3.32	3.49+	3.15	3.63+	3.41	3.17	3.57	3.26	3.72
Teacher	4.20+	3.65	3.84+	3.60	3.76	3.82	3.56	3.87	3.66	3.92
Self-in-Future	3.96*	3.84	3.98+	3.70	3.93	3.96	3.71	4.07	3.80	4.07
Reading	3.46+	3.23	2.97+	2.60	3.31+	3.11	3.57+	3.33	3.00*	2.94

*significant at $p \leq .05$

+treatment mean score higher than control mean score but not statistically significant

In comparison to students in the control group, sixth grade students in the SBMP reported higher mean scores on nine subscales but only achieved statistical significance on two subscales. Sixth graders in the SBMP had significantly higher mean scores on the Parent subscale ($M = 4.16, SD = .46$) compared to their nonmentored peers ($M = 3.91, SD = .72$), $t_{(58)} = -1.62, p = .051, d = 0.42$. Sixth grade mentored students also demonstrated significantly higher mean perceptions ($M = 3.97, SD = .70$) on the Self-in-Future subscale when

compared to the sixth grade control group scores ($M = 3.84$, $SD = .52$) of students who did not receive mentoring, $t_{(58)} = -0.79$, $p = .019$, $d = 0.21$.

The pattern of results was slightly different for seventh grade students. Seventh graders in the SBMP reported higher mean scores on eight subscales but only achieved statistical significance on one subscale. Comparisons for the Self-in-Present subscale found that seventh grade students who were in the SBMP had higher mean perceptions ($M = 3.70$, $SD = .89$) of their Self-in-Present when compared to seventh grade students who were not in the SBMP ($M = 3.32$, $SD = .68$), $t_{(48)} = -1.70$, $p = .052$, $d = 0.48$.

Eighth graders in the SBMP reported higher mean scores on six subscales but did not achieve statistical significance on any subscale. Ninth graders in the SBMP reported higher mean scores on only two subscales but failed to reach statistical significance on any subscales.

Finally, 10th grade students in the SBMP reported higher mean scores on two subscales with one achieving the level of significance. Comparisons for tenth grade students found significant group differences on the Connectedness to Reading subscale. Students in the SBMP had significantly higher mean perceptions ($M = 3.00$, $SD = 1.60$) of Connectedness to Reading than did tenth grade students who were not in the SBMP ($M = 2.94$, $SD = .70$), $t_{(48)} = -.158$, $p = .001$, $d = 0.05$.

Effect Sizes

In order to quantify the size of the differences between the mean scores for the treatment and control groups, effect sizes were calculated for each grade-level subscale where a significant difference was found (see Figure 1). For students participating in the SBMP, the effect sizes for the reductions in unexcused absences in 2009–2010 ($d = .79$) and 2010–2011 ($d = .60$) were large to moderate. The reduction in the number of discipline referrals in 2009–2010 ($d = 1.43$) and 2010–2011 ($d = 1.84$) were very large for students participating in the SBMP.

For 7th graders, the size of the effect for Self-in-Present was moderate ($d = .48$) and for 6th graders, the effect size for the Parent subscale was moderate ($d = .42$) and Self-in-Future was small ($d = .21$). For 10th graders, the effect size of the differences on the Reading subscale was negligible ($d = .05$).

First Year of Participation in the SBMP

Mean MAC scores of students new to the SBMP were compared to scores of students in the control group. Full grade level comparisons were limited due to the low number of eighth ($N = 1$) grade students new to the program; however, grade level comparisons were possible for sixth ($N = 10$), seventh ($N = 3$), ninth ($N = 6$), and tenth grades ($N = 6$).

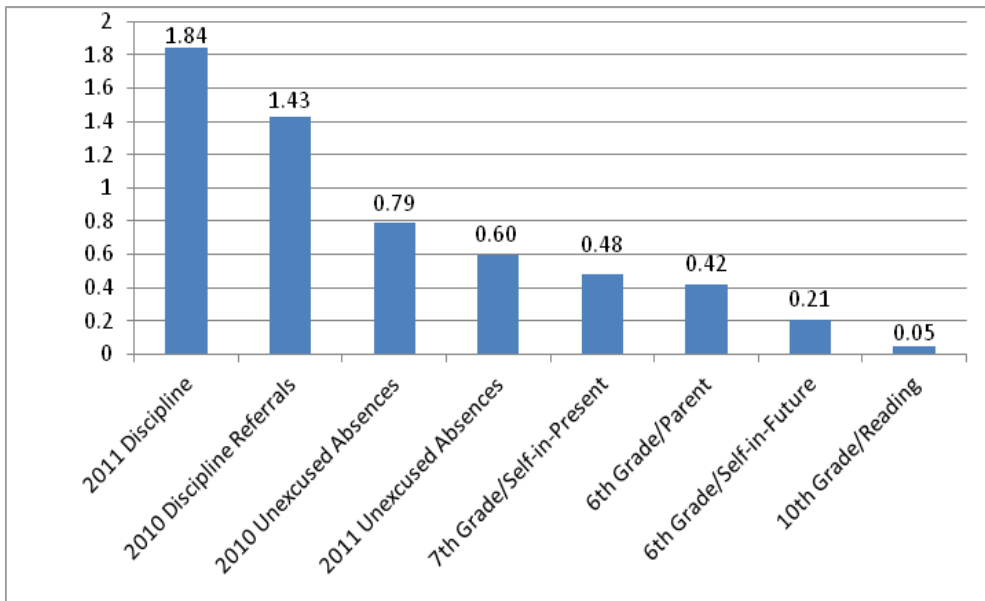


Figure 1. Effect Sizes of Significantly Different Scores for Students in the SBMP

Results from comparisons for the Self-in-Present subscale reported in Table 4 found that sixth grade students who were in the SBMP reported higher mean scores ($M = 3.86, SD = .562$) of their Self-in-Present when compared to sixth grade students who were not in the SBMP ($M = 3.02, SD = .902$), $t_{(22)} = -2.49, p = .047, d = 1.15$. The magnitude of the effect size on this subscale suggests that the first year in the SBMP has the potential to have a major positive impact on how sixth graders view themselves.

Comparisons for tenth grade students found significant group differences on the Connectedness to Reading subscale. Results from comparisons for the Reading subscale found that first year students in the SBMP reported significantly higher mean perceptions ($M = 3.10, SD = 1.82$) of Connectedness to Reading than their tenth grade peers not in the SBMP ($M = 2.94, SD = 1.02$), $t_{(38)} = -.296, p = .021, d = 0.11$. The magnitude of this effect size suggests that for tenth graders in their first year of the SBMP, their participation had positive but small effects on their sense of connection to reading.

Table 4. Significantly Different Mean Scores of Students New in SBMP and Control Group

	Students New to SBMP			Control Students	
	Subscale Mean	SD	<i>d</i>	Subscale Mean	SD
6 th /Self-in-Present	3.82*	.56	1.15	3.02	.90
10 th /Reading	3.10*	1.82	.11	2.94	1.02

*significant at $p \leq .05$

Discussion

The study was designed to investigate how participation in a SBMP impacts children's behavioral and social outcomes. Specifically, the study examined outcomes for 6th–10th grade students who participated in a SBMP to determine if they had fewer absences, fewer discipline referrals, and greater sense of connectedness than students who did not participate in a SBMP. The study also sought to examine the effects for students who were in their first year of participation in the SBMP.

Previous research suggests that students involved in SBMPs may receive some benefits from their participation, but these benefits may be limited (Herrera, 2004). However, findings from this study revealed students' participation in a SBMP was related to better school attendance and fewer behavioral problems across all grade levels. Furthermore, sixth graders in the SBMP reported a stronger sense of connectedness on nine of the 10 MAC subscales (Neighborhood, Friends, Parents, School, Peers, Teachers, Reading, Present Self, and Future Self). Sixth graders who were new to the SBMP reported a stronger sense of connectedness to Present Self. Seventh graders in the SBMP reported a stronger sense of connectedness on nine of the 10 MAC subscales (Friends, Parents, Siblings, School, Peers, Teachers, Reading, Present Self, and Future Self). Eighth graders in the SBMP reported a stronger sense of connectedness on six of the MAC subscales (Neighborhood, Friends, School, Peers, Reading, and Present Self). Ninth graders reported a stronger sense of Connectedness to Friends and Reading while 10th graders in the SBMP reported a stronger sense of Connectedness to Present Self and Reading. Tenth graders who were new to the SBMP also reported a stronger sense of Connectedness to Reading than students not in a SBMP.

Improved Behavioral Outcomes

Reduced School Absences

The results from this study indicate that students who participate in a SBMP have significantly fewer unexcused absences from school than students who do not participate in a SBMP. The moderate to large effect sizes associated with this finding are important and suggest that participation in the SBMP can help to reduce the number of students' absences from school. This is particularly noteworthy in light of the devastating consequences that have been linked to school absenteeism. For example, in a review of the research, Kearney (2008) found that unexcused absences from school are "a key risk factor for violence, injury, substance use, psychiatric disorders, and economic deprivation" (p. 451). Furthermore, "youths with chronic school absenteeism and school

refusal behavior are at risk for delinquency and school dropout in adolescence and various economic, psychiatric, social, and marital problems in adulthood” (Kearney, 2008, p. 464). Given the gravity of the negative outcomes linked to excessive school absence, it is encouraging that the data from this study indicate that participation in a SBMP can have a major positive impact on the reduction of students’ absences from school.

Fewer Discipline Referrals

The results from this study indicate that students who participate in a SBMP have significantly fewer discipline referrals than students who do not participate in a SBMP. Furthermore, the very large effect size of this finding suggests that participation in a SBMP is likely to make a significant difference in reducing the number of students’ discipline referrals.

This finding is a critical outcome on two fronts. First, from the schools’ perspective, students’ disruptive behavior is one of the highest ranked problems identified by teachers across the country (Skiba & Sprague, 2008; Utley, Kozleski, Smith, & Draper, 2002). When disruptive behavior occurs, a teacher must take time away from instruction and/or preparation to make an Office Discipline Referral (ODR), defined as “an event in which (a) a student engaged in a behavior that violated a rule/social norm in the school, (b) a problem behavior was observed by a member of the school staff, and (c) the event resulted in a consequence delivered by administrative staff who produced a permanent (written) product defining the whole event” (Sugai, Sprague, Horner, & Walker, 2000, p. 96). Thus, when students engage in disruptive behavior, they interrupt the teacher’s ability to teach as well as their own and other students’ opportunities to learn. Lassen, Steele, and Sailor (2006) found that higher rates of ODRs and suspensions are correlated with lower scores on academic assessments across grade levels. Thus, the findings from this study indicate that schools can use a SBMP as an effective, robust approach to reducing the number of ODRs which, in turn, may provide teachers with more instructional time and improve learning for all students.

Second, reducing the disruptive behavior that leads to ODRs may impact the lives of youth both in and out of school. For example, research suggests that a student with 10 or more ODRs within a given school year is seriously at risk for school attendance problems, school failure, delinquency, and drug and alcohol use (Sprague et al., 2001; Walker, Colvin, & Ramsey 1995). Furthermore, the literature clearly demonstrates repeated positive correlations between disruptive school behavior and crime, delinquency, alcohol and other drug use, and other forms of serious misconduct in the larger community (Irvin, Tobin, Sprague, Sugai, & Vincent, 2004). Thus, it is possible that the development of

a SBMP may support a decrease in disruptive behaviors in schools, decrease the number of ODRs, and impact youths' behaviors out of school as well.

Improved Social Outcomes

For the past 15 years, researchers have explored various aspects of adolescents' social connectedness and attempted to identify the factors that support healthy personal development. One of the key findings in this area is that connectedness to school was found to be one of the strongest predictors of adolescent health and reduced risk-taking behaviors (Resnick & Bearman, 1997).

This study examined the differences in self-reported connectedness between students who participated in a SBMP and those who did not. The data suggest that the participants in the SBMP had significantly stronger perceptions of Connectedness to Parents (6th graders), the Future (6th graders), the Present (7th graders), and Reading (10th graders). For participants in their first year of the SBMP, students had significantly stronger perceptions of Connectedness to the Present (6th graders) and Reading (10th graders).

Increased Connectedness for SBMP Participants

Connectedness is defined as the “outward expression of positive feelings and the seeking of support from people and places” (U.S. Department of Education, 2009, p. 2). It involves active demonstrations of positive feelings and proximity-seeking behaviors reflecting links to people (e.g., parents, siblings, friends, teachers, and peers) and to places (e.g., school and neighborhood; Karcher, 2012). This sense of connectedness “is not dependent on an internal personal trait, but is something that can be changed, improved, nurtured” (U.S. Department of Education, 2009, p. 3), and in a very real way, this critical aspect of the development of all young people is exactly what mentors in the SBMP do with students every day (Karcher, 2005; U.S. Department of Education, 2009).

In this study, almost all grade levels of students in the SBMP reported higher scores on the Connectedness to Self-in-Present subscale. This subscale is based on Kohut's self-development model and Erikson's model of identity development (Karcher, 2005). Kohut's self-development model advocated that self-esteem and connectedness are facilitated through relationships with others and that children need caregivers who celebrate and admire them (Kohut, 1979). The Self-in-Present subscale includes a self-esteem component as it is fostered by experiences in current relationships. Increases in scores on this scale suggest that almost all participants in the SBMP are benefiting emotionally from the close relationships that they have developed with their mentors. Seventh grade students reported significantly more positive perceptions of their

current selves than students in the control group. The theory of connectedness suggests that these students may have higher self-awareness of their skills and talents and perceive themselves as being a likeable person.

The Connectedness to Self-in-Future subscale measures how students see themselves in the future. Student in Grades 6 and 7 who participated in the SBMP had higher scores on this subscale, suggesting a stronger sense of purpose and development of ambitions than students in the control group. This was especially the case for 6th graders, for whom the result was significantly different with an effect size of .21. It is plausible that students' relationship with Thrive's program mentors contributed to students' optimism about the future.

Tenth graders reported significantly higher scores on the Connectedness to Reading subscale. Karcher (2005) developed this subscale based on Winnicot's (1974) importance of the "capacity to be alone." Winnicot stated that attachment disruptions can affect the development of one's ability to play alone, leaving one feeling anxious and lonely. In this study, 10th grade participants in the SBMP reported significantly higher scores than control students. These perceptions of security in being alone indicate the ability "to rest contented without external stimuli" (Winnicot, 1974, p. 32). It is possible that relationships built with mentors over the school year led to students' feeling more secure in being alone and able to derive more enjoyment from the world of reading. Students' connectedness to reading may also increase students' ability to access academic content and experience academic success. While this finding was statistically significant, the effect size was negligible, suggesting the treatment had positive but small effects.

Increased Connectedness for First-Year SBMP Participants

Previous research has suggested that most of the benefits of SBMP are not seen until after one year of meeting (e.g., Grossman & Johnson, 1999; Lee & Cramond, 1999). In fact, these studies indicate that programs are likely to see next to no change in students who participate in SBMP for matches starting and ending during a single school year.

However, the current study found that for students new to the SBMP, there was a significant difference for 6th graders who were mentored versus 6th grade control students on the Connected to Self-in-Present subscale. This subscale measures self-esteem as fostered by current relationships and showed a striking difference in terms of how new 6th graders in the SBMP saw their present selves. Increases in scores on this scale suggest that first-year students in the SBMP are benefiting emotionally from the close relationships that they have developed with their mentors.

The effect size was very large for this finding, indicating that participation in the SBMP has the potential to have a major positive impact on how 6th graders

view themselves. This is a critical finding in light of the vast developmental, academic, and social challenges faced by middle school students today. The data from this study indicate that not only can measurable effects of SBMP be found in the first year of participation, but these effects may be very large for students navigating the challenges of 6th grade.

Limitations of Research Findings

Results from this study should be interpreted in consideration of the quasi-experimental approach used to investigate the treatment effects of the school-based mentoring program. Although students were not randomly assigned to treatment and control group conditions, every effort was made to match control and treatment group students on factors (i.e., grade level, gender) that might have influenced student behavior, absences, social interactions, and connectedness to their school other than the school-based mentoring program. However, despite efforts to match control and treatment group students, there were still distinct differences between comparison groups with respect to ethnic composition and socioeconomic status which may limit generalizability.

Recommendations for Practice and Further Research

As our nation works to increase academic achievement for all students, the findings from this study can provide a ray of hope for parents, teachers, school leaders, and community members looking for effective approaches to support student success. The results of this study provide practical insights as to the impacts made by a SBMP. The evidence indicates that the careful development of SBMP as part of an integrated suite of strategies and services has the potential to increase student attendance, reduce discipline referrals, increase students' sense of connectedness, and particularly support the growth and development of students in 6th and 7th grades.

Previous research (Kearney, 2008) has suggested that assigning adult mentors to youths at risk for prematurely leaving school and employing school-based responses to attendance problems can be particularly effective in increasing student attendance (Kearney & Hugelshofer, 2000; Reid, 2007; Scott & Friedli, 2002). The current study provides further evidence for this recommendation as students in the SBMP had significantly better attendance than did students in the control group. This study also provides additional strong evidence for the effect of mentoring to significantly reduce students' discipline referrals (ODRs). Given the elevated levels of risk associated with high rates of absenteeism and disruptive behavior, this study indicates that SMBPs can make a difference in the lives of at-risk students. The findings of this study also support previous research that has suggested that mentors should receive specific

training regarding ways to support students' attendance and positive classroom behaviors (Reid, 2007) with particular emphasis placed on ways to help students build a strong sense of connectedness to self in the present and the future.

Given that connectedness predicts or correlates to so many other positive behaviors and outcomes, experts suggest that this construct can serve as a reliable indicator of how students are developing during their participation in the SBMP and how well positioned they will be for future successes and struggles (U.S. Department of Education, 2009). The data from this study suggest that school-based mentoring support may be most important for students in 6th and 7th grades, as these two groups showed the most increases across the 10 domains of connectedness when compared with students in the control group. Further research is recommended to determine *how* participation in a SBMP impacts students' sense of connectedness.

Finally, the evidence in from this study suggests that well-designed and managed SBMPs can make a difference in the lives of students, even in the first year of participation. These findings bring hope and provide helpful guidance to those who are dedicated to providing high-quality, one-on-one mentoring for students and fostering their academic and lifelong personal success.

In conclusion, it is critical that SBMPs continue to increase the quality of their programs by basing their development on evidence-based practice. This effort will require concurrent attention to both existing research findings as well as "legislative and policy priorities, organizational resources and mission, and the relative cost-effectiveness of other available services and supports" (Wheeler, Keller, & DuBois, 2010, p. 16). Future research also needs to include longitudinal studies to identify the processes at work in SBMPs, such as the role of youth and mentor characteristics, match longevity, relationship quality, and long-term outcomes for children (Wheeler et al., 2010).

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