School-based mental health programming: Summary of results and recommendations for future evaluations

Danielle C. Swick, University of North Carolina at Greensboro
Joelle D. Powers, Boise State University

Approximately one fifth of school-aged children in the United States currently have, or will at some point in their life have, a diagnosable mental health condition. These youth are at-risk for a host of negative school outcomes. One model for delivering mental health services in school is the School Based Support (SBS) program, which is based on a framework congruent with School-Based Family Counseling (SBFC). The purpose of the current article is to present an overview of evaluation results from a study that examined the effects of the SBS program on the academic and behavioral outcomes of students referred to and served by the SBS program during one academic year. Additionally, the article discusses recommendations for future projects that seek to evaluate school-based mental health programs.

Keywords: Schools, mental health, academic achievement, social outcomes, behavioral outcomes, School-based Family Counseling

Correspondence concerning this article should be addressed to Danielle Swick, Department of Social Work, University of North Carolina at Greensboro, PO Box 26170, Greensboro, NC 27402-6170, USA. (email: dcswick@uncg.edu).

Introduction
Approximately 20 percent of school-aged children in the United States currently have, or will at some point in their life have, a diagnosable mental health condition (Merikangas et al., 2010). Unfortunately, the onset of major mental health disorders may occur as early as 7 to 11 years old and half of all lifetime mental health disorders start by mid-teens (Stagman & Cooper, 2010). Despite the signs and symptoms of mental health conditions and the availability of effective treatments, the majority of youth with mental health disorders still do not receive adequate treatment or any treatment at all (Ghandour et al., 2012). Consequently, lack of treatment can have serious implications on children’s life outcomes.
Research has indicated that untreated mental health disorders can lead to a host of negative school outcomes (Bussing et al., 2012). Without proper mental health intervention, students are likely to have poor educational outcomes such as lower math and reading scores (Bussing et al., 2012; Geary, Hoard, Nugent, & Bailey, 2012). Bussing et al. (2012) reported that their sample of elementary students with attention-deficit/hyperactivity disorder (ADHD) had lower math achievement than their comparison peers without ADHD. Students with mental and emotional problems are likely to demonstrate less fluency in reading, writing, and language (Bussing et al., 2012; Geary et al., 2012). Additionally, Geary and colleagues found that elementary school-aged children with learning disabilities showed slow across-grade growth in mathematics achievement as compared to their typically achieving peers. Academic failure in youth can result in severe negative consequences as adolescents transition into adulthood, including being less likely to enter college or earn a degree from a four-year college or university, a higher rate of unemployment, and a greater likelihood of being charged with a crime and serving time in prison (Breslau et al., 2009; Duchesne, Vitaro, Larose, & Tremblay, 2008).

Many children who have been diagnosed with a mental health disorder have been diagnosed with a disorder relating to social and behavioral difficulties. For example, ADHD is the most frequent mental health diagnosis given to children in the age range of 8 to 15, followed by mood disorders, major depression, and conduct disorder (NIMH, 2012). Children with social and behavioral difficulties may struggle with inattention, adjustment, aggression, opposition, and hostility, which makes it challenging to negotiate social contexts in the home or school with appropriate communication skills (Brown & Conroy, 2011). Further, these children are at increased risk of academic underachievement, since they may have a harder time developing adaptive learning skills that positively relate to later academic achievement (Briggs-Gowan & Carter, 2008). Social and behavioral problems can also function as a precursor to more serious antisocial behavior in adolescence and continued negative outcomes in adulthood, including adolescent delinquency, substance use, school dropout, low occupational status in adulthood, and criminal offenses (Alatupa et al., 2013; CDC, 2013).

Promoting academic success through school-community partnerships
School-community partnerships have been recommended as a best practice to address students’ unmet mental health needs (Weist et al., 2012). In times of increased budget cuts to public education and mental health services, partnerships allow schools and communities to maximize limited resources. Partnerships can increase access to services and reduce stigma associated with seeking mental health treatment. Schools offer unparalleled access to youth and may be seen by children, youth, and families as more familiar, less threatening, and more acceptable locations than other traditional community service settings (Stephen et al., 2007).

One model for a school-community partnership is the School Based Support (SBS) program, which is designed to increase the capacity of elementary schools to recognize and meet the needs of students with mental health problems that threaten their school success (Powers, Edwards, Blackman, & Wegmann, 2013; Swick, Wegmann, Powers, & Watkins, 2015; Wegmann, Powers, & Blackman, 2013). The SBS program began as a multisystem partnership between an urban school district in the southeastern United States, the local management entity (LME) which is the
county’s management care organization, and a university. The initial goals of SBS were to: (1) facilitate and maintain partnership between the LME and the school district; and (2) improve the academic and social outcomes for children with mental health needs.

Each partner in the program had unique and essential responsibilities. The school district provided access to students, hired a part-time parent liaison, and provided in-kind resources such as office space, computers, and telephones. The LME provided a full-time mental health professional during the pilot year, who served as the program manager. The mental health professional from the LME had years of experience in the community, was highly regarded in the community, and was very familiar with the neighborhood that the school served. In the following years, the LME continued to provide expertise and services for referral. The university took on the responsibility for program evaluation and provided several social work field experience students who assisted project staff and administrators. Additionally, the university developed and delivered workshops to school staff on how to recognize signs and symptoms of the most common mental health disorders in school-age youth.

The SBS program was initially funded in its pilot year by a grant to a university faculty member in the School of Social Work. After the first year, the school district decided to not only assume the majority of the funding for the partnership, but also to expand the program to six additional schools. A critical first step in the partnership was developing a memorandum of agreement in which the school district and LME each articulated their desired outcomes for evaluation. It was important for the school district to make a connection between the service delivery and both behavioral and academic outcomes. The LME needed to quantify the new families referred to services who had not been previously involved with mental health or other community agencies.

The approach of the SBS program is based on the System of Care (SOC) framework, which is closely aligned with the School-Based Family Counseling (SBFC) framework. SOC is an approach to service provision that recognizes the importance of family, school, and community, and seeks to promote the full potential of every child by addressing their needs through interagency coordination (Fette & Estes, 2009). SBFC is also an integrated approach to mental health intervention that focuses on involving both the school and family in order to help children overcome personal challenges and be successful in school (Carter & Evans, 1997; Gerrard, 2008; Gerrard & Soriano, 2013). In both the SOC and SBFC frameworks, there is an emphasis on delivering strengths-based, system focused, and culturally competent services for children and their families. All of these concepts are key overarching features of the SBS program.

The core team of the SBS team consists of a program manager, school psychologist, and parent liaison. The project managers, who are master’s level licensed clinical social workers, are responsible for providing direct services and case management to students and their families. The school psychologists administer and score psycho-educational assessments and they also serve students through the identification of evidence-based interventions and the development of curricula for group counseling sessions. The parent liaison’s role is to strengthen the home-school relationship by developing behavioral plans with teachers and parents, and conducting home visits. Parent liaisons and program managers would offer to conduct a home visit when the parent found it challenging to travel to the school for a meeting due to childcare, work, and transportation issues.
During the home visit, the parent liaison and program manager would discuss with the parent what school-based and community services were needed in order for the child to be successful in school.

Other key pre-existing staff at the schools also serve on the SBS teams. The school social worker and school counselor actively collaborate with the SBS team and provide additional services to students and families who are referred to the program. Adults in the school or home settings refer students to the SBS program. Multiple services are provided through the SBS program including home visits, individual and small group counseling, classroom observations, staff consultation, tutoring and mentoring, behavioral plans and individualized educational plans, and referral to outside community agencies for more intensive services.

The purpose of the current article is to present an overview of evaluation results from a study that examined the effects of the SBS program on the academic and behavioral outcomes of students referred and served by the SBS program during the 2011-12 academic year. Additionally, we discuss recommendations for future projects that seek to evaluate school-based mental health programs.

**Methods**

**Sample**

<table>
<thead>
<tr>
<th>Sample Characteristic</th>
<th>Percentage of Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N = 322</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>64.3</td>
</tr>
<tr>
<td>Female</td>
<td>35.7</td>
</tr>
<tr>
<td>Race/Ethnicity</td>
<td></td>
</tr>
<tr>
<td>Black or African American</td>
<td>81.4</td>
</tr>
<tr>
<td>Hispanic/Latino</td>
<td>9.3</td>
</tr>
<tr>
<td>Caucasian</td>
<td>4.7</td>
</tr>
<tr>
<td>Multiracial</td>
<td>3.4</td>
</tr>
<tr>
<td>Other</td>
<td>1.2</td>
</tr>
<tr>
<td>Grade in School</td>
<td></td>
</tr>
<tr>
<td>Kindergarten</td>
<td>13</td>
</tr>
<tr>
<td>1&lt;sup&gt;st&lt;/sup&gt;</td>
<td>16.8</td>
</tr>
<tr>
<td>2&lt;sup&gt;nd&lt;/sup&gt;</td>
<td>18.9</td>
</tr>
<tr>
<td>3&lt;sup&gt;rd&lt;/sup&gt;</td>
<td>17.1</td>
</tr>
<tr>
<td>4&lt;sup&gt;th&lt;/sup&gt;</td>
<td>20.2</td>
</tr>
<tr>
<td>5&lt;sup&gt;th&lt;/sup&gt;</td>
<td>14</td>
</tr>
<tr>
<td>Receiving EC services</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>24.5</td>
</tr>
<tr>
<td>No</td>
<td>75.5</td>
</tr>
</tbody>
</table>

Table 1 Sample profile
The current study included 322 elementary school students from six schools in an urban southeastern school district in the United States. Table 1 summarizes the demographic characteristics of the sample. Approximately 64% of the sample was male and 36% female. Of the participants, 81% were Black or African American, 10% were Hispanic/Latino, 5% were Caucasian, 3% were Multiracial, and 1% were of another ethnicity (these demographics are representative of the student population at the study schools). Between 13-20% of the sample came from each grade level (K-5th grade) and 25% of the students were receiving exceptional child (EC) services at the time or referral to the SBS program. Students who received EC services had been identified as having one or more 14 eligible disabilities (e.g., autism, intellectual disability, speech or language impairment, etc.).

Data collection
IRB approval was obtained from the Office of Human Research Ethics at the University of North Carolina at Chapel Hill. The SBS program managers were responsible for collecting data on an ongoing basis on all SBS staff actions related to the student’s case. All data were entered into a Microsoft Access database. The program managers recorded the following data for each student: (a) date of initial referral to the SBS program; (b) reason(s) for referral (i.e., behavioral, academic, home issue, trauma, or health); (c) the number of service types received (i.e., individual counseling, small group counseling, class presentation, services received from an outside agency, parent contact, home visits, tutoring, mentoring, staff consultation, or classroom observation/support); (d) demographics (i.e., race/ethnicity, gender, and grade); and (e) whether or not the student was receiving EC services at the time of referral to the SBS program. Program managers were required to submit their data to the Principal Investigator on a quarterly basis during the academic school year. Upon completion of the school year in June, program managers submitted hard copies of report cards for all students who participated in the SBS program to the university research team.

Measures
Independent variables. Time was included as an independent variable and ranged from one to four, which corresponded to the quarterly grading period in which the dependent variables were recorded. The following student-level demographic variables were included in the statistical models: gender (0 = male, 1 = female); grade (ranged from 0 = Kindergarten to 5 = 5th grade); African-American (1 = African American, 0 = Other); Hispanic/Latino (1 = Hispanic/Latino, 0 = Other); and EC Status at Time of Referral (1 = Classified as EC, 0 = Not classified as EC). Binary variables were used for students whose race was recorded as African American and as Hispanic/Latino due to the larger representation of these groups in the sample as compared with the other racial/ethnic groups (i.e., Caucasian, Multiracial, and other ethnicities). The following variables related to the receipt of SBS services were entered into the model: (a) a numeric value corresponding to the month of the school year during which the student was referred to the SBS program (ranged from 0 = August to 10 = June; and (b) number of service types received (ranged from 0 to 10). While the number of service types received cannot measure a true dosage effect because the variable does not indicate the number of actual service incidents provided, it can shed some light on the relative complexity of a student’s needs. We would expect that a higher or more complex level of need is likely to require more types of services.
Dependent variables. The students’ quarterly math and literacy grades, and social/behavioral indicator scores were obtained from their report cards. For math and literacy grades, teachers recorded quarterly grades for students on a Likert-type scale from 1 to 4 (1 = does not meet the standard, 2 = partially meets the standard, 3 = meets the standard, 4 = exceeds the standard). The math domains assessed for kindergartners through fifth graders were numbers and operations, measurement, geometry, data analysis and probability, and algebraic thinking. For second through fifth graders, the math domains of creates and solves problems/explain solutions was also assessed. The scores across all items in these domains were averaged to create a composite math score. The literacy domains assessed for all grades were reading, writing, and listening/speaking. Again, the scores across all items in these domains were averaged to create a composite literacy score. For social/behavioral indicators, teachers recorded quarterly scores for students on a Likert-type scale from 1 to 3 (1 = unacceptable, 2 = acceptable, 3 = outstanding). The common social/behavioral domains assessed across grade levels were impulse control, responsibility, positive peer interactions, and proactive learning behaviors. The scores across all items in these domains were averaged to create a composite social/behavioral score.

Study design
A case series design was used for the evaluation of the SBS program. A case series design is an observational design that examines outcomes of individuals participating in the same intervention without the inclusion of a comparison group. Case series designs are commonly used when creating a comparison group may be unfeasible or unethical (Kooistra, Dijkman, Einhorn, & Bhandari, 2009). The public school setting of the current study did not allow for use of a comparison group, because it would be unethical to withhold the intervention from students with identified mental health needs. Additionally, students without identified mental health needs would not be a valid comparison group either. While case series designs are limited in their ability to draw conclusions from the results in terms of causal effects, one major strength is that they permit researchers to explore effects and generate hypotheses for further, more rigorous testing.

Data analysis
Descriptive analysis
One very important aspect of the evaluation was to provide descriptive results to the school district in a simple and interpretable fashion. In addition to tracking students’ math, literacy, and social/behavior outcomes over time, the school district was particularly interested in the demographics of the students served, the reasons students were referred to the program, and the percent of students who received each service. Therefore, we computed descriptive statistics (i.e., percentages) for each of these variables and presented them to the school district in the form of bar graphs.

Outcome analysis
Hierarchical linear modeling (HLM) with Stata Version 12.0 (StataCorp, 2011) was used to analyze students’ math, literacy, and social/behavioral outcomes over time. Due to the nested nature of the data (i.e., time nested within students and students nested within schools), HLM was the most appropriate method of analysis. HLM offers several advantages over conventional methods such as repeated measures analysis of variance (ANOVA). For example, HLM accounts for the autocorrelation of observations over time and within clusters, whereas repeated measures ANOVA does not (Raudenbush & Bryk, 2002). Additionally, HLM models data regardless of
missing data at any time point, whereas repeated measures ANOVA eliminates a whole case if data is missing on an outcome at one or more time points (Raudenbush & Bryk, 2012).

A two-level hierarchical linear growth model was used to estimate students’ change in math, literacy, and social/behavioral outcomes over the school year. Time was included at level 1 and student-level variables (i.e., gender, grade, ethnicity, EC status, number of service types received, and month of referral) were included at level 2. A three-level HLM was not appropriate for this study because the small number of schools (N = 6) at level three did not provide sufficient power to conduct this analysis (Mass & Hox, 2005). Additionally, the intra-class correlation at the school level was 0.05, which is well below the recommended cut-off of .25 to necessitate a 3-level HLM analysis (Heinrich & Lynn, 2001).

Results

Descriptive results
The most common reason students were referred to the SBS program was for a behavioral issue. Of the 322 students, 78.1% were referred for a behavioral issue. Additionally, 20.8% were referred for an academic issue, 11.2% for a home issue (e.g., homelessness/housing problems, parents divorcing, ill relative, caregiver incarceration, etc.), 5.5% were referred for a trauma related issue (e.g., death of a relative, sexual assault, witnessing domestic violence, etc.), and 5.2% were referred for a physical health reason. Students could be referred to the SBS program for more than one issue.

Figure 1 summarizes the types of services that participants’ received. The most common service received was staff consultation, with 72.4% of the student cases receiving this service. Staff consultation often involved the program manager meeting with the student’s teacher to discuss strategies for effectively addressing the student’s behavior in the classroom. The service of classroom observation was utilized in 59.8% of the student cases. This often involved the program manager observing the student’s behavioral and social interactions in the classroom setting. In 61% of cases, some form of parent contact was made either via e-mail, phone, or in-person. In 30.6% of cases, a student or a member of his/her family was referred to an outside community agency for additional services that could not be provided on-site at the school. Approximately 1/3 of the students received individual counseling at school and approximately 1/4 received small group counseling at school. Home visits were made in 22% of the cases. In 30.6% of cases, a student or a member of his/her family was referred to an outside community agency for additional services that could not be provided on-site at the school.
Outcome results

Math outcomes

Controlling for other variables, a student’s math score significantly increased at a rate of .06 units ($\beta = .06$, SE = .01, $p < .001$) for every school quarter, indicating a trajectory of increased math achievement for students across all four school quarters (see Figure 2). The results also indicated a number of significant covariates. Students who had EC status at the time of referral to the SBS program had an average math score .42 units below students who did not have EC status at time of referral to SBS ($\beta = .42$, SE = .08, $p < .001$). These results indicate that students who were classified as EC did not perform as well in math as students who were not classified as EC. However, students with EC status still demonstrated a trajectory of increased math achievement over the course of the school year. Additionally, students in lower grades who participated in SBS had significantly higher math achievement than students in higher grades who participated in SBS ($\beta = -.08$, SE = .02, $p < .001$). Further, the total number of service types was also a significant covariate. Students who received more types of SBS services had lower math scores than students who received fewer types of SBS services ($\beta = -.05$, SE = .02, $p < .05$) (for additional details on math outcomes, see Swick, Wegmann, Powers, & Watkins, 2015).
Controlling for other variables, a student’s literacy score increased significantly at a rate of .04 units ($\beta = .04, SE = .01, p < .001$) for every school quarter, indicating a trajectory of increased literacy achievement for students across all four school quarters (see Figure 3). The results also revealed several significant covariates. Female sex was associated with a 0.17 increase in literacy average scores as compared with males’ scores ($\beta = .17, SE = .06, p < .01$). Students who had EC status at the time of referral to the SBS program had an average literacy score .47 units below students who did not have EC status at the time of referral to SBS ($\beta = .47, SE = .07, p < .001$). However, students with EC status still demonstrated a trajectory of increased literacy achievement over the course of the school year.

**Figure 2** Math average score.

**Literacy outcomes**

Controlling for other variables, a student’s literacy score increased significantly at a rate of .04 units ($\beta = .04, SE = .01, p < .001$) for every school quarter, indicating a trajectory of increased literacy achievement for students across all four school quarters (see Figure 3). The results also revealed several significant covariates. Female sex was associated with a 0.17 increase in literacy average scores as compared with males’ scores ($\beta = .17, SE = .06, p < .01$). Students who had EC status at the time of referral to the SBS program had an average literacy score .47 units below students who did not have EC status at the time of referral to SBS ($\beta = .47, SE = .07, p < .001$). However, students with EC status still demonstrated a trajectory of increased literacy achievement over the course of the school year.
Social/behavioral outcomes
While the average social/behavioral score slightly increased over time, this increase was not statistically significant ($\beta = .01$, $SE = .01$, $ns$). However, the results did indicate a number of significant covariates, including sex of the student, grade, EC status, service total, referral month, and African American racial/ethnic status. Female students had an average social/behavioral score .21 units above male students ($\beta = .21$, $SE = .04$, $p < .001$). Students who had EC status at the time of referral to SBS had an average social/behavioral score .145 units below students who did not have EC status at the time of referral to SBS ($\beta = -.145$, $SE = .044$, $p < .01$). However, students with EC status still demonstrated a trajectory of increased social/behavioral scores over the course of the school year. Additionally, students in lower grades who participated in SBS had significantly higher social/behavioral scores than students in higher grades who participated in SBS ($\beta = -.031$, $SE = .012$, $p < .01$). The number of service types was also a significant covariate. Students who received more types of SBS services had lower social/behavioral scores than students who received fewer types of SBS services ($\beta = -.04$, $SE = .01$, $p < .001$). Students who were referred later in the school year had higher social/behavioral scores than students who were referred earlier in the school year ($\beta = .032$, $SE = .013$, $p < .05$). African American students had an average social/behavioral score .289 points lower than all other students ($\beta = -.289$, $SE = .086$, $p < .01$) (for more details on social/behavioral outcomes, see Powers, Swick, Sneed, & Wegmann, 2016).

Discussion
Summary of results
Overall, the results indicated that students’ math and literacy scores improved significantly over the course of one school year. While there was also a slight increase in students’ social/behavioral scores, this increase was not statistically significant. The significant positive trajectory of students’ math and literacy achievement over time is a notable result given that the sample population is
comprised entirely of students who could be considered at risk of stagnant or declining achievement due to their identified mental health needs, and because academic material becomes more complex throughout the school year (Breslau et al., 2009; Bussing et al., 2012; Geary et al., 2012). These findings suggest that the SBS program may support the academic achievement of students who have mental health needs.

Several covariates were found to be significantly related to student outcomes. EC status at time of referral to SBS, grade level, sex of the student, African American racial/ethnic status, total number of service types received, and referral month were significantly related to students’ math, reading, and/or social behavioral outcomes. With regard to EC status, despite students with EC status exhibiting lower levels of math and reading achievement than students without EC status, SBS students with EC status still experienced a positive trajectory of math and literacy achievement over the course of the school year. This may support a unique benefit of addressing the mental health needs of EC students, considering that previous findings have associated EC status with stagnant or adverse achievement outcomes (Bussing et al., 2012; Siperstein, Wiley, & Forness, 2011). With respect to grade level, students in lower grades who participated in SBS had significantly higher math achievement than students in higher grades who participated in SBS. These findings may indicate that students have higher achievement when their mental health needs are identified as early in their school years as possible. We cannot be certain, but it may be that cases grow in complexity if they are left untreated (for an additional summary of findings see Powers, Swick, Sneed, & Wegmann, 2016; Swick, Wegmann, Powers, & Watkins, 2015).

**Study limitations**

There are a few limitations of the current study that should be noted. First, because there was no control group, there was no opportunity to compare the achievement of students who participated in the SBS program with the achievement of students who did not participate in the SBS program. Therefore, although the results are encouraging, a causal link cannot be made between the SBS program and students’ math and reading achievement. While utilizing a comparison group would have made for a more rigorous design, the public school setting did not allow for the use of comparison group data, because it would be unethical to withhold the intervention from children who had identified mental health needs. Second, the complexity of students’ mental health needs was measured by proxy. While the “number of services types received” variable was used as a proxy for complexity of a student’s mental health needs according to the logic that more complex cases would likely require a larger range of services, no direct measure to evaluate case complexity was available. Third, despite teachers’ best efforts to accurately assess students’ skills on their report cards, the subjective nature of the rating scale introduces an element of human error to the measurement process.

**Recommendations for evaluating school-based mental health programs**

Based on our experience of evaluating school-based mental health programs, we would like to offer several recommendations to future researchers who choose to pursue this line of work. First, every effort should be made to obtain a comparison group. Including a comparison group would give more confidence in the results that any improvement in academic achievement was due to the intervention itself and not extraneous factors. Additionally, when we attempted to publish the detailed findings from our evaluations, several journals automatically rejected the manuscript due to the lack of a control group. As discussed earlier, it was impossible to obtain a control group in
the current study due to the ethical implications of not offering services to students with pressing mental health needs. However, one alternative option could be to obtain comparison data from students in schools in the same district where the school-based mental health program is not being offered. Another alternative would be to obtain retrospective data on the students who do participate in the school-based mental health program. For example, archived records of report cards could be obtained to compare students’ academic achievement before they started participating in the program to during and after participating in the program.

Second, when evaluating school-based mental health programs, there are often competing interests. Given that schools are held accountable to academic achievement, they are often most interested in examining the effect of the school-based mental health program on students’ academic outcomes. However, many times researchers are also interested in the direct impact of the program on students’ mental health outcomes. When possible, collecting data on both mental health outcomes and academic achievement would be ideal. One point to emphasize with schools is that mental health and academic achievement are strongly interrelated; therefore it would make sense to collect data on both types of outcomes. If mental health outcomes cannot be collected, one alternative would be to collect data on social/behavioral indicators from report cards, as was done in the current study. While these are not direct measure of mental health outcomes, we know that there is a correlation between social/behavioral indicators and mental health outcomes.

Third, researchers should attempt to collect multiple indicators of the same outcomes. Ultimately, triangulating the data would lead to a more sound research design. In the current study, report card grades were used to measure both math and literacy achievement. However, we know that these measures are subjective and vulnerable to teacher error. An additional source of academic achievement data that could be obtained for students in third grade and later grades is end of grade (EOG) test scores in reading and math. Analyses could then be done to detect if there are changes in both math and literacy achievement as measured by report card grades and math and reading scores as measured by the EOGs.

Fourth, every effort should be made to make data collection as easy as possible for the schools. In the current project, the researchers created a Microsoft Access database for the program managers to enter their data into. At the beginning of the school year, a one hour training was held to teach the program managers how to use the database and answer any questions they had. Additionally, we convened the program managers quarterly to collect their data. During these meetings, all program managers brought their school laptops, and the researchers helped them download their data from the Microsoft Access database to an Excel file, which was then given to the researchers. Additionally at the final quarterly meeting, program managers brought hard copies of the students’ report cards to deliver to the researchers. Having these meetings on site in the school district at a convenient time for the program managers was key for participation.

Fifth, if possible, longitudinal data should be collected on students in order to examine the effects of school-based mental health programs over time. In the current study, we were able to collect data on students over the course of one school year. In an ideal world, we would have continued data collection for subsequent years as well. Unfortunately, this is often not possible due to limited time and resources. However, if researchers can make the case to schools of the added benefit to looking at outcomes over time, schools might be more likely to buy-in to this
process. If gathering longitudinal data on students is not possible, another option might be to gather retrospective data on students, as mentioned earlier.

Finally, when evaluating school-based mental health programs, researchers need to make sure to present the results to the school district in the most understandable way possible. In the current project, individual school reports were created for each program manager. These reports included line graphs, which visually depicted the change in outcomes over time as well as bulleted points of the main findings. When analysis was complete, a meeting was held with all of the program managers where findings were presented via a PowerPoint, and the individual reports created in Microsoft Word were distributed. Additionally, a more comprehensive report was created which included all of the individual school results as well as aggregate results. These findings were presented via a PowerPoint at a school board meeting and the written report was distributed to each school board member.

Conclusions
The results of the current study indicate that school-based mental health services may support students’ academic achievement. It is imperative that school mental health professionals advocate for comprehensive mental health services, such as the ones provided through the SBS program. Even with limited resources, comprehensive school-based mental health services can be created and provided through partnership. Additionally, it is essential that the impact of school-based mental health services on students’ outcomes be evaluated so that the effectiveness of such services can be demonstrated. Ultimately, school-community partnerships can increase access to services, reduce the stigma associated with seeking mental health services, and improve students’ mental health and academic outcomes.

References


StataCorp. (2011). *Stata statistical software: Release 12*. College Station, TX: StataCorp LP.


