

## ABSTRACT

### School-Based Mental Health Therapy: Meeting the Needs of Rural Adolescents

by

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School-based mental health (SBMH) therapy offers promise in addressing the mental health needs of rural adolescents. The current investigation includes two studies that examine rural adolescents' educational and mental health outcomes after receiving mental health services. Results from the first study which focused on educational outcomes, demonstrated no statistically significant relationship between the number of SBMH therapy sessions and the number of absences, or between the number of SBMH therapy sessions and the number of discipline referrals. Results from the second study which focused on mental health outcomes, demonstrated no statistically significant differences between pre and post treatment scores on the Youth Version of the Strengths and Difficulties Questionnaire (SDQ-Y). However, a strong, negative correlation between the number of SBMH therapy sessions and scores on the SDQ-Y Impact scale was found. Additionally, participants who only completed their pretest had lower scores on the SDQ-Y Peer Problem scale than participants who completed both pre and posttests. This investigation can inform ongoing efforts of SBMH therapy and provide recommendations for future research in the accountability, availability, accessibility, and acceptability of these services for rural adolescents.



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Meeting the Need of Rural Adolescents

by

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*This dissertation is dedicated to my father, Alberto M. Ongsuco, mother, Maria Teresa S. Ongsuco, sister, Ally Therese S. Ongsuco, brother, Al Godfred S. Ongsuco, and husband, Melvin I. Mendoza.*

*I am ever grateful for your sacrifice, sympathy, and support.*

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## CHAPTER I: INTRODUCTION

Educational problems such as academic failure, absenteeism, and discipline problems are often associated with untreated mental health problems (Masi & Cooper, 2006). Difficulties in school are also related to the development of more serious psychological problems including substance use or abuse, suicide attempts, and weapon-related aggression (Blum, Beuhrig, & Rinehart, 2000). Unfortunately, the majority of adolescents with mental health needs are either not receiving appropriate services or not receiving services at all (e.g., Kazdin, 1993; Graham, Bellmore, & Mize, 2006). For example, Ganz and Tendulkar (2006) found that youth who did not have insurance, who were diagnosed with more severe behavioral and psychological conditions, who were of lower socio-economic status, or who were of Latino descent, were less likely to receive mental health services. Highlighting disparities in healthcare, ethnic minority youth often have lower rates of access, longer delays to utilization, inferior quality of care, and higher rates of termination compared to non-Hispanic white youth (Cauce et al., 2002; McMiller & Weisz, 1996; Snowden & Yamada, 2005).

In rural communities, there is a lack of available or physically present mental health clinicians (e.g., Gamm, Hutchison, Bellamy, & Dabney, 2008). Additionally, there is a lack of accessible or approachable mental health services by the individuals in need of such services (e.g., Anderson & Gittler, 2005). In rural communities, there is a lack of acceptability or satisfaction with mental health services by the individuals who utilize them (e.g., Warner et al., 2005; USPHS, 2000). Furthermore, there is a lack of accountability data or measurement of the outcomes for those who actually received mental health services. There are more data on individuals who do *not* receive mental

health services, and the negative outcomes that occur due to the lack of these services (e.g., Eggert, Thompson, Randell, & Pike, 2002). Taken as a whole, it is not surprising that mental health needs for rural adolescents are largely being unmet.

In a report to the American Academy of Pediatrics, Satcher (2004) advocates that on-site school-based mental health (SBMH) services can increase the availability, accessibility, and acceptability of mental health services by having mental health clinicians in the school, reducing failure to attend appointments, and having services in a familiar, supportive environment, respectively. In terms of accountability, Armbruster and Lichtman (1999) found that the level of improvement for urban youth who received on-site SBMH services ( $n = 256$ ) were similar for urban youth who received treatment from a community clinic ( $n = 220$ ). Essentially, both groups were rated as having improved mental health scores on the Children's Global Assessment scale and Global Assessment of Functioning Scale.

SBMH services vary in their number and scope (Flaherty, Weist, & Warner, 1996). Some schools supplement existing clinical services in the school setting by including mental health counseling as part of a school-based clinic (1996). Other schools create comprehensive mental health programs focused on a particular outcome such as reducing teen pregnancy (1996). School-based mental health (SBMH) therapy especially is one service in the rubric of mental health services. SBMH therapy with cognitive-behavioral approaches have been used to impact depressive symptomatology, prevent substance abuse, and impact adaptive behavior skills in school-age children (e.g., Botvin, Baker, Dusenbury, Tortu, & Botvin, 1990; Reynolds & Coats, 1986; Rosal, 1993).

To provide SBMH services and SBMH therapy to those in need, partnerships have developed between schools and universities. In particular, undergraduate or graduate-level trainees in the helping professions are often enrolled in internship or practicum courses that require supervised training. Universities fulfill training requirements and conduct research studies, while schools receive high quality and free services (e.g., Nabors & Reynolds, 2000). Unfortunately, accountability data in rural school settings are limited.

Golden, Ongsoco, and Letchworth (2013) described the East Carolina University-Greene County Partnership for School-Based Mental Health Services (ECU-GC Partnership for SBMHS), which provided a variety of SBMH services such as a tutoring program, post-tornado relief efforts, and community-wide family events in a rural community. One service in particular, SBMH therapy, addressed the needs of rural adolescents who were identified and referred for mental health services within the school setting. Due to the establishment of SBMH services in the county, availability of resources and services increased as more undergraduate and graduate students were placed at the schools. Accessibility increased with more elementary, middle, and high school students and families participating in services. Key stakeholders such as school administrators, family members, and undergraduate tutors provided anecdotal reports that indicated satisfaction and acceptability of SBMH services. Due to the success of the partnership, the authors reported that schools in Rocky Mount, NC were integrated into the partnership. However, no accountability data for mental health or educational outcomes were presented.

It seems that SBMH therapy has a good chance of meeting the mental health

needs of rural adolescents. Specifically, adolescents would receive help they would not have access to otherwise. They may find the SBMH services more acceptable because it is in the school setting. With these points in mind, the purpose of the current investigation was to examine the accountability, availability, accessibility, and acceptability of SBMH therapy for rural adolescents. To obtain accountability data, in particular, two studies were conducted to evaluate rural adolescents' educational and mental health outcomes.



## CHAPTER II: LITERATURE REVIEW

### **Educational and Mental Health Outcomes in Adolescence**

Poor grades and high absenteeism are often associated with the emergence or the existence of mental health problems (DeSocio & Hootman, 2004). Specifically, difficulties in educational performance have been determined to be indicators of psychopathology in adolescence (Boyce et al., 2002). Furthermore, Campo, Jansen-McWilliams, Comer, and Kelleher (1999) found that students who had frequent school absenteeism associated with somatization possessed underlying anxiety problems. In longitudinal studies, discipline referrals in early childhood predict school failure in adolescence and antisocial behavior in adulthood (Farrington, 1989; Tobin & Sugai, 1999). Moreover, approximately 20% of male and 28% of female adolescents in juvenile detention centers report having a history of disruptive behavior problems leading to school suspensions and expulsions as well as a concurrent affective disorder and substance abuse (USPHS, 2000).

However, it should be noted that the relationship between educational difficulties and mental health problems are bidirectional. On one hand, McClellan, Breiger, McCurry, and Hlastala (2003) found that adolescents with poor social integration and poor school adjustment were at higher risk for psychotic disorders. On the other hand, Lavigne, et al. (2001) reported that preschoolers with attention deficits and oppositional, defiant, and aggressive behaviors were more likely to experience school difficulties and in fact, developed more complex behavioral profiles. Similarly, Rushton, Forcier, and Schectman (2002) determined that adolescents who had symptoms of moderate to severe depression persisting for over one year were more likely to be suspended from school and to have suicidal ideation.

Unfortunately, adolescents are less likely than younger children or preteens to receive help (Ganz & Tendulkar, 2006). These concerns are more pronounced for ethnic minority youth. African American male youth were less likely to be represented in participating in treatment among youth who displayed depressive symptoms (Stiffman et al., 1988). More recently, ethnic minority youth were found to have lower rates of access, longer delays to utilization, inferior quality of care, and higher rates of termination compared to non-Hispanic white youth (Cauce et al., 2002; McMiller & Weisz, 1996; Snowden & Yamada, 2005). African American and Latino adolescents had lower rates of referral and utilization of mental health services compared to non-Hispanic white youth (Barksdale, Azur, & Leaf, 2010).

If adolescents' mental health needs are left unaddressed, there are human and financial ramifications. Eggert, Thompson, Randell, and Pike (2002) found that students who were disengaged and dropped out of school had increased risk for depression, drug involvement, and suicidal attempts. More recently, Carli et al. (2014) reported that students who engaged in high-risk behaviors such as using illegal drugs, drinking alcohol excessively, smoking heavily, and being truant were those who were more likely to have psychiatric diagnoses and to have a history of suicidal attempts. In terms of financial costs, Masi and Cooper (2006) found that adolescents with mental health needs who were in the welfare and juvenile justice systems were more likely to access high-priced services such as emergency rooms, residential treatment, and juvenile detention centers due to the lack of early prevention and intervention services. It is apparent that services are warranted that address mental health needs of adolescents to improve their lives.

## **Adolescent Mental Health Services in Rural Communities**

### **Availability**

Availability of mental health services is when there are resources present in a geographical area. However, rural areas often face limitations in the availability of mental health services. Many years ago, Kelleher, Taylor, and Rickert (1992) found that rural adolescents face unique barriers to receiving mental health services, despite being as likely as metropolitan adolescents to experience behavioral and emotional problems. Kataoka, Zhang, and Wells (2002) reported that approximately 80% of children and adolescents with social, emotional, and behavioral concerns, ages 6 to 17, were either not receiving mental health services or not receiving appropriate mental health services. Gamm, Hutchison, Bellamy, and Dabney (2008) reported that there is a lack of child psychiatrists in 95% of rural areas with populations below 20,000 people. This leaves rural communities with no available resources for mental health care.

### **Accessibility**

Accessibility of mental health services is when those in need of these services attend and participate in treatment. However, even when services are available, Hauenstein et al. (2007) found that utilization of mental health services was lower in rural than urban or suburban areas. For example, Burns et al. (1995) determined that only 21.6% of rural children with a significant functional impairment and a diagnosis of Social Emotional Disability accessed and received mental health services. In the present decade, Anderson and Gittler (2005) reported that 64% of rural male adolescents who had substance abuse problems and psychological issues failed to access and receive appropriate mental health services.

## **Acceptability**

Acceptability of services is when stakeholders provide reports or ratings of their satisfaction with mental health services. Lohmann (1990) reported that kin-based networks are held in high regard within these communities; however, although these supports can provide significant financial, emotional, and psychological assistance in times of need, they may inadvertently dissuade family members from seeking professional help. According to Warner et al. (2005), concerns about confidentiality are often a source of delaying or not attending and therefore, not accepting mental health services in rural communities. It appears that the stigma associated with mental illness and mistrust of mental health providers due to a lack of mental health training among rural health care providers, contribute largely to the unacceptability and underutilization of available and accessible services (Hoyt, Conger, & Valde, 1997; Gamm, Stone, & Pittman, 2010).

## **Accountability**

Accountability is the measurement of the outcomes experienced by individuals who receive mental health services. Unfortunately, there is a lack of accountability data for this group of individuals. There are more data on what transpires when individuals in need do *not* receive mental health services. Rural adolescents who do not receive appropriate mental health care have been found to engage in deviant, distressing, and dangerous behaviors. Eggert, Thompson, Randell, and Pike (2002) reported that rural youth who were disengaged in school and dropped out of school were more likely to report depression symptoms, drug involvement, and suicidal behavior. Several studies have found that rural adolescents surpass their urban counterparts in dating violence

and risky sexual behaviors (e.g., Fahs et al., 1999; Spencer & Bryant, 2000; Atav & Spencer, 2001). Studies have also determined that rates of suicide and rates of nonprescription drug abuse were worse in rural populations (Eberhardt et al., 2001; Havens, Young, & Havens, 2010). Mental health services are needed to address these concerns. More importantly, the measurement of educational and mental health outcomes after these services have been received is warranted.

### **School-Based Mental Health (SBMH) Services**

#### **Accessibility, Availability, and Acceptability**

In a formative investigation of the utilization of mental health services by a rural community, Burns et al. (1995) used data from the Great Smoky Mountains Study of Youth (GSMS) to identify which service sectors families accessed to address their mental health needs. The GSMS gathered data for a sample of rural children and adolescents in the Appalachian area of western North Carolina. Sectors for mental health services were classified into five broad categories including mental health (e.g., psychiatric inpatient unit), juvenile justice (e.g., detention center, jail), health (e.g., family doctor), child welfare (i.e., social services counseling), and education (e.g., guidance counselor, school psychologist). The main findings indicated that many children and adolescents in need of mental health services (i.e., those meeting DSM-III-R criteria for serious emotional disturbance [SED] and were described to have significant functional impairment) were not being treated. Of 152 children with a diagnosis of SED and significant functional impairment, only 21.6% received mental health services. More importantly, the *majority*, over 75%, of the rural youth received their mental health care from the education sector. It was apparent that school systems were addressing the

mental health needs of rural adolescents, regardless of whether school professionals were well-equipped or well-trained.

The USDHHS (1999) determined that 70% of children and adolescence who received mental health services reported the school as their primary service provider. If mental health services are integrated in the structure of the school setting and if they are being utilized by those in need, then the problem of unmet mental health needs for adolescents can be alleviated.

Recognizing the educational sector's contribution to mental health care, Satcher (2004) reported on the advantages of SBMH services in a policy statement by the Committee on School Health of the American Academy of Pediatrics. Specifically, the integration of mental health services in the school setting enhanced availability, accessibility, and acceptability of mental health services. In terms of availability, schools offered a variety of services: some provided the minimum services of a school counselor while others implemented comprehensive mental health programs in partnership with community agencies (2004). Mental health professionals and students were linked through the school, and school officials worked to find available resources instead of placing the responsibility on the family. For example, students with Individualized Education Plans (IEPs) received individualized mental health services in the least restrictive setting and had a designated school-based professional responsible for the achievement of goals (2004). In terms of accessibility, most schools were within walking distances of neighborhoods and students did not need to travel to off-site locations to access services. SBMH services were more cost-effective for patients than private or community-based mental health services. Oftentimes, services provided in the school setting are free due to federal and state funding streams whereas community clinics require

insurance (2004). Lastly, in terms of acceptability, students and families who have access to available services in schools may experience reduced stigma compared to receiving services from stand-alone mental health providers (2004). In a more recent study, Owens, Murphy, Richerson, Girio, and Himawan (2008) found that 22% of parents reported feeling less embarrassed attending school-based meetings than community clinic meetings. More importantly, adolescents, with ethnic minority youth in particular, are more likely to pursue and receive treatment from school-based professionals than clinic-based professionals (Jaycox et al., 2010).

### **Accountability**

In terms of accountability, there are several studies that document either educational or mental health outcomes for rural adolescents after receiving SBMH services. Years ago, Hoagwood and Erwin (1997) investigated the effectiveness of interventions with cognitive-behavioral techniques, social skills training, or teacher consultation. Cognitive-behavioral techniques were most effective when targeting outcome variables such as substance use, depression, attendance, and locus of control. Social skills training were most effective when targeting peer acceptance as an outcome. Teacher consultation was most effective when targeting special education referral rates. However, in general, SBMH services had mixed effects on adolescents' behavioral functioning (1997). In a more detailed review of universal prevention and indicated prevention services for children and adolescents, Rones and Hoagwood (2000) reported similar findings. These studies targeted a specific problem such as emotional and behavioral problems, depression, conduct problems, stress management, or substance use. Outcome variables included functioning, services and system utilization, and symptom reduction. Programs that had a longer duration and provided comprehensive

services to those in need were most effective than programs with shorter duration and limited focus (2000).

In the most recent decade, Wilson, Gottfredson, and Najaka (2001) collected data from a total of 165 studies and conducted a meta-analysis. Studies that took place in a school or classroom setting, evaluated a treatment program that addressed adolescent problem behaviors, reported educational outcomes, and included one treatment group and at least one control group or minimal-intervention group, were included in the final analysis. The results indicated that interventions which utilized cognitive-behavioral and contingency management techniques had small, positive effects in dropout rates ( $d=0.20$ ). Likewise, Owens, Richerson, Beilstein, Crane, Murphy, and Vancouver (2005) investigated the effects of a comprehensive behavioral treatment package on the educational needs of rural students with ADHD in the home and school settings. Compared to rural children diagnosed with ADHD who received SBMH services, rural children diagnosed with ADHD who did not receive SBMH services were more likely to decline in grades within the year and be rated as being disruptive in the classroom and home environments by their teachers and parents. In terms of acceptability, parents and teachers rated the program services as satisfactory. Specifically, 25% of parents reported that school-based meetings were less embarrassing than meeting in a mental health clinic, and 90% of teachers saw the clinician as being part of the school culture instead of as an outside consultant. However, no reports from the students' perspective were gathered.

### **School-Based Mental Health (SBMH) Therapy**

There is evidence that adolescents have benefited from SBMH therapy. SBMH therapy is defined as therapy that is conducted in the school setting, is cognitive-behavioral in nature, and measures educational or mental health outcomes.



To set a foundation that SBMH therapy can impact educational outcomes, Meyer, Strowig, and Hosford (1970) examined the effects of behavioral reinforcement techniques on an educational outcome (i.e., the information-seeking behavior) of rural senior high school students ( $n = 144$ ) from three different schools. Students were given a questionnaire which asked students to report the frequency (e.g., total number of information-seeking behaviors) and variety (e.g., engaging in conversations with various sources like parents, counselors, teachers, etc. about going to college) of information-seeking behavior. The purpose of this investigation was to determine whether or not the implementation of behavioral reinforcement significantly improved information-seeking behavior when compared to model-reinforcement, film-reinforcement, or no treatment conditions.

Results suggested that students in the treatment groups were more likely to engage in increased frequency and variety of information-seeking behavior compared to students in no-treatment groups. In addition, there were no significant differences among model, film, or behavioral reinforcement treatment conditions. Regarding session format, students engaging in group-based counseling reported similar occurrences and variety of information-seeking behavior as students in dyadic counseling. Regarding gender differences, female students reported more occurrences and variety of information-seeking behaviors than male students. Meyer, Strowig, and Hosford (1970) set the foundation that SBMH therapy impacted educational outcomes.

Building on the previous investigation, Andrews (1971) utilized standardized measures to assess not only educational outcomes but mental health outcomes in adolescents. The purpose of this study was to recognize specific cognitive-behavioral

techniques used in the treatment of adolescents. Urban male students ( $n = 46$ ) from one high school who reported high anxiety (as measured by scores on The Institute for Personality and Ability Testing Anxiety Scale) and had academic grades that were below their expected intelligence scores (as measured as discrepancy scores between an average of their academic marks and IQ scores) were selected to participate in the study. Outcome variables included two pre-post measures of anxiety (i.e., scores on the IPAT Anxiety Scale and the Willoughby Personality Schedule). The other dependent variable was a pre-post measure of academics (i.e., T scores based on the average of math, social studies, science, and reading course grades).

Results indicated that the students who participated in counseling that utilized cognitive-behavioral techniques were more likely to reduce their scores on both measures of anxiety than students who received client-centered therapy. These differences were more pronounced when compared to students who received no treatment. However, there were no significant differences among behavioral, client-centered, or no treatment groups for improvements in academic scores. Andrews (1971) provided evidence that cognitive-behavioral methods can be successfully implemented in school-based counseling sessions, and can effectively impact mental health outcomes. However, no impact on educational achievement was investigated.

To extend the reach of SBMH therapy, Block (1978) focused his investigation on educational outcomes using rational-emotive techniques, in particular. Block (1978) investigated the effects of a rational-emotive mental health therapy on the grade point average (GPA), number of reported discipline incidents, and number of reported class absences of minority high school students. Participants were African-American and

Latino students ( $n = 40$ ) from an inner-city high school in a low-income area. They were eligible for the intervention if they had: a grade of 65 or lower, forty or more school absences, twenty-five or more tardies, twenty-five or more class absences, or had five or more official reports of classroom misbehavior. One of the dependent variables was disruptive classroom behavior, defined as “students talking out of turn or being out of their seat without permission.” Another dependent variable was students’ absence in a class. The last dependent variable was GPA, as measured by the final marks in students’ core classes.

Results suggested that students in the rational-emotive therapy condition were more likely to have higher GPAs, lower number of discipline incidents, and lower number of class absences compared to human relations and no-treatment control groups. Students in the rational-emotive treatment condition were also more likely to maintain their improvements when observed at a later date. Block (1978) demonstrated that rational-emotive therapy improved the educational outcomes of students with a variety of referral concerns. Overall, studies on SBMH therapy in the 1970s provided the foundation that cognitive-behavioral and rational-emotive therapy techniques were effective in improving educational and mental health outcomes. However, data for rural adolescents in particular were limited.

In the next decade, Prout and DeMartino (1986) conducted a meta-analysis of studies examining school-based psychotherapy. Thirty-three studies, which were performed in a school or addressed a school-based problem, involved an intervention by a school-based professional, reported academic and behavioral outcomes, and were comprised of one treatment group and one control group, were included in the final

analysis. Results indicated that the overall effect of school-based psychotherapy was in the positive moderate range ( $d=0.58$ ). Statistical analysis revealed that interventions utilizing behavioral techniques ( $d=0.65$ ) were more effective in improving academic and behavioral outcomes than interventions that utilized client-centered ( $d=0.30$ ) or human relations ( $d=0.52$ ) techniques. In addition, within the behavioral approach, studies utilizing cognitive-behavioral/rational-emotive strategies ( $d=0.86$ ) were most effective and reinforcement-based techniques ( $d=0.59$ ) were the second most effective. Furthermore, results indicated that treatments were most effective in improving observable behavior ( $d=1.25$ ) and problem-solving ( $d=0.94$ ). Thus, Prout and DeMartino (1986) provided more evidence that cognitive-behavioral and rational-emotive techniques impact academic and behavioral outcomes.

In the 1990s, Dishion, McCord, and Poulin (1999) found a different result of SBMH therapy in rural adolescents. Briefly, an iatrogenic illness is a “disorder precipitated, aggravated, or induced by the physician’s attitude, examination, comments, or treatment” (APA, 1994, p. 103). Psychotherapy has been demonstrated to potentially result in an iatrogenic illness. Specifically, “a client may experience increased self-esteem and assertiveness after therapy, but feel less positive about family members and experience less acceptance from others who now feel threatened by the client’s behavioral changes” (Boisvert & Faust, 2002, p. 245). It is important to be aware of this phenomenon and take steps to minimize its occurrence by conceptualizing each therapy session as the last, utilizing self-debiasing strategies, and being solution-focused (2002).

Dishion, McCord, and Poulin (1999) found that cognitive-behavioral group

therapy had iatrogenic effects when rural middle school students who were referred for conduct problems were grouped together. Essentially, peer-based, group interventions that assembled antisocial youth together actually increased deviant behaviors among those adolescents as a result of therapy. However, further analysis indicated that deviant behaviors were more likely to occur when antisocial teens were grouped together *and* when discrete deviant behaviors were not being monitored during treatment sessions. Unlike previous researchers, Dishion, McCord, and Poulin (1999) found an undesired effect of SBMH therapy for adolescents with problem behaviors.

However, in more recent decades, adolescents with the same problem behaviors responded positively to SBMH therapy with cognitive-behavioral and rational-emotive techniques. Sharp and McCallum (2005) investigated the effects of SBMH therapy on the educational and mental health outcomes of rural adolescents with anger management problems. Seventh and eighth graders ( $n = 16$ ) from a rural middle school participated in rational emotive behavioral therapy (REBT) for two months. The seventh graders participated in therapy in October and November while the eighth graders served as controls. The eighth graders then participated in therapy in the next two months. The students' discipline referrals were assessed during baseline, intervention, and follow-up. The students' scores on a test of REBT concepts were assessed before, after, and during follow-up of the therapy.

Results indicated that rural adolescents obtained significantly higher post-test scores on a measure of REBT knowledge after therapy. These gains were maintained over an 8-week follow-up. Though comparisons of discipline referrals from baseline to intervention or baseline to follow-up yielded no statistically significant results, moderate

to large effect sizes were found. Sharp and McCallum (2005) demonstrated that rural adolescents with the same problem behaviors did not engage in deviancy training, and instead their educational and mental health outcomes were improved after participating in SBMH therapy.

From the 1970s to the 2000s, there have been limited investigations addressing the availability, accessibility, acceptability, and accountability of SBMH therapy for rural adolescents. When accountability data were reported, studies of SBMH therapy provided evidence for both negative and positive outcomes for adolescents. However, SBMH therapy with cognitive-behavioral and rational-emotive techniques has been found to impact outcomes in a more positive than negative manner. Unfortunately, these effects have been demonstrated only in select groups such as urban youth, minority high school students, or adolescents with specific referral concerns (e.g., ADHD, antisocial behaviors, anger-related aggressive behavior). Consequently, the specific issue of SBMH therapy for rural adolescents with heterogeneous mental health warrants further investigation.

### **University-School Partnerships**

Forming partnerships among mental health professionals and school personnel has been beneficial for adolescent students. Houck, Darnell, and Lussman (2002) described a partnership between school nurses and advanced psychiatric nurses which provided an opportunity to complete evidence-based interventions that addressed adolescents' mental health needs. Results indicated that urban female adolescents ( $n = 14$ ) from two high schools who were socially withdrawn and depressed had positive interactions with the nurses during group therapy. This foundation of trust enabled the

adolescents to utilize more specialized mental health services in the local community.

Similarly, an expanded school mental health (ESMH) model joined community mental health therapists with school mental health personnel to identify and treat children and adolescents with mental health needs. Ballard, Sander, and Klimes-Dougan (2013) evaluated the effects of the ESMH model on students' educational and mental health outcomes. Participants included 159 students from seven urban schools which had ESMH programming (i.e., ESMH schools) compared to 148 students from seven urban schools which did not have ESMH services (i.e., non-ESMH schools). In terms of educational outcomes, differences between suspension and attendance rates utilizing school archival records were analyzed. In terms of mental health outcomes, differences between teacher and parent reports of the Strengths and Difficulties Questionnaire (SDQ) before and after treatment were analyzed.

Results indicated that students who received ESMH in their schools had a lower mean number of suspensions by 0.51 suspensions per year while the students from non-ESMH schools increased the mean number of suspensions by 1.66 suspensions per year. No significant differences were found for attendance rates between ESMH and non-ESMH schools. In terms of mental health outcomes, there was a statistically significant difference between pre and post teacher ratings of students who received ESMH services. This trend was similar for parent ratings on the SDQ. The studies by Houck, Darnell, and Lussman (2002) and Ballard, Sander, and Klimes-Dougan (2013) provide evidence that partnerships among school personnel and specialists in the mental health field can benefit adolescents in the school setting. However, SBMH services in *rural* communities may warrant more consideration.

In order to fully address the mental health needs of their rural clients, culturally responsive SBMH services necessitate recognition of the challenges presented to professionals working in rural communities. Owens, Watabe, and Michael (2013) reported that professionals in rural communities have to manage multiple relationships, adopt a generalist approach, and be patient in seeing delayed treatment effects. To counter these issues, the authors proposed that partnerships between mental health service providers in rural schools (e.g., school psychologist, school counselor) and local university faculty offer opportunities to provide mental health services in the school setting (2013). More specifically, Owens et al. (2011) suggested that administrators and faculty members can develop mechanisms based on data-driven decisions, teachers and SBMH providers can receive professional development training, and graduate student trainees can deliver high quality, supervised services. In addition, Owens and Murphy (2004) recommended that university faculty work with school personnel to collect, evaluate, and disseminate data from rural schools to further investigate the impact of SBMH services.

Though limited in number and scope, there are studies which investigated the outcomes of SBMH therapy within the context of a university-school partnership. In the early 2000s, the University of Maryland in Baltimore and schools in Baltimore City formed a partnership. Nabors and Reynolds (2000) evaluated the partnerships' effect on students' educational and mental health outcomes. Participants included 181 middle and high school students who received SBMH services and 113 students who did not receive SBMH services completed self-report ratings of emotional and behavioral functioning using the Achenbach Youth Self-Report Form (YSR). In addition, fourteen



therapists who were asked to rate the emotional and behavioral functioning of the students who received SBMH services using the Child and Adolescent Functional Assessment Scale (CAFAS). The therapists were the same clinicians who provided the treatment to the students and who rated the students' behaviors. For both the CAFAS and YSR, lower scores indicate typical functioning.

Results indicated that the treatment group missed an average of 80 days per year (range = 0 to 100 days), and were suspended from school an average of 1 day per year (range = 0 to 9 days). These rates were higher than the students who did not receive SBMH therapy. Similarly, the control group had consistently lower scores on the YSR than the treatment group before and after the administration of SBMH services. These results suggest that the control group did not have any academic or mental health concerns, and changes in the treatment groups' outcomes may or may not have been impacted by SBMH therapy. Though the adolescents themselves did not report any changes in their mental health functioning due to SBMH services, their clinicians observed and rated their behaviors as being less severe as time progressed. Specifically, the clinician ratings of their patients' emotional and behavioral functioning decreased up to eight points at three months and up to fifteen points at six months after receiving SBMH services. It appears that Nabors and Reynolds (2000) provided accountability data of a university-school partnership in an urban setting for adolescents. However, an investigation of the accountability data from a university-school partnership in a rural setting for adolescents is warranted.

### **Rationale for the Current Investigation**

There are a scarce number of studies specifically investigating SBMH therapy for

rural adolescents, a population that is underserved despite great need. Since SBMH therapy may have the best chance to be effective in addressing rural adolescents' mental health needs, it is important to collect better evidence relevant to the understanding of these difficulties. More importantly, no study has been done that includes both antisocial and prosocial youth with diagnosed and undiagnosed concerns in SBMH therapy while measuring both educational and mental health outcomes. Examination of the availability, accessibility, acceptability, and accountability of SBMH therapy for rural adolescents can be useful and beneficial to inform further treatment programs.

### **ECU-GC Partnership for SBMHS**

Greene County is a rural, low-income area in eastern North Carolina. It has a high rate of minority groups (14.3% Latino, 37.3% African American) compared with the rest of North Carolina (8.4% Latino, 21.5% African-American). According to the United States Census Bureau (2011), 23.0% of residents in this geographic area are living at poverty level compared to the 16.2 % of residents in the rest of NC.

The privatization of community mental health services and the scarcity of licensed psychologists in Greene County led to the development of a partnership between Greene County Schools and East Carolina University (ECU). With funding from the Kate B. Reynolds Charitable Trust, the ECU-GC Partnership for SBMHS was developed in 2007. SBMH services were implemented at West Greene Elementary School (WG), Greene County Middle School (GCMS), and Greene County High School (GCHS). From 2007 to the present, several services were provided to the children and families of Greene County Schools including a tutoring program, a post-tornado trauma

intervention, and family outreach programs. However, one of the most needed services was SBMH therapy for rural adolescents. As such, these schools became practicum rotations for advanced-level students in the Health Psychology Doctoral Program at ECU. Since the placements were used for training purposes, doctoral students provided free services that were available for underserved and uninsured students.

Golden, Ongsoco, and Letchworth (2013) determined the availability, accessibility, and acceptability of SBMH services in Greene County Schools using descriptive statistics and anecdotal reports from the 2008-2009, 2009-2010, and 2010-2011 school years. In terms of availability, the study reported how often and how long professional and graduate-student clinicians were in the schools each school year. In terms of accessibility, the study detailed the number and types of services accessed or received by students, teachers, parents, and school personnel. Lastly, in terms of acceptability, the study presented how satisfied school personnel and family members were with the services they received.

Results indicated that a variety of services were available and were accessed at the elementary, middle, and high schools during three consecutive school years. These included staff trainings on mental health issues, parent education sessions, consultations between behavioral clinicians and teachers, tutoring programs, post-tornado trauma intervention, family outreach programs, individual therapy, and group therapy. In terms of acceptability, parents, school administrators, and undergraduate tutors provided anecdotal reports of satisfaction with SBMH services in general (e.g., “I have thoroughly enjoyed this experience...” – *Undergraduate Tutor*), observations of improvement (e.g., “...we continue to see improvement in many students’ attitude and

effort in their studies” – *Principal*) and wish for continuation (e.g., “I hope that we can continue this much needed and much appreciated service for years to come...” – *Assistant Principal*).

However, no accountability data on these services were reported. As such, a description of the availability, accessibility, acceptability, and accountability of SBMH therapy is needed to examine the impact of the ECU-GC Partnership for SBMHS on the mental health needs of rural adolescents.

### **Purpose of the Current Investigation**

The primary purpose of this investigation is to examine the accountability of SBMH therapy by measuring changes in educational outcomes in Study 1 and mental health outcomes in Study 2. The secondary purpose of this investigation is to examine the availability, accessibility, and acceptability of SBMH therapy for rural adolescents.

### **Study 1: Research Questions**

#### **Accountability**

1a. What is the relationship between the number of SBMH therapy sessions and the number of absences after the start of SBMH therapy?

This research question provides a measure of the dosage of SBMH therapy and its effect on the number of absences after the semester the participant was referred. Since the effects of SBMH therapy is not rapid, absences may not be impacted until the semester after the start of SBMH therapy.

To answer this research question, frequency data on the number of sessions each participant attended were gathered. Frequency data on the students' number of absences per quarter from their cumulative folders during the 2009-2010 and 2010-

2011 school years were collected. The start date and the end date of therapy for each participant was recorded. The total number of absences in the quarters after therapy started was calculated.

1b. What is the difference in the number of absences in the quarter at the start of therapy and the quarter after the start of therapy?

Students who were referred in a particular quarter may have had more absences due to the problems they were facing in the home or school setting (e.g., missing school due to family conflicts, missing school due to performance anxiety, missing school to deal with grief issues). As they received therapy, the students may have experienced a decrease in the number of absences.

Frequency data on the students' number of absences per quarter from their cumulative folders during the 2009-2010 and 2010-2011 school years were collected. The difference in absences between the quarter in which therapy started and the quarter after therapy started was calculated. This comparison would be a direct reflection on SBMH therapy's immediate impact on absences. In addition, instead of having averages among the quarters, there is one value for each quarter that is more aligned for comparison.

2a. What is the relationship between the number of SBMH therapy sessions and the number of discipline referrals after the start of SBMH therapy?

This research question provides a measure of the dosage of SBMH therapy and its effect on the number of discipline referrals after the semester the participant was referred. Since the effects of SBMH therapy is not rapid, discipline referrals may not be impacted until the semester after the start of SBMH therapy.

To answer this research question, frequency data on the number of sessions each participant attended were collected. Frequency data on the students' number of discipline referrals per quarter from a school-wide electronic database during the 2009-2010 and 2010-2011 school years were gathered. The start date and the end date of therapy for each participant was recorded. The total number of discipline referrals in the quarters after therapy started was calculated.

2b. What is the difference in the number of discipline referrals in the quarter at the start of therapy and the quarter after the start of therapy?

Students who were referred in a particular quarter may have had more discipline referrals due to the problems they were facing in the home or school setting (e.g., talking back to teachers due to poor coping skills, engaging in fights with other students due to poor self-regulation, cursing out loud due to low frustration thresholds). As they received therapy, the students may have experienced a decrease in the number of discipline referrals.

Frequency data on the students' number of discipline referrals per quarter from a school-wide electronic database during the 2009-2010 and 2010-2011 school years were collected. The start date and the end date of therapy for each participant was recorded. The difference in discipline referrals between the quarter in which therapy started and the quarter after therapy started was calculated. This comparison would be a direct reflection on SBMH therapy's immediate impact on absences. In addition, instead of having averages among the quarters, there is one value for each quarter that is more aligned for comparison.

**Availability**

1. What is the availability of SBMH therapy for rural adolescents?

This question was investigated by recording the total number of hours that clinicians were present in a rural middle school setting during the 2009-2010 and 2010-2011 school years.

**Accessibility**

1. How many months were rural adolescents in SBMH therapy?

This question was investigated by recording every student's start date and end date, and calculating the number of months they were in SBMH therapy during the 2009-2010 and 2010-2011 school years.

2. How many SBMH therapy sessions did rural adolescents receive?

This question was investigated by recording every student's session in the 2009-2010 and 2010-2011 school years.

3. What were the characteristics of rural adolescents who accessed SBMH therapy?

This question was investigated by collecting data on each rural adolescent's gender, grade, and ethnicity.

**Acceptability**

1. What do students think of SBMH therapy?

This question was investigated by administering an open-ended questionnaire to students at the last session of SBMH therapy during the 2009-2010 and 2010-2011 school years, in which to share their anecdotal report of SBMH therapy.

## **Study 2: Research Questions**

### **Accountability**

1. What is the difference in scores before and after students received SBMH therapy on each of the scales and the Total Difficulties Score on the Youth Report Version of the Strengths and Difficulties Questionnaire (SDQ-Y)?

This question was investigated by administering the SDQ-Y to students within three sessions of their starting SBMH therapy and at their last session of SBMH therapy during the fall 2013 semester.

2. What is the relationship between the number of SBMH therapy sessions and differences in summed scores on each of the scales and the Total Difficulties Score on the SDQ-Y?

This research question provides a measure of the dosage of SBMH therapy and its effect on the mental health scores of the participants. To answer this research question, frequency data on the number of sessions each participant attended were collected. The differences in summed scores between pre and post-tests were calculated.

### **Availability**

1. What is the availability of SBMH therapy for rural adolescents?

This question was investigated by recording the total number of hours that clinicians were present in a rural middle school setting during the fall 2013 semester.

### **Accessibility**

1. How many months were rural adolescents in SBMH therapy?

This question was investigated by recording every student's start date and end



date, and calculating the number of months they were in SBMH therapy during the fall 2013 semester.

2. How many SBMH therapy sessions did rural adolescents receive?

This question was investigated by recording every student's session during the fall 2013 semester.

3. What were the characteristics of rural adolescents who accessed SBMH therapy?

This question was investigated by collecting data on each rural adolescent's gender, grade, and ethnicity.

## Chapter III: Study 1

### Method

#### Setting

Greene County Middle School (GCMS) is the only middle school located in Greene County. In the 2009-2010 school year, GCMS had an enrollment of 801 students (NC School Report Cards, 2009). Based on the Youth Risk Behavior Survey (YRBS) in the 2006-2007 school year, approximately 24% ( $n=192$ ) of middle school students reported symptoms of depression and approximately 10% ( $n=80$ ) of middle school students reported that they considered attempting suicide. There is a school health clinic located on the high school campus, which provide physical and mental health consultations. Despite this available resource, only 20 students came to the student health clinic in the 2006-2007 school year, indicating that adolescents do not readily access mental health services despite its availability (USDHHS, 2010).

#### Participants

The participants in this investigation were students at GCMS. They were identified and referred by the Child Family Support Team (CFST). This team was led by the school social worker and school nurse, but involved school administrators and school counselors as well. The CFST received referrals from teachers and other school professionals regarding adolescents who had a variety of concerns. Thus, the sample was heterogeneous in terms of their mental health needs. Some of the participants were referred for health issues that impacted social integration (e.g., wearing hearing aids, encopresis), emotional issues (e.g., dealing with grief), class misbehavior (e.g., talking back to teachers), social problems (e.g., making no friends in a new school), and

interpersonal concerns (e.g., dealing with sexual orientation). The CFST members felt that these problems interfered with the students' overall academic progress and were indicative of poor social well-being.

In order to be included in the study, referred students had to be receiving CFST services, had student assent to participate in SBMH services and record review, and had parental consent to be included in SBMH services and record review ( $N=44$ ). The participants received SBMH therapy during the 2009-2010 and 2010-2011 school years. Please refer to Table 1 for the demographic information of the participants.

Table 1  
*Demographic Information for Study 1 Participants*

Variable	N (%)	M (SD)
<u>Educational Status</u>	41 (93.2)	
Not in SPED	33 (75.0)	
ID-Mild	1 (2.3)	
Specific Learning Disability	4 (9.1)	
Other Health Impairment	1 (2.3)	
Educably Mentally Handicapped	1 (2.3)	
Hearing Impaired	1 (2.3)	
<u>Gender</u>	41 (93.2)	
Male	10 (22.7)	
Female	31 (70.5)	
<u>Ethnicity</u>	41 (93.2)	
Caucasian	9 (20.5)	
Hispanic/Latino	5 (11.4)	
African American	24 (54.5)	
More than One Race	3 (6.8)	
<u>Grade</u>	44 (100)	
6	20 (45.5)	
7	15 (34.1)	
8	9 (20.5)	
<u>Age (in years)</u>	44 (100)	12.597 (0.898)

### **Independent Variables**

The number of sessions each participant attended was recorded during the 2009-2010 and 2011-2012 school years. Therapists recorded their hours in an Excel

sheet provided by the local school-based health clinic at the high school. Information that was required included: dates when participants were seen, appointment start time and end time, number of minutes for appointment, diagnosis code, and ethnicity of participant.

SBMH therapy was administered according to the principles of rational-emotive behavior therapy (REBT) outlined in the book, *What Works When with Children and Adolescents* (Vernon, 2002). These procedures can be summarized as follows: [a] teaching youth to recognize and interpret activating events, [b] assessing emotional and behavioral reactions to activating events, [c] challenging youth to dispute their irrational beliefs, [d] utilizing contingent reinforcement to increase positive behaviors and decrease problematic behaviors, [e] handling similar future situations effectively, and [f] reducing negative emotions after negative events (Vernon, 2002). In addition, students were also asked what goals they wanted to accomplish during therapy and after therapy to inform their treatment. Additional details of the SBMH therapy are outlined in the 'SBMH Therapy Procedures' section below.

### **Dependent Variables**

Variables of interest included [a] the *availability* of services, defined as the total number of hours that clinicians were present in GCMS over the two school years, [b] the *accessibility* of services, defined as the number of months and number of sessions participants received SBMH therapy, [c] the *acceptability* of services, defined as the participants' qualitative responses to an open-ended questionnaire, and [d] *accountability*. In terms of *accountability*, the data were continuous in nature. Educational variables included *absences*, defined as the number of days missed per

participant in each of the four quarters, and *discipline referrals*, defined as the number of incident reports per participant in each quarter of the four quarters.

### **Number of Absences**

Absences for each period are reported daily by classroom teachers. Instead of collecting data from skipped periods and classes from each day, the data were aggregated each quarter to obtain the total number of days absent. Thus, a student may have skipped a class but may not have been considered absent. In order to be marked a full day absent, four cumulative missed periods were needed. The number of absences was calculated by dividing the total number of classes missed by four. Thus, the data in Study 1 reflect a full day of the student being absent.

Both measurements of absences took place while SBMH therapy was given. The number of absences in the quarter at the start of SBMH therapy while the participants were already receiving SBMH therapy, and the number of absences in the quarter after the start of SBMH therapy were collected. Though the number of absences before starting therapy may be a better baseline measure to help more clearly demonstrate the impact of therapy on absences, that data were available for only 50% of the participants. That is, 50% of the participants had baseline data before the start of SBMH therapy since they did not receive SBMH therapy until the third quarter of the school year. The other 50% did not have any baseline data available since they started therapy in the first quarter of the school year.

### **Number of Discipline Referrals**

The CFST receives discipline referrals from teachers, administrators, and school resource officers. Instead of collecting data from bus referrals and teacher incident

reports from each day, the data were aggregated to obtain the total number of discipline referrals for each quarter. In order to obtain a discipline referral, a teacher report and noted consequence were needed. Thus, a student may have received a teacher report, but a discipline referral may not have been filed.

Both measurements of discipline referrals took place while SBMH therapy was given. The number of discipline referrals in the quarter at the start of SBMH therapy while the participants were already receiving SBMH therapy, and the number of discipline referrals in the quarter after the start of SBMH therapy were collected. Though the number of discipline referrals before starting therapy may be a better baseline measure to help more clearly demonstrate the effect of therapy on discipline referrals, that data were available for only 57% of the participants. That is, 57% of the participants had baseline data before the start of SBMH therapy since they did not receive SBMH therapy until the third quarter of the school year. The other 43% did not have any baseline data available since they started therapy in the first quarter of the school year.

### **Research Design**

A one-group pretest-posttest design was used for this study (Cook & Campbell, 1979). While there may have been other influences on post-therapy scores, this study can at least establish a clear temporal relationship. The pretest is the baseline measure and is somewhat of a comparison “group” for each student. Essentially, each participant’s performance at the beginning and after the intervention was administered, can be measured. However, there is a potential confound with this research design because both measurements of the dependent variables occurred after the start of the

intervention. Nevertheless, data were collected at two different time points. It would be difficult to justify drawing cause and effect inferences from the resulting data because there was no control group, and therefore, multiple variables other than the intervention such as chance or maturation may explain the outcomes.

## **Procedures**

### **Data Collection Procedures**

Letters of support from the superintendent of Greene County Schools, the principal of Greene County Middle School, and the principal of Greene Central High School were required for submission to the East Carolina University Institutional Review Board (IRB). These letters are presented in Appendix A, Appendix B, and Appendix C. After obtaining IRB approval this study, data were recorded for each of the participants. Please see Appendix C for IRB Documentation for Study 1. Each participant's information was coded. The school social worker collected data for each participant and reported the data to the primary investigator. The data were then stored in a password-protected document.

In terms of *accountability*, data for discipline referrals were collected after SBMH therapy was finished in Spring 2011. Discipline referral data were available on an electronic database that could be accessed at GCMS. Data for the number of absences were located in participants' cumulative folders. Data for students who were in sixth and seventh grade during the 2010-2011 school year were included in the students' cumulative folders located at GCMS. Absences data for students who were in eighth grade during the 2010-2011 were located in the students' cumulative folders at the high school. Similarly, absences data for students who were in the sixth grade during the

2009-2010 school year were included in the students' cumulative folders located at GCMS. However, absences data for students who were in seventh grade and eighth grade during the 2009-2010 school year were included in the students' cumulative folders located at the high school.

In terms of *availability*, each therapist noted the hours they were in the school setting in an Excel sheet. These were given to their supervisor every month. In terms of *accessibility*, each therapist noted the hours when they provided direct services to the participants. This was noted in the same Excel sheet that was given to the school health clinic located on the high school grounds. The school social worker provided information about each participant's gender, race, ethnicity, and education status. In terms of *acceptability*, Therapist A asked participants to complete an open-ended questionnaire at the last session of therapy. However, some participants did not attend their last session due to being absent from school, and were not tracked in upcoming semesters. Therapist B did not collect any acceptability data.

### **Consent Procedures**

SBMH therapy was a school-based service available to students at a rural middle school. Students who were identified and referred by the CFST for SBMH therapy *and* who returned parent consent forms received SBMH therapy. Consent and assent forms for SBMH services and record review were often signed during a parent or family meeting with the CFST's school nurse or social worker. An example of the assent form and the consent form are presented in Appendix E and Appendix F.

### **SBMH Therapy Procedures**

SBMH therapy was provided via two doctoral student therapists under the



supervision of a licensed psychologist. One doctoral student, Therapist A, provided individual and group therapy during the Fall 2009, Spring 2010, and Fall 2010 semesters. Therapist B provided individual and group therapy during the Spring 2011 semester. On average, therapists saw at least three participants on an individual therapy basis once a week. Therapists conducted group therapy for approximately 60 to 90 minutes per session for each group. On average, the therapist met with a group once a week and the group was composed of five participants.

Both therapists structured their group therapy sessions in a similar format. They started with a review of group rules while also setting goals for the session. They then [a] engaged in activities to build rapport, [b] utilized contingent reinforcement, and [c] implemented cognitive-behavioral and rational-emotive therapy techniques. However, there were some differences between therapists. In addition to the rational-emotive strategies, Therapist A utilized a life skills magazine as a literary component while Therapist B utilized selected sections of a social skills program.

For both individual and group therapy formats, the therapists were consistent in their utilization of the main components of cognitive-behavioral techniques. Both therapists utilized cognitive-behavioral strategies to address mental health needs of students. Specific interventions were developed for problems such as relationship issues, adjustment after divorce, and dealing with teasing. The therapists taught the middle school students to be aware of triggers for inappropriate behaviors and disputing irrational beliefs utilizing resources such as Vernon (2002). In addition, both therapists utilized a solution-focused approach in counseling. That is, both therapists asked the

students what goals they wanted to accomplish after therapy was terminated and used that as a foundation for treatments.

Therapist A and Therapist B also utilized contingent reinforcement to reinforce the middle school students in the counseling session for demonstrating appropriate behaviors. They gave labeled praise and utilized nonverbal and verbal positive reinforcement. Therapists also provided tangible reinforcers such as candy and school supplies if middle school students met a set criterion of points for the demonstration of appropriate behaviors.

As a measure of acceptability, participants had the option of completing a brief questionnaire at the end of SBMH therapy sessions with Therapist A. Some of the students missed the last session and were not required to complete the questionnaire. An example of this questionnaire is presented in Appendix G.

**Treatment Integrity.** To ensure that the therapists were completing SBMH therapy procedures correctly, they were supervised by a licensed psychologist who served as a direct observer and who provided corrective feedback. At times, the psychologist came announced and other times, she observed sessions without warning. At times, she came for only one session and other times, she stayed for the entire school day. These observation sessions were in addition to one-hour supervision times in the university setting. During the 2009-2010 and 2010-2011 school years, there were a total of 46 (22.7%) observed sessions out of 202 total sessions of SBMH therapy provided in the school setting. According to retrospective analysis of critical components (Lane, Bocian, MacMillan, & Gresham, 2004), total compliance occurred during 100% of a randomly selected twenty percent of observed sessions ( $n=10$ ).

Please see Appendix H for the Treatment Integrity Checklist used in this study.

### **Statistical Analysis**

**Accountability: Research Question 1a.** The number of absences after the start of SBMH therapy was transformed using a log transformation to make the data fit into a more normal distribution (Mosteller & Tukey, 1977). A Pearson correlation coefficient ( $r$ ) was used to measure the linear association between the number of sessions and the transformed number of absences.

**Accountability: Research Question 1b.** The difference in the number of absences in the quarter at the start of therapy and the quarter after the start of therapy was calculated for each participant. The absolute values for the data were computed to preserve a larger number of degrees of freedom. The absolute values of the difference between the absences at the start of therapy and the absences after the start of therapy were then transformed using a log transformation to make the data fit into a more normal distribution (Mosteller & Tukey, 1977). A one-sample t-test ( $t$ ) was used to determine whether the transformed absolute values of the differences in absences were statistically different from zero.

When the sample size is small, the likelihood of finding a statistically significant effect decreases; therefore, effect size analysis provides useful information in determining a standardized estimate of the practical significance of the data without regard to sample size (Cohen, 1988). However, special considerations must be made when considering within-subjects comparisons. Thus, Cohen's  $d_z$  and the effect size correlation ( $r$ ) were calculate, utilizing the standard deviation of the difference scores (Lakens, 2013). These values were included with the results of the t-test analysis.

**Accountability: Research Question 2a.** The number of discipline referrals after the start of SBMH therapy was transformed using a log transformation to make the data fit into a more normal distribution (Mosteller & Tukey, 1977). A Pearson correlation coefficient ( $r$ ) was used to measure the linear association between the number of sessions and the transformed number of discipline referrals.

**Accountability: Research Question 2b.** The differences in the number of discipline referrals in the quarter at the start of therapy and the quarter after the start of therapy were calculated. The absolute values for the data were computed to preserve a larger number of degrees of freedom. The absolute values of the difference between the discipline referrals at the start of therapy and the discipline referrals after the start of therapy were then transformed using a log transformation to make the data fit into a more normal distribution. A one-sample t-test ( $t$ ) was used to determine whether the transformed absolute values of the differences in discipline referrals were statistically different from zero. The effect size estimate, Cohen's  $d_z$ , and the effect size correlation ( $r$ ) were calculated, and were included with the results of the t-test analysis.

## Results

### **Accountability: Research Question 1a**

The relationship between the number of sessions and the transformed number of absences after the start of therapy was not statistically significant,  $r(39) = -0.155$ ,  $p = 0.345$ .

### **Accountability: Research Question 1b**

The mean transformed absolute value of the difference between absences at the start of therapy and absences after the start of therapy was higher than 0.00, meaning

that the number of absences increased after the administration of SBMH therapy,  $t(29) = 5.353$ ,  $p < 0.01$ ,  $d_z = 1.988$ .

#### **Accountability: Research Question 2a**

The relationship between the number of sessions and the transformed number of discipline referrals after the start of therapy was not statistically significant,  $r(43) = 0.214$ ,  $p = 0.169$ .

#### **Accountability: Research Question 2b**

The mean transformed absolute value of the difference between discipline referrals at the start of therapy and absences after start of therapy was higher than 0.00, meaning that the number of discipline referrals increased after the administration of SBMH therapy,  $t(14) = 2.824$ ,  $p < 0.05$ ,  $d_z = 1.509$ .

#### **Floor Effects**

In terms of absences, the highest average number in any quarter was 5.47 and the lowest was 0.13. Similarly, in terms of discipline referrals, the highest average number was 2.5 in any quarter and the lowest was 0.21.

#### **Availability**

Therapist A was available in Greene County Middle School for 6 hours per week during the Fall 2009 semester, 12 hours per week during the Spring 2010 semester, and 6 hours per week in the Fall 2010 semester. Therapist B was available for 6 hours per week in the Spring 2011 semester. Thus, therapists A and B were available to provide SBMH therapy to rural adolescents for a combined total of 480 total hours during the 2009-2010 and 2010-2011 school years. Direct therapy hours accounted for 40.8% of that time ( $n=196$ ). There was an average of 6 hours per week and 24 hours

per month.

### **Accessibility**

Participants who were in SBMH therapy attended in an average of 8.20 sessions ( $SD=4.32$ ) over an average of 3.643 months ( $SD=2.62$ ). There was a combined total of 361 sessions of SBMH therapy during the 2009-2010 and 2010-2011 school years. The majority of participants who accessed SBMH therapy services were female (70.5%), African American (54.5%), not in special education (75.0%), and in the sixth grade (45.5%).

### **Acceptability**

Out of the 44 students who received SBMH therapy, 13 (29.5%) completed an open-ended questionnaire at the end of their therapy sessions. Most students did not attend their last therapy appointment, and others had matriculated to the high school. Therapist A did not press the participant to complete the questionnaire since they were not required to complete the questionnaire. Notably, in this sample of students, 12 (92%) reported that they would like to engage in therapy if they had another chance.

The following are examples of their anecdotal reports demonstrating satisfaction with SBMH therapy.

Prompt: *Throughout the entire semester, the moments in the class I was the most engaged in were...*

“when we had all talked [and] shared stuff” -K

“when we played or act[ed] out [role plays]” -P

“doing work with the group and games” -H

“[when we] take turns reading” -E

“talk[ed] about our manner[s]” -G

Prompt: *How come [you would like to come to the class with [Therapist A] if you had another chance]?...*

“she helped [me] pull up my grades” -J

“I needed more help [and] she helped me this year.” -A

“she is nice and friendly to others.” -F

## CHAPTER IV. STUDY 2

### **Method**

The first study of this investigation focused on the educational outcomes of students who received SBMH therapy in the 2009-2010 and 2010-2011 school years. The second study of this investigation focused on the mental health outcomes of students who received SBMH therapy in the Fall 2013 semester.

### **Setting and Participants**

The setting for Study 2 was the same as Study 1. Participants were students from Greene County Middle School who were identified and referred by the CFST based on their academic, behavioral, and social concerns. The CFST members felt that these problems interfered with the students' overall academic progress and were indicative of poor social well-being. In order to be included in the study, the same criteria were followed from Study 1. Identified and referred students had to be receiving CFST services, had student assent to participate in SBMH services and record review, and had parental consent to be included in SBMH services and record review ( $N=41$ ). Demographic descriptions of the participants are presented in Table 2.

### **Independent Variables**

As in Study 1, SBMH therapy was offered at GCMS. The same licensed psychologist from East Carolina University's Department of Psychology traveled to GCMS to provide supervision to graduate students who were conducting SBMH therapy. In the Fall 2013 semester, there were six SBMH therapists who served rural adolescents at GCMS. Therapists C ( $n=8$ ), D ( $n=9$ ), E ( $n=8$ ), F ( $n=10$ ), G ( $n=2$ ), and H ( $n=3$ ) provided SBMH therapy for different numbers of students. Therapists H and E



also provided SBMH therapy together for one student. Additionally, SBMH therapists received group supervision on a weekly basis from the same licensed psychologist and another Ph.D. level practitioner. As a measure of treatment integrity, the licensed psychologist, the same as in Study 1, observed the SBMH therapy sessions on a random basis to provide feedback and ensure appropriate practices. However, no treatment integrity checklist was completed in this study.

Table 2  
*Demographic Information for Study 2 Participants*

Variable	N (%)	M (SD)
<u>Gender</u>	39 (95.1)	
Male	12 (29.3)	
Female	27 (65.9)	
<u>Ethnicity</u>	32 (78.0)	
Caucasian	5 (12.2)	
Hispanic/Latino	6 (14.6)	
African American	17 (41.5)	
More than One Race	4 (9.8)	
<u>Grade</u>	41 (100)	
6	9 (22)	
7	21 (51.2)	
8	11 (26.8)	
Age (in years)	31 (75.6)	12.74 (0.933)

### **Dependent Variables**

Variables of interest included [a] the *availability* of services, defined as the total number of hours the therapists were available over the semester and [b] the *accessibility* of services, defined as the number of sessions and the number of months participants received SBMH therapy.

In terms of *accountability*, the data were continuous in nature. The Youth Report Measures for Children and Adolescents version of the Strengths and Difficulties

Questionnaire (SDQ-Y; Goodman, Meltzer, & Bailey, 1998) was the instrument used as a pre-test and post-test measure. This 25-item questionnaire assesses emotional and behavioral difficulties for children and adolescents, ages 11 to 16. There has been a great deal of research conducted in developed and developing countries regarding the SDQ-Y. Goodman (1997, 2001) demonstrated that the SDQ-Y has been found to have adequate internal consistency and test-retest reliability. Goodman and Scott (1999) also demonstrated that the SDQ-Y had adequate convergent validity with more lengthy and comprehensive measures of emotional and behavioral symptoms such as the Achenbach Child Behavior Checklist. Mullick and Goodman (2001) reported that the SDQ-Y has adequate divergent validity, discriminating well between youth with and without emotional/behavioral difficulties. Copies of the baseline and follow-up versions of the SDQ-Y can be viewed and obtained online at <http://www.sdqinfo.org/>.

The SDQ-Y was brief, generally taking less than five minutes to complete. Notably, the SDQ-Y was readily available for free online. The SDQ-Y items are divided into five scales of five questions each: Emotional Symptoms (e.g., "I am nervous in new situations. I easily lose confidence"), Conduct Problem (e.g., "I get very angry and often lose my temper"), Hyperactivity (e.g., "I am constantly fidgeting or squirming"), and Peer Problem (e.g., "Other children or young people pick on me or bully me"). All items were rated using a Likert scale from a 0 (Not True), 1 (Somewhat True), and 2 (Certainly True). Each scale can generate a total of 0 to 10, with a rating of 0 denoting absence of abnormal behavior. Five items were reverse-scored: two items from the Hyperactivity scale, two items from the Peer Problem scale, and one item from the Conduct Problem scale. The scores from the five scales are combined to generate the Total Difficulties

Score, which provides a score of the rater's overall emotional and behavioral difficulties. The Total Difficulties Score could range from a low of 0 (i.e., no reported mental health concerns) to a high of 40 (i.e., an elevated number of reported mental health concerns). Scores from 0 to 13 are considered "Normal", scores from 14 to 19 are considered "Borderline", and scores from 20 to 40 are considered "Abnormal". This general classification is based on information from the <http://www.sdqinfo.org/> web site, and is derived from American norms for youth, ages 4 to 17 (Bourdon, Goodman, Simpson, & Koretz, 2005; He, Burstein, Schmitz, & Merikangas, 2013).

Student strengths were measured with the Prosocial scale. Items on the Prosocial scale were rated using a Likert scale from a 0 (Not True), 1 (Somewhat True), and 2 (Certainly True). Each scale can generate a total of 0 to 10, with a rating of 10 denoting absence of abnormal behavior. There was also an Impact scale that measured how adolescents believed their problems influenced different areas in their life including the home environment, friendships, classroom learning, and leisure activities. Items for the Impact scale were rated using a Likert scale from a 0 (Not At All), 1 (A Little), and 2 (A Medium Amount), and 3 (A Great Deal). A rating of 0 denoted absence of abnormal behavior. The Impact and Prosocial scales were not included in the overall Total Difficulties Score.

### **Research Design**

As in Study 1, a one-group pretest-posttest design was used for this study (Cook & Campbell, 1979). While there may have been other influences on post-therapy scores, this study can at least establish a clear temporal relationship. The pretest is the baseline measure and is somewhat of a comparison "group" for each student.

Essentially, each participant's performance before and after the intervention was administered can be measured. However, there is a potential confound with this research design because both measurements of the dependent variables occurred after the start of the intervention. Nevertheless, data were collected at two different time points. It would be difficult to justify drawing cause and effect inferences from the resulting data because there was no control group, and therefore, multiple variables other than the intervention such as chance or maturation may explain the outcomes.

## **Procedures**

### **Data Collection Procedures**

As in Study 1, letters of support from the superintendent of Greene County Schools, the principal of Greene County Middle School, and the principal of Greene Central High School were needed. These letters are presented in Appendix A, Appendix B, and Appendix C. After these letters were presented to East Carolina University's Institutional Review Board (IRB) and after obtaining IRB approval for this study, data were recorded for each of the participants. Please see Appendix I for IRB Documentation for Study 2.

In terms of accountability, therapists were instructed to gather SDQ-Y at the start and at the end of therapy. They administered the SDQ-Y to their clients and gave the forms to a research assistant to put in a database. Therapists C, D, E, F, G, and H administered the SDQ-Y by the third session of therapy and then again within two weeks after the therapy ended. Students were told to fill in their information at the top of the questionnaire. The therapist read directions for the test aloud to the students and it was explained that they should place a circle around their answers.

After administration, the SDQ-Y questionnaires were stored in the project coordinator's laboratory office in a locked file cabinet. The forms were not removed from the office. Data from the forms were entered by a student ID number. Thus, the students' names were not associated with the data in the database. Each student's data were then coded with an ID number to ensure confidentiality. The hard copy of the data was then transcribed electronically on a database. The coded data were kept on a secure USB used solely for data collection. The files were password-protected with only the study team having access to the password. In terms of data entry, three research assistants were trained by a doctoral student to enter data and score each SDQ-Y. Interscorer reliability estimates for this data set were 100%.

As in Study 1, in terms of availability, each therapist noted the hours they were in the school setting in an Excel sheet. These were given to their supervisor every month. In terms of accessibility, each therapist noted the hours when they provided direct services to the participants. This was noted in the same Excel sheet that was given to the school health clinic located on the high school grounds.

### **Consent Procedures**

The same procedures for Study 1 were followed for Study 2. SBMH therapy was a school-based service available to students at a rural middle school. Students who were identified and referred by the CFST for SBMH therapy *and* who returned parent consent forms received SBMH therapy. Consent and assent forms for SBMH therapy and record review were often signed during a parent or family meeting with the CFST's school nurse or social worker. An example of the assent form and the consent form are presented in Appendix E and Appendix F.

### **Statistical Analysis**

Only 21.9% of the participants ( $n = 9$ ) completed the SDQ-Y before and after therapy. About 31.7% of participants ( $n = 13$ ) completed the SDQ-Y only before the start of therapy, and 2.4% ( $n = 1$ ) completed the SDQ-Y only after therapy. The remaining participants (43.9%) did not complete the SDQ-Y before or after therapy.

The differences in summed scores for each scale (Emotional Symptoms scale, Conduct Problem scale, Hyperactivity scale, Peer Problem scale, Impact scale, Prosocial scale) and the difference in the Total Difficulties Score were calculated. One-sample t-tests ( $t$ ) were used to determine whether the changes in the SDQ-Y scale scores and the Total Difficulties Score was different from zero. The effect size estimate, Cohen's  $d_z$ , and the effect size correlation ( $r$ ) were calculated, and were included with the results of the t-test analysis.

The correlations between the number of sessions and differences in summed scores for each scale (Emotional Symptoms scale, Conduct Problem scale, Hyperactivity scale, Peer Problem scale, Impact scale, Prosocial scale) and Total Difficulties Score were calculated. A Pearson correlation coefficient ( $r$ ) was used to measure the linear association between the number of sessions and these differences.

**Supplemental Analysis.** Differences in the SDQ-Y scores of the participants ( $n = 9$ ) who completed the SDQ-Y before and after therapy and of the participants ( $n = 13$ ) who completed the SDQ-Y only before the start of therapy, were analyzed utilizing independent-samples t-tests ( $t$ ) in order to check the nature of the missing data. That is, these comparisons examine the reason why some students completed the pre or post SDQ-Y and others did not.

When the sample size is small, the likelihood of finding a statistically significant effect is decreased; therefore, effect size analysis provides useful information in determining a standardized estimate of the practical significance of the data without regard to sample size (Cohen, 1988). Since the samples were analyzed as two independent groups, Cohen's  $d$  and the effect size correlation ( $r$ ) were calculated using two standard deviations, utilizing the website, <http://www.uccs.edu/~lbecker/>. Effect size values are included with the results of the t-test analysis.

## Results

### Accountability: Research Question 1

Pre and post-tests among all scale scores and the Total Difficulties Score were not different to a statistically significant extent. Please see Table 3 for these comparisons.

Table 3

*Descriptive Statistics and Tests of Significance for Difference in Pre- and Post- SDQ-Y Scores*

Difference in Pre- and Post-SDQ-Y Scores ( $n=9$ )	$M$	$SD$	Statistical Significance $p$	Effect Size $r$	Effect Size $d_z$
Total Difficulties Score	-0.44	5.17	0.803	0.091	-0.182
Emotional Symptoms Scale	-0.22	2.64	0.807	0.089	0.179
Hyperactivity Scale	-0.56	1.13	0.179	0.462	-1.042
Conduct Problem Scale	0.33	1.65	0.563	0.209	0.426
Peer Problem Scale	0.00	2.35	1.000	0.00	0.00
Prosocial Scale	-0.56	1.13	0.179	0.462	-1.042
Impact Scale	0.00	1.80	1.000	0.00	0.00

### Accountability: Research Question 2

The relationship between the number of sessions and the differences in scores before and after SBMH therapy was not statistically significant for the majority of scales and the total sum scale. Please see Table 4. However, the relationship between the

number of sessions and the difference in scores before and after SBMH therapy for the Impact Scale was statistically significant,  $r(9) = -0.689$ ,  $p = 0.040$ , indicating that as the number of SBMH therapy sessions attended increases, the difference in Impact Scale scores decreases.

Table 4

*Relationship between Number of Sessions and Difference in Pre- and Post-SDQ-Y Scores*

Difference in Pre- and Post-SDQ-Y Score ( $n=9$ )	Pearson Correlation $r$	Statistical Significance $p$
Total Difficulties Score	0.169	0.664
Emotional Symptoms Scale	-0.091	0.816
Hyperactivity Scale	0.295	0.442
Conduct Problem Scale	0.316	0.408
Peer Problem Scale	0.109	0.780
Prosocial Scale	-0.449	0.225
Impact Scale	-0.689	0.040*

\*Note:  $p < 0.05$

### Supplemental Analysis

Scores before SBMH therapy were compared between participants who only completed the pre-test ( $n=13$ ) and the participants who completed both the pre and post-tests ( $n=9$ ). Please see Table 5. The differences in pre-test scores for the majority of scales and the total sum scale were not statistically significant between participants who only completed the pre-test and participants who completed both the pre and the post test. However, participants who completed both pre and posttests had higher scores ( $M = 2.89$ ,  $SD = 1.269$ ) on the Peer Problems scale than participants who only completed the pretest ( $M = 1.54$ ,  $SD = 1.266$ ),  $t(20) = -2.457$ ,  $p = 0.023$ ,  $d = -1.117$ .

### Floor Effects

In terms of mental health outcomes, the means of the pre ( $M=11.22$ ) and post-test ( $M=11.67$ ) Total Difficulties Score on the SDQ-Y were both in the “Normal” range. In looking at the range of scores, the highest pre-test score was 19 and the lowest pre-



test score was 3. A score of 19 is close to the cut-off for “Normal”, which is the score of 15. The post-test scores were not in the “Abnormal” range at all.

Table 5  
*Descriptive Statistics and Tests of Significance for SDQ-Y Pre-Test Scores*

SDQ-Y Pre-Test Scores	Pre-Test Only Completed ( <i>n</i> = 13) <i>M</i>	Pre- and Post-Test Completed ( <i>n</i> = 9) <i>M</i>	Statistical Significance <i>p</i>	Effect Size <i>r</i>	Effect Size <i>d</i>
Total Difficulties Score	10.23	11.22	0.640	0.106	-0.216
Emotional Symptoms Scale	2.69	2.67	0.979	0.006	0.012
Hyperactivity Scale	2.23	2.11	0.846	0.044	0.090
Conduct Problem Scale	3.92	3.56	0.710	0.084	0.171
Peer Problem Scale	1.54	2.89	0.023*	0.482	-1.117
Prosocial Scale	7.00	6.56	0.623	0.111	0.227
Impact Scale	1.08	1.44	0.615	0.113	-0.232

\*Note:  $p < 0.05$

### Availability

Therapists were available to provide SBMH therapy to rural adolescents for a combined total of 206.5 hours during the Fall 2013 semester. Direct therapy hours accounted for 76.3% of that time ( $n=157.6$ ).

### Accessibility

Participants who were in SBMH therapy attended an average of 6.93 sessions ( $SD=5.07$ ) over an average of 2.24 months ( $SD=1.15$ ). There was a combined total of 277 sessions of SBMH therapy during the Fall 2013 semester. The majority of participants who accessed SBMH therapy services were female (65.9%), African American (41.5%), and in the seventh grade (51.2%).

## CHAPTER V: DISCUSSION

### Summary

The relationship between educational difficulties and mental health problems is bidirectional (Farrington, 1989; Tobin & Sugai, 1999; Carli et al., 2014). To exemplify one pathway, Eggert, Thompson, Randell, and Pike (2002) found that adolescents who had educational problems such as school disengagement and school drop-out were at higher risk for drug involvement and suicidal behavior. To demonstrate the relationship in the other direction, Rushton, Forcier, and Schectman (2002) found that adolescents whose depression symptoms persisted over twelve months were at higher risk to be suspended from school and to have suicidal ideation. Though adolescents are more likely to report mental health problems during early puberty, adolescents, as a group, are less likely to receive mental health services compared to younger children (Kaltiala-Heino, Marttunen, Rantanen, & Rimpelä, 2003; Ganz & Tendulkar, 2006). In addition, ethnic minority youth were found to have lower rates of access, longer delays to utilization, inferior quality of care, and higher rates of termination compared to non-Hispanic white youth (Cauce et al., 2002; McMiller & Weisz, 1996; Snowden & Yamada, 2005).

In rural areas, these concerns are more striking due to the lack of availability, accessibility, and acceptability of specialty mental health services (e.g., Roberts, Battaglia, & Epstein, 1999). Researchers have identified barriers such as lack of available providers, limited access to mental health services, or concerns about stigma and confidentiality that may reduce utilization of mental health services (Hoyt, Conger, & Valde, 1997; Warner et al., 2005). SBMH services are various in number and scope

within different school systems (e.g., Flaherty, Weist, & Warner, 1996). SBMH therapy falls into the rubric of SBMH services. In particular, SBMH therapy with cognitive-behavioral approaches have demonstrated effects in depressive symptomatology reduction, substance abuse prevention, and adaptive behavior skills improvement (e.g., Botvin, Baker, Dusenbury, Tortu, & Botvin, 1990; Reynolds & Coats, 1986; Rosal, 1993). The development of university-school partnerships provides a way for schools to receive these needed services, for graduate students to complete clinical training, and for faculty to conduct applied research (Owens et al., 2011).

The purpose of the current investigation was to provide data that inform the area of SBMH therapy in the context of a university-school partnership. The investigation evaluated whether SBMH therapy was accountable in terms of improving educational and mental health outcomes. Specifically, in Study 1, how did SBMH therapy impact educational outcomes for rural adolescents? In Study 2, how did SBMH therapy impact mental health outcomes for rural adolescents? The investigation also examined the availability, accessibility, and acceptability of SBMH therapy for rural adolescents.

Results indicated that there was no statistically significant relationship between the number of sessions a participant attended SBMH therapy and the transformed number of absences after the start of therapy. Similarly, there was no statistically significant relationship between the number of sessions and the transformed absolute difference in the number of discipline referrals. There was a difference in number of absences at the start of therapy and number of absences after the start of therapy as indicated by a transformed absolute difference score that was significantly different from zero. However, when the relationship between the number of sessions and the

transformed absolute difference in the number of absences was analyzed, no correlation was found to a statistically significant extent. These patterns were similar for the number of discipline referrals.

When mental health outcomes before and after SBMH therapy were analyzed for the small sample of 9 participants, a statistically significant difference was found in one of the SDQ-Y scales. There was a strong, negative correlation between the number of sessions and the difference in pre and post score on the Impact scale. In addition, when the SDQ-Y pre-test scores were compared between participants who completed the pre-test only and the participants who completed the pre and posttests, a statistically significant difference was found for the Peer Problems scale. Participants who completed both SDQ-Y pre and post-tests had higher scores than participants who only complete the pre-test.

### **Interpretation**

In Study 1, there were a number of analyses conducted. SBMH therapy appeared to be available to participants due to one doctoral-level student therapist being present in the school setting once or twice a week. When services were available, participants, especially female and ethnic minority students, accessed mental health services. When asked what they thought about SBMH therapy, 92% reported that they would like to participate in SBMH therapy in the future.

In terms of accountability data for educational outcomes, no statistically significant relationship was found between the number of sessions and the number of absences. A similar finding was demonstrated between the number of sessions and the number of discipline referrals. It may be that the nature of the issues for which the

participants were referred, were not conducive to short-term cognitive-behavioral techniques. For example, some participants were struggling with behaviors that needed immediate resolution such as fighting with others or talking back to teachers. Other participants were dealing with grief or trauma, which were issues that needed more time to be revealed and discussed.

Though there was a statistically significant change in the number of absences and the number of discipline referrals between the quarter that SBMH therapy started and the quarter after SBMH therapy started, this change was in the unexpected direction. That is, the number of absences and discipline referrals increased in the semester after SBMH therapy was administered. Some factors that could have impacted the study include the time of year when the participants received SBMH therapy. For example, the second and fourth quarters in the school year have multiple holiday breaks. Families may be more likely to take adolescents out of school of extended periods of time. Additionally, teachers may be more likely to refer participants who are in SBMH therapy after the start of therapy. Perhaps, teachers and administrations are more vigilant of participants' misbehaviors since teachers and administrators are expecting participants to improve their behaviors.

In Study 2, there were a number of analyses conducted. SBMH therapy appeared to be available to participants due to seven doctoral-level student therapists being present in the school setting. When services were available, participants, especially female and ethnic minority students, accessed mental health services.

In terms of accountability data for mental health outcomes, pre and post-test data were completed for only nine participants. No statistically significant relationships were

found between pre and post scores on the SDQ-Y for any of its five scales or the Total Difficulties score. However, there was a strong negative correlation between the number of SBMH therapy sessions and the Impact scale difference score. That is, the more the participant attended SBMH therapy sessions, the smaller the difference score on the Impact scale. However, caution should be used assigning significant to this conclusion because there were only 9 students in the analysis.

Additionally, a supplemental analysis demonstrated the difference between participants who completed and did not complete both pre and posttests. This comparison was designed to provide data on any characteristics that differentiated one group from the other. Participants who completed both pre and posttests had higher scores on the pre-test Peer Problem scale than participants who only completed the pretest. It appears that there were differences between the participants who did both the pre and posttests and those who did only the pretest. A possible explanation for this difference is that the therapists may have encouraged more post-test completion for students who had more severe problems.

### **Limitations**

#### **Research Design**

This current investigation had two studies that relied on archival analysis of data. As such, there were a number of concerns due to not having a prospective study and making *a priori* assumptions. Since the two studies focused only on the participants who received SBMH therapy, no control group was formed. This limits causal inferences concerning the effect of SBMH therapy.

### **Incomplete Data Sets**

Although steps were taken to minimize missing data (e.g., having the school social worker look up archival data, having therapists collect SDQ-Y information in sessions), incomplete data sets decreased the amount of interpretable results. In Study 1, missing data may have precluded detecting significant differences in attendance and discipline referrals. There were also incomplete data for the acceptability measure. Another consideration that may have influenced the accountability of the study despite its acceptability is that the students called their therapist, teacher. This framing may have influenced the acceptability of the program by suggesting that therapy is just another “class” rather than recommended psychological and behavioral training.

In Study 2, low completion rates of the SDQ-Y limited within-subject pretest and posttest comparisons. Missing data in Study 2 occurred for a variety of reasons. Some middle school students transferred to another school district in the middle of the school year. Thus, data were not collected for these students. Therapists may have hindered the study by failing to ask their students to complete the SDQ-Y after therapy. Therapists may have neglected to complete research activities because they perceived those activities as interfering with clinical goals for the session.

### **Discipline Referral Data**

Another limitation regarding the actual outcome measure with regard to discipline referrals may be the referral process itself. There is an assumption that discipline referrals are given evenly across students and across referral sources. However, there is an arbitrary and subjective nature to discipline referrals that can impact the number of discipline referrals each student receives. Thus, the reporting of teachers impacts the

number of discipline referrals for the student. For instance, a student may engage in defiance to two different teachers. One teacher may take care of the situation on their own without writing up the student for noncompliance. The other teacher may write a discipline referral for each instance of noncompliance. In addition, some students may be already identified as “problem” students by their teachers. Thus, participants in the study may have actually committed less acts of misconduct, but may have been written up for more discipline referrals because their teachers were primed to expect misbehavior and write them up for discipline referrals. Though the school may have a record of which teachers submitted discipline referrals, the current investigation did not utilize a way of controlling for higher likelihood of receiving a referral that is due to having class with a high-referring teacher.

### **Floor Effects**

An overall pattern emerging from the findings is that the number of absences, number of discipline referrals, and SDQ-Y scores were already at a very low level. If these outcomes are all low in incidence and there is little variation, then there is reduced likelihood of identifying predictors of variation. Perhaps these indicators of school functioning and mental health functioning may not be sensitive enough to detect differences among the participants with varying dosages of SBMH therapy.

### **Implications**

Rural adolescents are underserved despite great need (e.g., Anderson & Gittler, 2005; Warner et al., 2005, USPHS, 2000). Though significant findings were lacking, this investigation contributes to the field of psychology in a number of ways. It exemplified the challenges of using evidence-based approaches in school settings with



rural adolescents. Accountability and program evaluation research is difficult to conduct in schools, due to challenges in recruiting and retaining students, especially for mental health services (e.g., Owens & Murphy, 2004). Specifically, students matriculating to different schools, students moving away from local counties, or parents refusing consent for services are factors that contribute to the difficulties of conducting school-based research.

However, the investigation demonstrated promise in addressing the need for mental health services for rural adolescents. In terms of availability, it documented that rural adolescents could have doctoral-level therapists in the school setting for a number of hours during the school week. It also reported that when rural adolescents are identified and referred for services by the CFST, they can access these services in varying degrees as demonstrated by the number of sessions and number of months in SBMH therapy. Since the majority of those who accessed services were female and ethnic minority youth, it demonstrated that this underserved population (e.g., Cauce et al., 2002; Snowden & Yamada, 2005) can be served. From the small number of anecdotal reports gathered, rural adolescents stated that they gained benefits from SBMH therapy, indicating that SBMH therapy can be a service that is accessed and accepted when it is available. However, this investigation found that the accountability of SBMH therapy may not be easily demonstrated which raises the question of whether it is effective and/or helpful. Nevertheless, the current investigation provided some promising results that could be magnified if the researchers were provided with a larger sample, had more time with students, and had more complete data sets.

### **Future Directions**

This investigation suggests the need to develop a stronger research design for a next-generation study. There are various factors to consider. The primary limitation of the current investigation's research design is the lack of a control group. If a control group was present, stronger conclusions could be inferred about the impact of SBMH therapy. A consideration in future studies would be to utilize existing school-wide measures in the research protocol. The Youth Risk Behavior Survey (YRBS) is given to all students in the middle school and the high school to complete anonymously. If these questionnaires could have a unique identifier for each student, an investigation comparing the changes in similar educational and mental health outcomes as noted in the YRBS between youth in SBMH therapy and youth who are not in therapy can reveal the effect of time or maturation on these outcomes.

Instead of between-group research designs, another method to better investigate differences in educational and psychological outcomes is the use of single-subject research designs, especially multiple baseline or multiple probe designs. Though more baseline data points need to be gathered than in the traditional pre-post design, the advantage would be the ability to demonstrate causality with a smaller overall sample size. With regard to the difficulty of having a control group, control is built into the design by having the subjects be a comparison to themselves before and after the administration of the intervention (Kazdin & Kopel, 1975; Horner & Baer, 1978; Murphy & Bryan, 1980).

In terms of generalizability, this investigation was designed to obtain accountability data to evaluate rural adolescents' educational and mental health

outcomes. Cognitive and social functioning in early adolescence has been documented to be significantly different from cognitive and social functioning in later adolescence. For example, Kaufman et al., (2010) reported that middle school students received a higher number of discipline referrals for disrespectful behaviors such as the use of profanity and talking back to teachers whereas high school students received higher number of discipline referrals for attendance reasons such as skipping class and leaving the building without permission. Perhaps replicating this investigation in rural, high school students may reveal differences in attendance patterns over the span of the school year.

In terms of the independent variable, the current investigation may not have lasted long enough to show an effect. Perhaps collecting data for a longer period or holding more sessions with the participants may demonstrate the effects of SBMH therapy. In fact, Evans, Serpell, Schultz, and Pastor (2007) found that significant changes in social and academic outcomes for youth with ADHD were not seen until the second or third year of treatment.

The type of SBMH therapy may also warrant some investigation. When group therapy was implemented with rural middle school students, Dishion, McCord, and Poulin (1999) reported that peer-based, group therapy sessions may have an iatrogenic effect on high-risk adolescents. Due to the small sample size and incomplete information of the types of therapy each participant completed, it was difficult to compare students who received individual therapy and students who received group therapy. However, in a future study, comparisons between scores for students who received individual therapy and scores for students who received group therapy may be

helpful to determine if SBMH therapy involved deviancy training and resulted in any iatrogenic effects.

In terms of the dependent variables, including clinician ratings (e.g., CAFAS) of students' emotional and behavioral functioning along with students' own self-ratings can better reflect the growth of students over time (Nabors & Reynolds, 2000). In addition, including pretest and posttest ratings from parents and teachers (e.g., SDQ-Parent and Teacher Forms) of the students can provide more information about students' functioning. Perhaps having an intake session with the students' immediate and extended family can help facilitate acquiring this information.

### **Conclusion**

Despite limited conclusions that can be gathered from the accountability data, the current investigation offers promise in finding ways of meeting the mental health needs of rural adolescents. Based on the number of sessions, number of months, and the characteristics of those who received treatment, SBMH therapy appears to be a service that is accessed and accepted when it is available. The perceptions of the participants who completed an open-ended questionnaire reported acceptability of SBMH therapy. In fact, past researchers have recommended that qualitative surveys of teacher and student satisfaction with SBMH services be obtained (Geierstanger, Amaral, Mansour, & Walters, 2004). Satisfactory statements of student and additionally, teacher, administrator, and parent satisfaction may lead to the sustainability of SBMH therapy in schools.

In addition, SBMH therapists may provide opportunities to forge personal connections to students who are disengaged in school. This is important because students who had higher levels of school connectedness achieved better educational

outcomes (Bonny, Britto, Klostermann, Hornung, & Slap, 2000). The benefit of gathering educational and mental health outcome data can be useful in advancing knowledge in the field of SBMH therapy and educating therapists to improve service delivery. Most importantly, documenting accountability data supports efforts of sustainability for these much needed services.

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APPENDIX A

Letter of Support from Greene County Schools

Aug 19 11 10:21a Greene County Schools 252-747-7370 p. 2

Greene County Public Schools

Superintendent  
Patrick C. Miller, Ed.D.

301 Kingold Boulevard

Board Members  
Patricia Lee Adams, Chairman  
Jerry Curaway, Vice Chairman  
Jasper Barfield, Jr.  
Martha B. Curaway  
Joe Smith

Assistant Superintendent  
Patricia F. MacNeill, Ed.D.

Snow Hill, North Carolina 28580

Institutional Review Board  
East Carolina University  
Greenville, NC 27858

RECEIVED

AUG 19 2011

UMCIRB

August 5, 2011

Dear Board Members:

I have met with Dr. Jeannie Golden and understand that she and her colleagues at East Carolina University (ECU) have received funding from a grant through the North Carolina Department of Public Instruction to continue the partnership we began with funding from the Kate B. Reynolds Charitable Trust. This ECU-Greene County Partnership to Improve School-Based Mental Health Services will be continued with administrative and student support staff at Greene County Middle School and West Greene Elementary School. Two Health Psychology doctoral students from East Carolina University will complete practicum placements under the supervision of Dr. Jeannie Golden who is a licensed psychologist. Services provided to the schools will include: (1) individual and group counseling to students and their families and (2) behavioral education and consultation to teachers, student support staff, and parents. I also understand that data will be collected on variables that are likely to be impacted by these services including: absenteeism, failing grades, poor academic achievement, discipline problems, suspensions/expulsions, chronic absenteeism, pregnancies, and/or dropping out of school, in addition to surveys of perceived mental health needs, measures of student mental health, and assessment of parenting knowledge and skills.

I give my support for this ECU-Greene County Partnership to Improve School-Based Mental Health Services.

Sincerely,



Patrick C. Miller, Ed.D.  
Superintendent  
Greene County Schools  
301 Kingold Boulevard  
Snow Hill, NC 28580  
(252) 747-3425

*Teaching 21st Century Students 21st Century Skills*  
Telephone (252)747-3425 • Fax (252)747-5942

## APPENDIX B

### Letter of Support from Greene County Middle School

#### GREENE COUNTY MIDDLE SCHOOL

485 Middle School Road  
Snow Hill, North Carolina 28580  
Telephone: (252) 747-8191  
Fax: (252) 747-8696



Dr. Lori Garrison, Principal  
Mrs. Leigh Corbin, Assistant Principal  
Mr. Juan Castillo, Assistant Principal

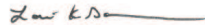
March 2<sup>nd</sup> 2012

To Whom It May Concern:

I have met with Albee Ongsoco and discussed her doctoral dissertation entitled, "Effects of School-Based Behavioral Counseling and Support Services on Rural Adolescents." I am aware of the data provided to her by school personnel.

If I can be of further help in the approval of Ms. Ongsoco's research, please call me at 252-747-8191.

Respectfully,



Lori K. Garrison, Ed.D.

<http://gcms.gcsedu.org>

**Creating a School of Significance**

## APPENDIX C

### Letter of Support from Greene County High School



Greene Central High School  
140 School Drive  
Snow Hill North Carolina 28580  
Phone: (252) 747-3814 Fax: (252) 747-5972

May 15, 2012

To Whom It May concern:

I have spoken to Dr. Jeannie Golden about the Albec Ongusuco dissertation entitled, "Effects of School-Based Behavioral Counseling and Support Services on Rural Adolescents." I am aware of the data provided to her by school personnel.

If I can be of assistance in the approval of Ms. Ongusuco's research, please call me at 252-747-3814.

Respectfully,

  
D. Marr  
Principal  
Greene Central High School

## APPENDIX D

### IRB Documentation for Study 1



**EAST CAROLINA UNIVERSITY**  
**University & Medical Center Institutional Review Board Office**  
4N-70 Brody Medical Sciences Building · Mail Stop 682  
600 Moye Boulevard · Greenville, NC 27834  
Office **252-744-2914** · Fax **252-744-2284** · [www.ecu.edu/irb](http://www.ecu.edu/irb)

#### Notification of Amendment Approval

From: Social/Behavioral IRB

To: [Jeannie Golden](#)

CC: [Christopher Allred](#)

Date: 7/11/2012

[Ame3 UMCIRB 09-0493](#)

[UMCIRB 09-0493](#)

Re: [IMPORTED] ECU-Greene County Partnership to Improve School-Based Mental Health Services: Student Progress

Your Amendment has been reviewed and approved using expedited review for the period of 7/11/2012 to 5/4/2012 . It was the determination of the UMCIRB Chairperson (or designee) that this revision does not impact the overall risk/benefit ratio of the study and is appropriate for the population and procedures proposed.

Please note that any further changes to this approved research may not be initiated without UMCIRB review except when necessary to eliminate an apparent immediate hazard to the participant. All unanticipated problems involving risks to participants and others must be promptly reported to the UMCIRB. A continuing or final review must be submitted to the UMCIRB prior to the date of study expiration. The investigator must adhere to all reporting requirements for this study.

The approval includes the following items:

Name	Description	Modified	Version
<a href="#">Clinician Summary</a>   <a href="#">History</a>	Data Collection Sheet	6/20/2012 3:11 PM	0.01
<a href="#">Consent Form Counseling and Consultation</a>   <a href="#">History</a>	Consent Forms	6/5/2012 5:54 PM	0.01
<a href="#">Consent Form Ongsuco Dissertation</a>   <a href="#">History</a>	Consent Forms	6/5/2012 5:55 PM	0.01
<a href="#">Consent Form Tutoring</a>   <a href="#">History</a>	Consent Forms	6/5/2012 5:54 PM	0.01
<a href="#">Evaluation of Services</a>   <a href="#">History</a>	Surveys and Questionnaires	6/20/2012	0.01

<a href="#">Letters of Support</a>   <a href="#">History</a>	Dataset Use	3:08 PM	
	Approval/Permission	6/20/2012	0.01
<a href="#">Participant Outcomes</a>   <a href="#">History</a>	Data Collection Sheet	2:49 PM	
		6/20/2012	0.01
<a href="#">Student Tracking Form</a>   <a href="#">History</a>	Data Collection Sheet	3:10 PM	
		6/20/2012	0.01
		3:09 PM	

The Chairperson (or designee) does not have a potential for conflict of interest on this study.

---

IRB00000705 East Carolina U IRB #1 (Biomedical) IORG0000418  
 IRB00003781 East Carolina U IRB #2 (Behavioral/SS) IORG0000418 IRB00004973

## APPENDIX E

### Assent Form for SBMH Services and Record Review

*East Carolina University Assent Form*



*Things You Should Know Before You Agree To Take Part in this Research*

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IRB Study # UMCIRB 09-0493

Title of Study: ECU-Greene County-Rocky Mount Partnership to Improve School-Based Mental Health Services: Student Progress

Person in charge of study: Dr. Jeannie Golden

Where they work: Dept. of Psychology at East Carolina University

Study contact phone number: 252- 328-6206

Study contact E-mail Address: goldenj@ecu.edu

People at ECU study ways to make people's lives better. These studies are called research. This research is trying to find out whether it is helpful for students like you to receive counseling or consultation services.

Your parent(s) needs to give permission for you to be in this research. You do not have to be in this research if you don't want to, even if your parent(s) has already given permission.

You may stop being in the study at any time. If you decide to stop, no one will be angry or upset with you. You can keep getting counseling from us even if you don't want to participate in the study.

#### **Why are you doing this research study?**

The reason for doing this research is to understand if the counseling that we provide makes school easier for you.

#### **Why am I being asked to be in this research study?**

We are asking you to take part in this research because you are receiving counseling services from us.

#### **How many people will take part in this study?**

A total of about 500 people at 3 schools will take part in this study, including about 100 people from this school.

#### **What will happen during this study?**

Participating in this study means that we will look at your grades, attendance and discipline records, as well as the information we get from having you or your teachers fill out surveys about you. We will get this information from this school year as well as all of the years until you graduate, and maybe last year depending on what grade you are in. Everything happens "behind the scenes," through something called "record review." This means that after giving permission, you won't need to do anything else.

**Who will be told the things we learn about you in this study?**

Just like with counseling, there are some things that we have to tell people (like if you are hurting yourself, someone is hurting you or if you are planning to hurt someone else). Besides that, all of the information we learn about you will be put into a computer which will combine your data with everyone else's in the study. You'll get an identification number that will help ensure that your information is confidential.

**What are the good things that might happen?**

There is little chance that you will benefit from being in this research, but we hope that you'll benefit from the counseling we provide to you that is separate from this research. Sometimes the research we do can help other students in the future.

**What are the bad things that might happen?**

Sometimes things we may not like happen to people in research studies. These things may even make them feel bad. These are called "risks." There aren't any known risks associated with this study.

**What if you or your parents don't want you to be in this study?**

If you or your parents don't want you to be in this study, you can just say that you don't want to participate. You'll still be able to receive counseling and nobody will be upset with you if you don't want to participate.

**Will you get any money or gifts for being in this research study?**

You will not receive any money or gifts for being in this research study.

**Who should you ask if you have any questions?**

If you have questions about the research, you should ask the people listed on the first page of this form. If you have other questions about your rights while you are in this research study you may call the Institutional Review Board at 252-744-2914.

-----  
If you decide to take part in this research, you should sign your name below. It means that you agree to take part in this research study.

\_\_\_\_\_  
Sign your name here if you want to be in the study

\_\_\_\_\_  
Date

\_\_\_\_\_  
Print your name here if you want to be in the study

\_\_\_\_\_  
Signature of Person Obtaining Assent

\_\_\_\_\_  
Date

\_\_\_\_\_  
Printed Name of Person Obtaining Assent



APPENDIX F

Consent Form for SBMH Services and Record Review

**ECU-Greene County-Rocky Mount Partnership to Improve School-Based Mental Health Services**

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PARENTAL CONSENT FORM FOR STUDENT RECORD REVIEW FOR COUNSELING/CONSULTATION

Explanation of study:

The goal of "ECU/Greene County-Rocky Mount Partnership to Improve School Mental Health Services" is to help students do better in school. At your child's school, graduate students from East Carolina University and Fielding University and/or behavioral consultants have provided counseling/consultation to your child. As part of our research project we want to know if counseling/consultation really made a difference in your child's education and behavior.

To do this, we want to review your child's cumulative school records. We want to look at your child's demographic information, absences, discipline referrals, grades, ECO scores, and grade promotion until he/she graduates from high school. Then we will compare how your child has done in school to see if counseling/consultation made any difference. We also want to use screening and assessment results and records kept by the ECU graduate and/or behavioral consultants to see if there was a change during the school years. Additionally, we may want to use information about students who have received counseling/consultation in professional and educational publications or presentations without revealing information about any specific child. Data collection will be completed by summer 2018. In addition, this information will be kept confidential by the researchers and personnel from Greene County/Rocky Mount Schools. At no time will the identity of your child be revealed in any reports to outside individuals or agencies.

Please know that if you do not grant permission, in no way will your child's education at Greene County/Rocky Mount Schools be affected. Also, your child can still receive school based mental health services through the ECU/Greene County/Rocky Mount Partnership if you do not grant permission to obtain information from his/her school records. If you do grant permission, you may withdraw that permission at anytime.

Please check whether or not you give permission to have an undergraduate or graduate student, or school representative, review your child's school records. Also, please check whether or not you give permission to use this information in research publications and/or presentations. Please print your name. Then sign your name and put the date beside your signature.

If you have any questions, you may call **Dr. Jeannie Golden**, the Principal Investigator at 328-6206. You may also contact your child's school principal.

PERMISSION GRANTED

I give permission for the school records of my child, \_\_\_\_\_, to be reviewed for this study. I also give my permission for review of my child's counseling/consulting records to be included as a part of the research study.

Parent or Guardian's name (Please print) \_\_\_\_\_

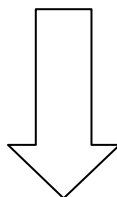
Signature \_\_\_\_\_ Date \_\_\_\_\_

## APPENDIX G

### Open-Ended Student Questionnaire

#### COUNSELING QUESTIONNAIRE:

1. The article(s) that I really enjoyed from the class with Ms. Albee is/are:  
*LOL = Good Health                      Mind Your Manners                      Stress Management*  
*Tale of Two Drop-outs                      Talking Machine                      Motor Mouth*  
*Boyfriend Battle                      Stealing Sister                      Skipping School*  
*Teen Hotline                      Battling the Blues*
2. The article(s) that I have a hard time with or was most confused about is/are:  
*LOL = Good Health                      Mind Your Manners                      Stress Management*  
*Tale of Two Drop-outs                      Talking Machine                      Motor Mouth*  
*Boyfriend Battle                      Stealing Sister                      Skipping School*  
*Teen Hotline                      Battling the Blues*
3. The topic(s) that I really enjoyed from the class with Ms. Albee is/are:  
*Fickle Friend Worksheet                      Tuning Out Teasing Strategy                      Road to Achievement Cards*  
*Manners in School                      Feelings Charades                      Inside/Outside Squares*  
*A Word of Thanks*
4. The topic(s) that I have a hard time with or was most confused about is/are:  
*Fickle Friend Worksheet                      Tuning Out Teasing Strategy                      Road to Achievement Cards*  
*Manners in School                      Feelings Charades                      Inside/Outside Squares*  
*A Word of Thanks*
5. Throughout the entire semester, the moments in the class that I was the most engaged were:
6. Throughout the entire semester, the moment in the class that I was the most bored with were:
7. Throughout the entire semester , Ms. Albee did the following things really well:  
*Asked me on things outside of school                      Helped me out with my teachers*  
*Helped me out with my schoolwork                      Helped me out with my school problems*  
*Listened well                      Was very friendly                      Gave prizes*  
*Other:*
8. Throughout the entire semester's Friday classes , Albee can improve these areas:  
*Asked me on things outside of school                      Helped me out with my teachers*  
*Helped me out with my schoolwork                      Helped me out with my school problems*  
*Listened well                      Was very friendly                      Gave prizes*  
*Other (please write in!):*



9. To help me get more engaged with the material if I should take this class again, Ms. Albee should:
10. When you came to group sessions, what made you come? (Circle your response and write in)  
*I get to get out of class      I get to be with a friend      I earn a prize*  
*I like Ms. Albee      I needed to tell Ms. Albee something      I remembered*  
*Other (please write in!):*
11. What didn't you like about the class with Ms. Albee or what made you stop coming to the class with Ms. Albee?  
*I don't want to get out of class      I don't like any of the other kids      I don't care about a prize*  
*I don't really like Ms. Albee      I don't need to tell Ms. Albee something*  
*Other (please write in!):*
12. What topics do you wish we could have talked about?
13. Would you like to come to the class with Ms. Albee if you had another chance?  
 Yes      No      Maybe
14. How come?



## APPENDIX H

### Treatment Integrity Checklist

School-Based Behavioral Counseling (SBBC): Treatment Integrity Checklist

Therapist:			Group Name:		
Group Time:	Date:	Date:	Date:	Date:	Component Integrity
Component	Number of Students Present:	Number of Students Present:	Number of Students Present:	Number of Students Present:	
Students with heterogeneous mental health needs present in group					
Engaged in brief activity to build rapport with the group members					
Use behavioral checklist					
Provide students with reinforcers after session					
Engaged in contingent reinforcement by providing labeled/specific praise for appropriate behaviors					
Engaged in contingent reinforcement by ignoring inappropriate behaviors					
Use cognitive-behavioral or rational-emotive strategies from evidence-based sources					
Session Integrity					

## APPENDIX I

### IRB Documentation for Study 2



**EAST CAROLINA UNIVERSITY**  
**University & Medical Center Institutional Review Board Office**  
4N-70 Brody Medical Sciences Building · Mail Stop 682  
600 Moye Boulevard · Greenville, NC 27834  
Office **252-744-2914** · Fax **252-744-2284** · [www.ecu.edu/irb](http://www.ecu.edu/irb)

Notification of Continuing Review Approval: Expedited

From: Social/Behavioral IRB  
To: [Jeannie Golden](#)  
CC: [Emma-Catherine Scott](#)  
Date: 5/23/2014  
[CR00001975](#)  
[UMCIRB 09-0493](#)  
Re: [IMPORTED] ECU-Greene County-Rocky Mount Partnership to Improve School-Based Mental Health Services: Student Progress

The continuing review of your expedited study was approved. Approval of the study and any consent form(s) is for the period of 5/23/2014 to 5/22/2015. This research study is eligible for review under expedited categories #5 and #7. The Chairperson (or designee) deemed this study no more than minimal risk.

Changes to this approved research may not be initiated without UMCIRB review except when necessary to eliminate an apparent immediate hazard to the participant. All unanticipated problems involving risks to participants and others must be promptly reported to the UMCIRB. The investigator must submit a continuing review/closure application to the UMCIRB prior to the date of study expiration. The Investigator must adhere to all reporting requirements for this study.

Approved consent documents with the IRB approval date stamped on the document should be used to consent participants (consent documents with the IRB approval date stamp are found under the Documents tab in the study workspace).

The approval includes the following items:

Document	Description
(PDF Version) Effects of School-Based Behavioral Counseling and Support Services on Rural Adolescents(0.04)	Study Protocol or Grant Application
Assent(0.02)	Consent Forms

BASC Parent 12-21.pdf(0.01)	Surveys and Questionnaires
BASC Parent 6-11.pdf(0.01)	Surveys and Questionnaires
BASC Self Report 8-11.pdf(0.01)	Surveys and Questionnaires
BASC Self-Report 12-21pdf.pdf(0.01)	Surveys and Questionnaires
BASC Teacher 12-21.pdf(0.01)	Surveys and Questionnaires
BASC Teacher 6-11.pdf(0.01)	Surveys and Questionnaires
Behavior Checklist(0.01)	Surveys and Questionnaires
Clinician Summary(0.01)	Data Collection Sheet
Combined BASC(0.01)	Standardized/Non-Standardized Instruments/Measures
Consent Form Counseling and Consultation(0.03)	Consent Forms
Consent Form Tutoring(0.02)	Consent Forms
Consent Form_Ongsuco Dissertation(0.01)	Consent Forms
Consent Form_West Greene Elementary(0.01)	Consent Forms
Consultation Referral Form.jpg(0.01)	Additional Items
Demographic Form(0.01)	Additional Items
Dissertation Data Sheet.pdf(0.01)	Data Collection Sheet
Evaluation of Services(0.01)	Surveys and Questionnaires
GAPS Adolescent Screener(0.01)	Surveys and Questionnaires
Impairment Rating Scale - Parent form(0.01)	Surveys and Questionnaires
Impairment Rating Scale - Teacher form(0.01)	Surveys and Questionnaires
Letters of Support(0.01)	Dataset Use Approval/Permission
Outcome Rating Scale(0.01)	Surveys and Questionnaires
Participant Outcomes(0.01)	Data Collection Sheet
Quarterly Tracking Forms(0.01)	Data Collection Sheet
Quarterly Tracking Sheet(0.01)	Additional Items
Session Rating Scale(0.01)	Surveys and Questionnaires
Student Tracking Form(0.01)	Data Collection Sheet
Thank You for Recent Consultation Referral Form.jpg(0.01)	Additional Items

The Chairperson (or designee) does not have a potential for conflict of interest on this study.

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IRB00000705 East Carolina U IRB #1 (Biomedical) IORG0000418  
 IRB00003781 East Carolina U IRB #2 (Behavioral/SS) IORG0000418