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Abstract

The purpose of this study was to conduct a small-scale pilot study of Conjoint Behavioral Consultation (CBC), modified for middle school students with social, emotional, and behavior concerns. Participants were 30 middle school students with social, emotional, and behavior concerns, along with their parents and teachers. Participants were randomized to a CBC or school-as-usual control condition. Outcome measures included (a) teacher-report of student academic enablers and social, emotional, and behavior competencies, (b) parent-, teacher-, and student report of target behavior outcomes, (c) parent- and teacher-report of the parent-teacher relationship, and (d) parent- and teacher-report competence in problem solving. In addition, parents, teachers, and students reported on their perceptions of the intervention. Findings suggested greater improvements in the intervention condition relative to the school-as-usual condition on teacher-report of student interpersonal skills, teacher-report of the parent–teacher relationship, and parent-report of competence in problem solving. In addition, parents, teachers, and students reported improvements in the target behavior outcomes during consultation and each stakeholder rated the intervention favorably. Limitations, future research directions, and implications for family–school interventions in middle school are discussed.

Keywords: conjoint behavioral consultation, family-school partnerships, social-emotional

Examining Conjoint Behavioral Consultation to Support Students in Middle School with Social, Emotional, and Behavior Concerns

Students in middle school must navigate structural, relational, and social behavioral changes during adolescence (Eccles, 1999). During this developmental period, the role of peer relationships and parents change. Peers become more influential in promoting positive and negative behaviors, students develop more autonomy, and parents may have a diminished role in their child's life (Dishion & Patterson, 2016). Due to these developmental and relational changes, students in middle school are susceptible to developing problems in social, emotional, and behavioral domains. For example, as peers play a more prominent role in the lives of middle school students, affiliating with peers who engage in rule-breaking behavior can increase the likelihood of other peers engaging in rule-breaking behavior. Parents who monitor their child's behavior can serve as a protective factor in guarding against the influence of peers who engage in rule-breaking behavior (Dishion & Patterson, 2016). During middle school and adolescence there is an increase in social, emotional, and behavioral (SEB) problems, such as the development of mental health concerns, rule breaking behavior, and substance abuse (Garbacz et al., 2018). Unfortunately, many students in middle school who have elevated SEB concerns do not receive effective treatment. Left untreated, the trajectory of students with SEB concerns in middle school has life course implications, placing them at vulnerability for educational difficulties, as well as interpersonal problems as an adult, serious mental health concerns, problems with school completion, and engagement with the justice system (Almy & Cicchetti, 2018; Fergusson & Woodward, 2002).

Family–School Partnerships

Family–school partnership interventions are well suited to support students in middle school who have elevated SEB concerns (Garbacz et al., 2018). Family–school partnership interventions include parents and teachers collaborating to develop SEB supports for students across home and school. In family–school partnerships, parents and teachers have co-equal roles and responsibilities and are equally empowered to take ownership over their environments to support the student who is the focus of intervention (Sheridan, Smith, et al., 2019). Students can also have key roles in family–school partnership interventions by actively participating as a co-equal stakeholder with their parents and teachers to identify relevant goals and develop appropriate supports. Family–school partnership interventions are grounded in ecological systems theory. Ecological systems theory demonstrates the importance of proximal settings, such as home and school, as well as the interconnectedness of those settings for a child's development (Bronfenbrenner, 1979). Family–school partnerships operate in the mesosystem, which refers to the connections and coordination that occurs between parents and teachers in microsystems, such as home and school.

Although parents' role during middle school and adolescence may be diminished in comparison to peers, parents continue to have a critical role in supporting their child during middle school. In fact, withdrawing from their child's life too quickly or too early can have negative implications (Dishion & Patterson, 2016). Moreover, there is clear evidence that use of empirically-validated parenting practices (e.g., monitoring child behaviors and peer relationships, describing and reinforcing expectations) during middle school can lead to improved SEB outcomes for students (Stormshak et al., 2011). However, parents are often not clear on how to best support their child or engage with their child's school (Garbacz et al., 2021). In family–school partnership interventions, a consultant can serve as a mediator between parents

and teachers to foster a collaborative relationship, support parents in building effective parenting skills, and encourage goal-directed change (Sheridan & Kratochwill, 2008).

Conjoint Behavioral Consultation

One family–school partnership intervention that has demonstrated efficacy for supporting student SEB outcomes is Conjoint Behavioral Consultation (CBC). CBC is a family–school partnership intervention with a dual focus on relationship building among parents and teachers and grounding in a problem-solving approach to consultation (Sheridan & Kratochwill, 2008). A consultant facilitates the CBC process with families and school staff, with a focus on strengthening the home-school connection, promoting positive relationships, building parent and teacher skills in parenting and teaching practices, and supporting positive child outcomes. Within CBC, a parent and a teacher collaborate across approximately three meetings to (a) identify strengths and areas of concern, (b) identify a priority or target concern that will be the focus of consultation, (c) examine factors that may impede or promote adaptive change, (d) develop a support plan to be implemented at home and at school, and (e) evaluate progress and make changes to the plan where necessary. Thus, CBC is a tailored process that is strengths-based and grounded in ecological systems theory (Sheridan & Kratochwill, 2008). CBC shares some features with individualized supports for students with intensive support needs in schools, such as a focus on adult-child relationships and positive approaches to support students at home and at school (Kern, 2014). CBC is distinct from typical intensive supports in its focus on creating a partnership among families and school staff, promoting consistency or continuity across home and school, and allowing a flexible and responsive process to collaborate with other key individuals (e.g., medical professionals; Sheridan & Kratochwill, 2008).

A series of randomized controlled trials of CBC in elementary school have demonstrated improvements for parents, teachers, and students as a function of their participation in CBC. Relative to parents and teachers in a school-as-usual control condition, parents and teachers who participate in CBC report improvements in their relationship and their competence in problem-solving strategies (Sheridan et al., 2012, 2013, 2017). In addition, students whose parents and teachers participate in CBC outperform students in a school-as-usual control condition on parent- and teacher-report of SEB competencies (Sheridan et al., 2013, 2017). This line of CBC research has shown that the parent–teacher relationship serves as a mediator in the effect of CBC on teacher-report of student behavior concerns (Sheridan et al., 2012, 2017). In particular, effects of CBC on some child outcomes have been partially accounted for by improvements in the parent-teacher relationship, suggesting that parents and teachers who share a positive relationship may ultimately be helpful for supporting children in CBC. Positive effects of CBC on parent, teacher, and student outcomes have been demonstrated across urban and rural contexts (Sheridan et al., 2012, 2017). In addition to immediate effects, researchers have found that effects of CBC (e.g., parent-report of child social skills and teacher-report of child school problems) are maintained at a 1-year follow up (Sheridan, Witte, et al., 2019).

Conjoint Behavioral Consultation during Middle School

Acknowledging the importance of the middle school time period and the need for family–school partnership interventions during this time, a small number of studies have investigated CBC during middle school. A few studies have examined CBC during middle school on homework behaviors, such as productivity and completion (Schemm, 2007; Weiner et al., 1998). Schemm (2007) and Weiner et al. (1998) examined CBC for improving student homework completion and accuracy in studies that used a single-case design. Findings suggested

improvements in homework completion but minimal improvement in homework accuracy. Garbacz, Beattie, et al. (2020) examined the effect of CBC on middle school students' disruptive behavior in classrooms within the context of a multiple baseline across participants design (Garbacz, Beattie, et al., 2020). Reductions in student disruptive behaviors were observed, but findings for parent–teacher relationship data were inconclusive. In addition, there were notable barriers to implementation with support plans implemented below 70% for two out of four students. Findings from these studies suggested the need for additional study of CBC in middle school to support students with SEB concerns to better understand issues such as contextual fit and parent and teacher engagement.

Garbacz and colleagues (2022) conducted focus groups with parents and teachers of students in middle school with SEB concerns, as well as interviews with students themselves. Findings from this study suggested that parents, teachers, and students perceived CBC as favorable and useful during middle school, yet suggestions for revision to the intervention were also noted. For example, parents and teachers noted the need to consider the appropriate school participants since students in middle school interact with many different teachers. In addition, parents and teachers suggested that students play a key role in the process, and that some additional streamlining of meetings and between meeting supports for parents and teachers be considered. In response to this feedback, areas of emphasis for CBC during middle school were identified. Areas of emphasis included actively involving the student in each phase of the process, limiting meeting time, and providing additional support to parents and teachers for planning and implementing support plans at home and school. In addition, a focus on culture and family values was embedded systematically at the beginning of the CBC process to better understand family culture and parents' and students' experiences with school over time; then,

that information was woven throughout the CBC process. Table 1 includes a bulleted list of areas of emphasis for the CBC process during middle school based on findings from Garbacz, Beattie, et al. (2020) and Garbacz et al. (2022). A next important step in the line of CBC research is to conduct a small-scale pilot study of CBC as modified based on parent, teacher, and student feedback during middle school.

Purpose of the Study

The purpose of the present study was to examine the impact of a modified version of CBC for students with emotional and behavioral concerns in middle school on SEB competencies, academic enablers, the parent–teacher relationship, and parent and teacher competence in problem solving within a small-scale pilot study. In addition, parent, teacher, and student perceptions of CBC were examined. Specifically, the following research questions were examined during the middle school period: (a) What is the effect of CBC on teacher-report of student academic enablers and student social, emotional, and behavioral competencies? (b) What is the effect of CBC on parent-, teacher-, and student-report of outcomes that were the target of consultation at the conclusion of CBC? (c) What is the effect of CBC on the parent- and teacher-report of their relationship? (d) What is the effect of CBC on parent- and teacher-report of their competence in problem solving? (e) What are parent, teacher, and student perceptions of CBC in middle school?

Method

Participants and Setting

Thirty middle school students in fifth through eighth grade with emotional and behavioral concerns (15 CBC, 15 control) participated in the study. Student participants were from nine

middle schools across seven school districts in a Midwestern state. Demographic characteristics, including age, gender, and racial characteristics, are found in Table 2.

Thirty-one parents and 35 teachers participated in the study. In most cases, one parent and one teacher per student participated. In one case, two parents participated, and in five cases, two teachers participated (along with a parent). Among teachers who participated, 55.6% had a master's degrees, 30.6% completed some graduate coursework completed, and 11.1% had a college degree. The average years of teaching experience among teacher participants ranged from 1 year to 27 years (M = 13.25; SD = 7.79). Parents and students identified teachers for study participation by determining the setting in which challenges were most often experienced, though teacher availability for participating in the study was also considered. After teachers were identified, they were contacted by the research team with information about the study. Consultants were twelve graduate students enrolled in educational specialist or doctoral school psychology programs. Eleven consultants were female, and one was male.

Recruitment

There was some variability in how school districts shared information about the study with parents, based on the district's research procedures. For example, many school districts made information available to families through a school mailing or through a school website. Following school district dissemination of study information, parents contacted researchers with questions or to participate. Following consent, student eligibility was assessed based on parent- or teacher-reported level of emotional and behavioral risk. Students were eligible for participation based on *elevated* or *extremely elevated* scores demonstrated by t-scores above 60 on the Behavior Assessment System for Children-3: Behavioral and Emotional Screening System (BASC-3 BESS; Kamphaus & Reynolds, 2015). On the BASC-3 BESS, parents and

teachers reported how often they observed students engaged in problem behaviors. The BASC-3 BESS yielded a Behavioral and Emotional Risk Index which depicts student overall emotional and behavioral functioning. The mean Behavioral and Emotional Risk Index for students in the CBC condition was 73.13 (*SD* = 6.42) as reported by parents and 68.53 (*SD* = 6.76) as reported by teachers. For students in the school-as-usual condition, the mean Behavioral and Emotional Risk Index was 70.53 (*SD* = 8.29) according to parent- and 66.67 (*SD* = 6.56) teacher-report. There was no statistically significant difference in Behavioral and Emotional Risk Index as reported by parents ($p = .867$) and teachers ($p = .732$) between students enrolled in CBC and students receiving school-as-usual services.

Study Variables

The independent variable in the study was participation in CBC or school-as-usual services (SAU). The dependent variables included student social, emotional, behavioral, and academic outcomes as reported by parents, teachers, and students as well as the parent–teacher relationship and problem-solving competencies as reported by parents and teachers. In addition, parent, student, and teacher perceptions of CBC was examined.

Student Social, Emotional, and Behavioral Competencies

Student social, emotional, and behavioral competencies were assessed before random assignment to the CBC condition or the school-as-usual condition as well as approximately eight-weeks afterward. On the Behavior Assessment System for Children, Third Edition (BASC-3; Reynolds & Kamphaus, 2015) students were rated by teachers to measure their social, emotional, and behavioral functioning. Specifically, student behavior was rated by teachers to determine scale scores on the Externalizing Problems, Internalizing Problems, and Behavioral Symptoms Index on the BASC-3. The teacher form of the BASC-3 has strong psychometric

properties demonstrated by high test–retest reliability and internal consistency (Reynolds & Kamphaus, 2015).

Goal Attainment Scale (GAS) offers a practical and individualized approach to identifying changes in student behaviors (Roach & Elliott, 2005). GAS was completed by parents, teachers, and students to measure student progress on a target behavior following CBC participation. The GAS included a five-point scale ranging from –2 (*the target behavior was significantly worse in comparison to the beginning of consultation*) to +2 (*the target behavior was completely improved in comparison to the beginning of consultation*). GAS has been used previously in research examining CBC effectiveness (Mitchell & Kratochwill, 2013).

Academic Enablers

Student academic enablers were assessed before random assignment to the CBC condition or school-as-usual condition as well as eight weeks afterward. The Academic Competence Evaluation Scales (ACES; DiPerna & Elliott, 2000) were completed by teachers to assess student academic enablers. Academic enablers include student attitudes and behaviors that aid in academic participation and success (DiPerna & Elliott, 2002). On the ACES, academic enablers are comprised of Interpersonal Skills, Motivation, Study Skills, and Engagement to yield an academic enablers score (DiPerna & Elliott, 2000). The ACES exhibits strong reliability and validity as internal consistency ranges from .92 to .98, and test–retest reliability coefficients range from .81 to .92 (DiPerna et al., 2001).

Parent–Teacher Relationship

The Parent–Teacher Relationship Scale-II (PTRS-II; Vickers & Minke, 1995) was used to measure the effect of CBC on the quality of the parent-teacher relationship. The PTRS-II includes parallel parent and teacher versions comprised of two subscales: Joining and

Communication-to-Other. The Joining subscale includes 19 items and examines how parents and teachers feel about their relationship (e.g., We understand each other). The Communication-to-Other subscale includes five items and assesses quality of communication between parents and teachers (e.g., I tell this parent/teacher when I am pleased). The PTRS-II has high internal consistency between the parent form (0.93) and teacher form (0.95; Minke et al., 2014).

Competence in Problem Solving

Parent and teacher problem-solving competence was assessed using the Parent Competence in Problem-Solving Scale (PCPS; Sheridan, 2004a) and the Teacher Competence in Problem-Solving Scale (TCPS; Sheridan, 2004b). The PCPS and TCPS each include eight items, which are parallel across the parent and teacher form, on a 6-point Likert scale ranging from 1 (*disagree very strongly*) to 6 (*agree very strongly*). Example items include, I have gathered specific information to measure my child's (this student's) progress and I have determined how to continue helping my child (this student) make progress at home and school. The PCPS has demonstrated high internal consistency (0.88; Sheridan et al., 2013).

Acceptability of CBC

Parent, student, and teacher acceptability of CBC was assessed using the Behavior Intervention Rating Scale-Revised (BIRS-R; Elliott & Treuting, 1991; Sheridan et al., 2001). The revised version of the BIRS includes fifteen items (e.g., This was an acceptable model of consultation for the identified problem) on a 6-point Likert scale ranging from 1 (*strongly disagree*) to 6 (*strongly agree*). The BIRS-R has strong internal consistency for teachers (0.96; Sheridan, Witte, Holmes, & Coutts, 2017) and parents (0.91; Sheridan, Witte, Holmes, & Wu, 2017).

Procedures

School-as-Usual Condition

Students in the SAU condition received ongoing school services (e.g., special education services, related services) and/or additional support services outside of school-based settings. There were no significant differences in behavioral and emotional risk between students enrolled in CBC and students receiving school-as-usual services.

Conjoint Behavioral Consultation (CBC)

CBC was implemented by consultants based on procedures outlined by Sheridan and Kratochwill (2008) consonant with areas of emphasis for middle school as presented in Table 1. This implementation included a dual focus on strengthening home-school partnerships and address problem-solving objectives during consultation. The CBC process included one pre-consultation meeting and three conjoint problem-solving meetings between the consultant, teacher, and parent. The pre-consultation meeting was often held separately with parents and teachers and involved clarification of roles and expectations and collection of preliminary information about the student. Another primary focus of the pre-consultation meeting was to learn about family culture, values, and expectations, as well as their experiences with schooling. Consultants used this meeting as an opportunity to affirm parent and student identities and discuss plans for incorporating their culture, values, and expectations throughout the CBC process. The three conjoint problem-solving meetings included the following: (a) conjoint needs identification interview (CNII) which sought to identify student strengths and needs as well as select a target behavior for intervention; (b) conjoint needs analysis interview (CNAI) which focused on the collaborative development of a behavior intervention plan for home and school, and (c) conjoint plan evaluation interview (CPEI) which considered intervention plan effectiveness and student progress. The CPEI was occasionally held more than once if the parent,

teacher, and consultant decided to make modifications to the plan or allow more time for the plan to be implemented. Throughout these meetings, a consultant facilitated a process that focused on strengthening the home-school connection, promoting positive relationships, building parent and teacher skills in parenting and teaching practices, and supporting positive child outcomes.

In addition to key stakeholders' involvement in CBC meetings, students were invited to attend meetings. Student involvement in consultation meetings was a modification to the traditional CBC model (see Sheridan and Kratochwill, 2008). Students in middle school have greater autonomy and are more aware of their goals relative to students in elementary school. Hence, this modification was implemented to aid in environmental fit for the middle school context as well as support alignment with the developmental level of middle school students. There was variability in when and to what extent students engaged in CBC meetings. Some students attended each meeting, other students may have attended the first and last meeting. At times, students did not attend any meeting but were engaged in other ways, such as through discussions with the consultant and parent about their goals and desires. Each parent-teacher-consultant triad worked together with the student to determine the most appropriate student engagement plan. This implementation strategy was designed to be flexible and responsive to parent, teacher, and student preferences while maintaining a core component of the process focused on student engagement.

During CBC meetings, parent, teacher, and student input were essential in supporting the collaborative nature and partnership-centered tenets of the CBC problem-solving process. Shared responsibility in goal setting and decision making among families and teachers was established as fundamental in CBC meetings by collaboratively developing goals and intervention plans for both home and school settings. Inclusive language and validation of family and teacher

perspectives was embedded into each meeting. During the CNII, student strengths and needs were identified, target behaviors were selected and operationally defined, goals for home and school were established, and procedures to measure behavior were delineated. During the CNAI, baseline data gathered across home and school was evaluated, patterns of behavior were discussed, and an intervention plan was collaboratively developed. After an intervention plan was created, parents and teachers implemented the plan in home and school settings, respectively. Then the CPEI took place in which progress toward goals was discussed, family and teacher perceptions of the plan was elicited, and the continuation or conclusion of the plan was determined.

Prior to the COVID-19 pandemic, all consultation meetings were conducted in-person. During the pandemic, consultation meetings transitioned to virtual delivery utilizing videoconferencing technology. Students enrolled in the study during the pandemic were often engaged in a hybrid instructional format in which students had opportunities to engage in in-person and synchronous or asynchronous virtual learning. Both in-person and virtual consultation meetings followed the same CBC processes and procedures. Between consultation meetings, parents and teachers implemented behavior support plans and collected student progress monitoring data in home and school settings (e.g., either in-person or virtual school), respectively. Additional information regarding behavior support plans is below.

Consultants completed a criterion-based training sequence in CBC. The training sequence included didactic components about CBC procedures, family–school partnerships, and behavioral assessment and intervention. In addition, consultants were exposed to video exemplars with practice opportunities. Consultants completed a role play for each CBC interview with a minimum 90% adherence to interview procedures. These procedures were based on CBC

training procedures across experimental studies (Garbacz & McIntyre, 2016; Sheridan et al., 2012). Consultants received supervision while implementing cases. A licensed psychologist and licensed/certified school psychologist with expertise in the CBC model oversaw all cases and provided direct supervision to consultants. Consultants also received peer mentorship from doctoral students who had completed the criterion-based training sequence in CBC and completed CBC cases in the field.

Behavior Support Plans. Individualized support plans for the home and school setting were co-developed by consultants, parents, teachers, and students for each student. The plans were comprised of evidence-based strategies based on the function of the student's target behavior. Specifically, antecedent strategies (e.g., providing choice, arrangement of classroom, offering clear expectations), instructional strategies (e.g., direct skill instruction, self-monitoring), consequent strategies (e.g., behavior specific praise, rewards) as well as home–school communication approaches (e.g., text, call, email, written note) were included in each students' intervention plans (Garbacz & McIntyre, 2016). Target behaviors included student on-task behavior (n_{home} = 3; n_{school} = 5), compliance (n_{home} = 5; n_{school} = 3), and work completion (n_{home} = 1; n_{school} = 1). Eighteen intervention plans (n^{home} = 9; n_{school} = 9) comprised of multiple strategies were developed to address these target behaviors. Intervention plan components included four key strategies: antecedent strategies, skills training strategies, positive consequences, and negative consequences. Each category of intervention strategies was defined and included specific examples to code the type of intervention strategies across the multi-step intervention plans based on Sheridan and Kratochwill (2008) and Quinn (2001). Intervention plans established for home included 35 antecedent strategies (53.03%), 3 skills training strategies (4.55%), 22 positive consequence strategies (33.33%), and 4 negative consequence strategies

(6.06%). Intervention plans used at school included 35 antecedent strategies (51.47%), one skills training strategy (1.47%), 28 positive consequence strategies (41.18%), and four negative consequence strategies (5.88%). Interrater agreement for coding of intervention strategy categories was 97.76%. Consultants supported intervention plan implementation by making procedural checklists, conducting home and school visits, regularly communicating with parents and teachers via phone call and email, and providing ongoing performance feedback (Swanger-Gagné et al., 2009).

Treatment Integrity

Treatment integrity data were collected across two tiers of implementation to examine (a) consultation procedural implementation and (b) intervention plan implementation (Garbacz & McIntyre, 2016; Sheridan, Witte, Holmes, & Coutts, 2017; Sheridan, Witte, Holmes, & Wu, 2017). Integrity of CBC implementation procedures as well as parent and teacher implementation of behavior intervention plans were gathered to understand the extent to which consultation and intervention procedures were implemented as intended (Sanetti et al., 2021).

Integrity of CBC Procedures

Procedural adherence of consultant implementation of CBC procedures were assessed with CBC objective checklists (Sheridan & Kratochwill, 2008). The CNII, CNAI, and CPEI included 12, 9, and 8 objectives, respectively (Garbacz & McIntyre, 2016). All consultation interviews were audio recorded. Independent, trained graduate student coders reviewed 62.5% of randomly selected interviews. Random selection of interviews occurred across consultants and cases to ensure that each interview type (i.e., CNII, CNAI, and CPEI) were represented equally. Across interviews, consultants adhered to an average of 90.4% of interview objectives. Thirty percent of interviews were coded by three observers to establish interrater agreement. Interrater

agreement for procedural adherence was 93.41% (95.85% for CNII, 100% for CNAI, and 84.38% for CPEI).

Integrity of Behavior Support Plan Implementation

Plan implementation adherence was evaluated by measuring the percentage of intervention steps implemented in home and school settings as reported by parents and teachers, respectively. Parents and teachers reported their implementation three times per week, on average. Consultants also completed 1-2 direct observations in the home and school contexts to further examine adherence to intervention steps . Adherence was calculated by dividing the number of intervention steps implemented by the total number of planned intervention steps (Sheridan, Witte, Holmes, & Coutts, 2017). Parents implemented 88% of intervention steps in the home setting as reported by parents. Teachers implemented 78% of intervention steps in school as reported by teachers. During direct observations conducted by consultants, 92.5% of intervention steps were implemented in the home setting and 75% of intervention steps were implemented in the school setting.

Data Analysis Plan

The efficacy of the CBC intervention was assessed using mixed model fixed effects with condition as the between-subjects variable and time as the within-subjects variable to account for pre-test performance using IBM SPSS Statistics (Version 27; 2020). Within the fixed effects modeling, maximum likelihood estimation was used because it is robust in accounting for missing data in small data sets ($n < 20$; Cheema, 2014; McNeish, 2017). Although students and parent–teacher dyads are nested within schools, no statistical multilevel modeling was employed because there are no such strategies that have been shown effective with small sample sizes such as that in the present study (Maas & Hox, 2005). Given the underpowered sample, effect sizes

(eta squared; η2) are presented and interpreted, as significance tests may under-represent differences between groups when sample sizes are small (Sullivan & Feinn, 2012; Richardson, 2011). For each outcome, we first present findings based on statistical significance, and then describe magnitudes based on effect sizes. In accordance with the guideline for η2, we interpret effect sizes greater than 0.01 as small, greater than 0.06 as medium, and greater than 0.14 as large (Cohen, 2013).

Results

Student Social, Emotional, and Behavioral Competencies

Teacher reports of student social, emotional, and behavioral functioning on the BASC-3 are displayed in Table 3 Despite post-intervention reductions in behavioral symptoms on the Externalizing Problems Composite ($F = 2.361$, $p = .129$, $\eta2 = .001$), Internalizing Problems Composite ($F = 3.345$, $p = .074$, $\eta2 = .290$), and Behavioral Symptoms Index ($F = 3.950$, $p = .051$, $\eta2 = .051$) for participants in the CBC condition and a lack of reduction following intervention for students in the school-as-usual group, no statistically significant differences were observed. The effect size was large for the Internalizing Problems Composite, small for the Behavioral Symptoms Index and negligible for the Externalizing Problems Composite.

In addition to ratings on the BASC-3, GAS was used as a practical and meaningful indicator of improvement in student outcomes. In particular, GAS measured student, parent, and teacher perception of improvement in student target behaviors. Using goal attainment scaling, students ($M = 1.29$, $SD = .756$; range -2-2), parents ($M = 1.29$, $SD = .488$; range -2-2), and teachers ($M = 1.30$, $SD = .483$; range -2-2) rated student target behaviors as having improved following CBC participation.

Academic Enablers

A summary of scores and differences by condition for academic enablers as measured by the Academic Competence Evaluation Scales, reported as F-test statistics, is presented in Table 4. Based on teacher report, there was a significant effect of condition on Interpersonal Skills at post-test when pre-test was controlled for ($F = 4.984$, $p = .029$, $\eta 2 = .109$), such that students in the CBC condition were rated as having more growth in Interpersonal Skills between pre-test and post-test relative to students in the school-as-usual control condition. There was no statistically significant effect of condition on the overall Academic Enabler score ($F = .013$, $p = .909$, $\eta 2 = .080$), Engagement ($F = 1.895$, $p = .174$, $\eta 2 = .016$), Motivation ($F = .008$, $p = .931$, $\eta 2 = .000$), or Study Skills ($F = .040$, $p = .842$, $\eta 2 = .048$) based on teacher report.

Parent-Teacher Relationship

Parent and teacher reports of the parent–teacher relationship are presented in Table 5. With regard to the Joining subscale, which measures components of the parent-teacher relationship like alliance, support, dependability, and shared beliefs, parents in the CBC condition reported increases following the CBC intervention while there was a reduction among parents in the SAU condition; despite a large effect size, the difference between groups was not statistically significant ($F = 3.941$, $p = .056$, $\eta 2 = .206$). There was a statistically significant difference by condition for teachers' reports on the Joining scale such that both teachers in the CBC and SAU conditions reported reductions, but teachers in the CBC condition reported a statistically significant smaller decrease, which reflected a small effect size ($F = 4.628$, $p = .041$, $\eta 2 = .046$). With regard to communication within the parent–teacher relationship, both parents ($F = 2.357$, $p = .135$, $\eta 2 = .023$) and teachers ($F = 1.824$, $p = .182$, $\eta 2 = .131$) reported improvements in communication in the CBC condition reflecting small and large effect sizes, respectively. However, there was no statistically significant difference between groups.

Competence in Problem Solving

At post-test, parents who participated in the CBC condition had greater increases to their own competence in problem solving student behavioral challenges than parents who participated in the SAU control ($F = 7.950$, $p = .008$, $\eta 2 = .048$). Teachers in the CBC condition also saw improvements in their problem-solving competence regarding student behaviors and needs, although this growth was not statistically different from teachers in the SAU control ($F = 3.404$, $p = .070$, $\eta 2 = .168$). Based on $\eta 2$, these effects were small and large, respectively.

Acceptability of CBC

Following participation in CBC, students ($M = 4.74$, $SD = 1.36$) reported that they found CBC to be an acceptable intervention. Similarly, parents ($M = 5.59$, $SD = .49$) and teachers ($M = 5.09$, $SD = .453$) reported CBC as an acceptable intervention to them on the BIRS-R. Given that the range for each of these measures was 1–6, the scores calculated based on participants' ratings demonstrate high acceptability.

Discussion

Certain risk and protective factors can precipitate increases in student SEB concerns or lead to positive academic and social outcomes. For example, affiliating with peers who engage in rule-breaking behavior may make students vulnerable for engaging in rule-breaking behavior. However, students with certain protective factors in place, such as parents who are knowledgeable of and monitor their peer relationships, may not be as vulnerable to risky situations. Indeed, parents and the family–school connection are instrumental in supporting students and promoting SEB competencies. CBC is a family–school partnership intervention with findings from empirical studies (Sheridan et al., 2012, 2013, 2017, 2019) that demonstrate its efficacy for promoting SEB competencies, strengthening the parent–teacher relationship, and

improving parent and teacher competence in problem solving during elementary school. A small body of research has led to the development of a modified version of CBC for middle school students with SEB concerns (Garbacz, Beattie, et al., 2020). The purpose of the present study was to examine this modified version of CBC for students in middle school with SEB concerns and vulnerability for later educational difficulties within the context of a small-scale pilot study.

Main Findings

Student Outcomes

Findings from the present study suggested improvements in student SEB competencies and an academic enabler (i.e., interpersonal skills). Based on teacher report, students in the CBC condition outperformed students in the school-as-usual condition on interpersonal skills, one subscale of the academic enabler dimension of the ACES. Interpersonal skills refer to cooperative learning behaviors that are important for interacting with others. There were not statistically significant differences between students in the CBC condition and school-as-usual control condition on engagement or motivation, based on teacher report. Similarly, there were not statistically significant differences between students in the CBC condition and school-as-usual condition on externalizing, internalizing, or behavioral symptoms based on teacher report.

In addition to examining teacher-report of student SEB competencies within the context of the randomized controlled trial, parents, teachers, and students rated student target behaviors at the conclusion of consultation within a goal attainment scaling paradigm. Based on goal attainment scaling, 100% of parents, teachers, and students reported that the student target behavior was improved at the conclusion of consultation relative to when CBC was initiated. This is a meaningful finding as GAS ratings are based on the specific target behaviors identified

by parents, teachers, and students. In addition, GAS offers a practical way to measure change in schools and may reflect a measurement strategy that can be easily replicated in schools.

These findings on student SEB competencies were mixed with regard to their alignment with the study hypotheses. Goal attainment scaling is a proximal measure of parent, teacher, and student perceptions of progress toward a clear goal. Alternatively, teacher-report on the BASC-E is more disconnected from the actual focus of consultation. Other CBC research (Sheridan et al., 2001) has shown improvements in outcomes based on goal attainment scaling. Another possible explanation for the lack of statistically significant outcomes on some SEB competencies is that it may take more time for some effects of the CBC intervention to be realized. For example, improvements in parent implementation and use of effective parenting and family-school support strategies may lead to impacts on student SEB competencies at later assessment waves. Related family-centered research during middle school has similarly found significant improvements on student SEB competencies multiple years after an active intervention period (Stormshak et al., 2011).

Parent and Teacher Outcomes

In addition to examining effects of CBC on student outcomes, effects were also examined on parent and teacher outcomes. Findings suggested that teachers in the CBC and SAU conditions reported reductions in joining; however, teachers in the CBC condition reported a significantly smaller decrease. Similar improvements were not observed based on parent report. It may be possible that teachers are able to notice improvements more readily than parents based on teachers' experience interacting with many parents to support students. In addition, statistically significant findings were not observed for other dimensions of the parent–teacher relationship based on parent or teacher report. The significant finding on teacher-report of

joining in the parent–teacher relationships reflects teacher report of affective aspects of the relationship. This finding is important as research suggests parent–teacher relationships can degrade over time, particularly for parents and teachers who have a student with SEB concerns (Sheridan et al., 2012). This impact on the parent–teacher relationship based on teacher report may be more poignant than similar findings during elementary school due to the persistent and intractable nature of concerns and relationships after progressing through school for more than six years (Garbacz et al., 2018). It is important to reiterate that the COVID-19 context may have impacted these findings. In particular, parents and teachers may have had fewer opportunities to join in their work together during the COVID-19 pandemic.

Parent and teacher competence in problem solving was also examined within the present study. Findings suggested that parents in the CBC condition reported greater improvements in their competence in problem solving relative to parents in the SAU condition. This is an important finding as competence in problem solving is an important for supporting the success of a child with SEB concerns. This increase in competence can support parents in troubleshooting challenging situations and promote their use of related effective parenting strategies. Parents may also be able to use their enhanced competence in other contexts, such as with other children or for other target concerns. The lack of a significant finding for teachers' reports of their competence in problem solving may suggest that the CBC intervention was more supportive of parents in building their competencies relative to teachers, perhaps due to teachers' prior experience or expertise in providing structural supports for students. Engagement data may be helpful in discerning these differences as parents may have engaged more with the CBC intervention (e.g., spent more time with the consultant) and thus parents may have received a higher dose.

Perceptions of CBC

Following their participation in CBC, parents, teachers, and students rated CBC. These self-report ratings suggested that all participants found CBC to be acceptable. Parents' acceptability ratings were the highest, followed by teachers, and then students. These findings may suggest that CBC could be better tailored for student participation or reflect parents' improvement in competencies as a function of their participation in CBC.

Limitations and Future Research Directions

Findings from the present pilot study were promising in that they suggested improvements for teacher-report of students' interpersonal skills, teacher-report of the parent–teacher relationship, and parent-report of their competence in problem solving. Several limitations must be considered as context when interpreting these findings. The sample size for the study was small, limiting conclusions that can be made about the impact of CBC during middle school. Also, participants were primarily white. In addition, the study was conducted in one region of one state in the Midwestern region of the United States. Additional research is needed with larger samples in similar and different geographic areas that include participants of other racial identities. Data on engagement were not available; these data would add an important perspective to the findings and may help explain some differences in changes noted by parents, teachers, and students. Future research should examine intervention engagement and use the engagement data in close study of intervention impact. There are a few important limitations about fidelity of implementation. Very few details about activities in the school-as-usual condition were available. In addition, there is a lack of data regarding implementation of adaptations to the CBC model relative to the CBC model overall. Future research should document with greater specificity activities in the school-as-usual condition and clarify

implementation of specific aspects of the model and any adaptations. In addition to better documentation of procedures across these conditions, a future study may be helpful that compares outcomes of an adapted CBC model relative to the standard CBC model.

Findings from the goal attainment scaling suggested promising proximal improvements in students' target behaviors during consultation, yet the posttest-only nature of these descriptive data limits conclusions that can be drawn. Future research should seek to collect proximal data at pretest and posttest so that those data can be examined within an intent-to-treat framework. In addition, only teachers reported on the BASC-3; thus, future research should examine parent-report on the BASC-3 to better understand possible changes in the home or community setting based on random assignment to condition. Also, expanded data are needed about how parents, teachers, and students experienced the CBC model. Report of acceptability is a narrow and incomplete estimate of their experiences. Future research should address how parents, teachers, and students experience and perceive the CBC model and their participation. The present study reports only on an immediate posttest data point. Future research is needed that examines the impact of CBC during middle school on assessment waves multiple years into the future. Finally, the COVID-19 pandemic influenced how CBC meetings were held. Prior to the COVID-19 pandemic, meetings were held in person. During the pandemic, meetings were virtual. The impact of this change has not been systematically examined. In addition to the modality of CBC meetings, consultants could not as readily conduct direct observations. Thus, the COVID-19 pandemic impacted data collection and implementation.

Implications

Despite the small-scale nature of this pilot study, some interesting implications can be drawn from the findings. One implication from the present study is that a modified version of

CBC for middle school students shows promise in improving proximal SEB targets, improving teacher-report of the parent–teacher relationship, and improving parent-report of their competence in problem solving. Schools may find it useful to adopt family–school interventions as part of individualized intervention for students with SEB concerns. Adopting and implementing a family-school intervention, such as CBC, might be addressed as part of a district- or school-wide emphasis on family-school partnerships (Garbacz, Minch, et al., 2020). For example, a school leadership team may systematically add family-school features to their school systems and practices, such as a greater emphasis on two-way (home-school) communication and resources for parents to support parenting and home-school collaboration. This schoolwide process may facilitate implementation of individualized supports. School psychologists or school social workers are well prepared to support school teams in building these systems. In addition, school psychologists or school social workers could serve as a CBC consultant and work directly with parents, teachers, and students in within a CBC process. This approach would allow these school staff to support improvements in proximal SEB competencies, as well as improve outcomes for teachers and parents.

Another implication of the present study is a theme that CBC seems to be promising for improving key variables that can lead to general improvements in classroom behaviors. For example, the improvement in teacher-report of student interpersonal skills suggests that students are better equipped to cooperate with others in their learning. Similarly, teacher-report of improvements of the parent–teacher relationship and parent-report of their competence in problem solving are key variables that can lead to later improvements in more distal student behaviors (Sheridan et al., 2012).

In terms of implications for research, the present findings pointed to the importance of examining and including intervention engagement data and collecting waves of data at time points after an immediate posttest. Indeed, other studies have suggested the importance of similar concepts during the middle school period (Stormshak et al., 2011). Data on follow-up assessment waves and parent, teacher, and student engagement in the intervention may help clarify how the CBC intervention may influence outcomes for middle school students with emotional and behavior concerns.

Summary

The present study examined student, parent, and teacher outcomes within a small-scale randomized trial of CBC in middle school for SEB concerns with vulnerability for educational difficulties and concerning life-course outcomes. Findings pointed to promising improvements for students, parents, and teachers as a function of their participation. These findings suggest that CBC may be a useful intervention for middle school students with SEB concerns to disrupt cascading negative outcomes and set a positive trajectory. Additional research is necessary to better understand the influence of CBC during middle school, particularly to better understand how participation in CBC during middle school may reduce the risk of later negative outcomes.

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Table 1

Areas of Emphasis for Implementing the CBC Model during Middle School

Adaptations
• Discuss family culture and values with parents and students during a pre-consultation meeting. Integrate family culture and values throughout the process (e.g., when discussing targets and intervention strategies). Affirm family and student identities. • Discuss family and student experiences with teachers and schooling. Consider modifications where appropriate, such as holding meetings in neutral locations. • Explicitly ask about peer relationships and consider the peer context in intervention planning. • Streamline meeting duration; limit meetings to 30 minutes when possible. • Actively engage students at the beginning of the CBC process to determine a tailored engagement plan. • Identify hypothesized core components of a behavior support plan, emphasize only the core components, and limit the number of plan steps to 3-4 steps when possible. p • Provide parents and teachers with clear feedback about their implementation and collaborate to develop alternative plans when a plan is not feasible or more support is needed to implement it. • Use implementation support strategies, such as implementation planning and a discussion about motivation to implement as discussed during a CBC meeting. • Provide many and varied opportunities for parents and teachers to request coaching support during plan implementation. Contact parents and teachers frequently to offer support.

Table 2

Demographic Characteristics of Caregivers, Children, and Teachers

Variable	% Total	% CBC	% Control
Primary caregiver mean (SD) age	42.36 (8.93)	42.13 (10.23)	42.57 (7.85)
Primary caregiver gender			
Female	84.0	86.9	76.5
Primary caregiver's race/ethnicity			
White	84.4	86.7	82.4
Black/African American	12.5	13.3	12.5
Hispanic/Latinx	3.1	0.0	5.9
American Indian/Alaska Native	0.0	0.0	0.0
Not Hispanic/Latinx	93.5	100.0	5.9
Primary caregiver education			
Less than high school	6.3	13.3	0.0
High school	9.4	13.3	5.9
GED	3.1	0.0	5.9
Some college	18.8	13.3	23.5
College degree	34.4	40.0	29.4
Some graduate coursework	9.4	6.7	11.8
Masters	12.5	13.3	11.8
Children's mean (SD) age	12.91 (0.94)	12.70 (0.93)	13.09 (0.95)
Children's gender			
Female	26.7	40.0	13.3
Children's race/ethnicity			
White	73.3	73.3	73.3
Black/African American	33.3	33.3	33.3
Hispanic/Latinx	6.7	0.0	13.3
American Indian/Alaska Native	3.3	0.0	6.7
Not Hispanic/Latinx	90.0	93.3	87.7
Eligible for free and reduced lunch			
Eligible	46.9	40.0	52.9
Teacher mean (SD) age	40.64 (10.45)	37.05 (10.65)	44.02 (9.34)
Teacher gender			
Female	66.7	68.6	68.4
Teacher's race/ethnicity			
White	88.9	87.5	94.7
Black/African American	5.6	6.3	5.3
Hispanic/Latinx	5.6	12.5	0.0
American Indian/Alaska Native	5.6	0.0	10.5
Not Hispanic/Latinx	91.7	87.5	100.0
Teacher highest level of education			
College degree	11.1	18.8	5.3
Some graduate coursework	30.6	31.3	31.6
Masters	55.6	50.0	57.9
Average years of teaching experience	13.25 (7.79)	10.19 (7.17)	15.97 (7.46)

Note. CBC = Conjoint Behavioral Consultation

Table 3

Behavior Assessment System for Children Results, Teacher Report

Reporter	Variable	CBC		SAU		F	*p*	η2
		Pre *M* (*SD*)	Post *M* (*SD*)	Pre *M* (*SD*)	Post *M* (*SD*)			
Teacher	Externalizing Problems Composite	66.94 (13.73)	62.00 (14.11)	69.63 (12.83)	70.76 (14.29)	2.361	.129	.001
Teacher	Internalizing Problems Composite	60.81 (16.45)	56.11 (9.62)	60.47 (13.09)	59.29 (15.46)	3.345	.074	.290
Teacher	Behavioral Symptoms Index	67.94 (12.31)	62.22 (12.46)	70.53 (10.64)	70.65 (14.44)	3.950	.051	.051

Note. BASC = Behavior Assessment System for Children; CBC = Conjoint Behavioral Consultation; SAU = School-as-usual

Table 4

Academic Competence Evaluation Scales Results, Teacher Report

Reporter	Variable	CBC		SAU		F	*p*	η2
		Pre *M* (*SD*)	Post *M* (*SD*)	Pre *M* (*SD*)	Post *M* (*SD*)			
Teacher	Academic Enabler	101.54 (21.99)	103.17 (31.54)	104.19 (25.32)	103.00 (29.77)	.013	.909	.080
Teacher	Interpersonal Skills	31.93 (6.62)	33.00 (9.40)	29.35 (6.35)	29.94 (7.62)	4.984	.029*	.109
Teacher	Engagement	19.43 (5.84)	20.67 (4.80)	21.29 (7.19)	22.67 (6.72)	1.895	.174	.016
Teacher	Study Skills	27.15 (8.61)	28.00 (11.85)	27.12 (8.24)	26.94 (8.84)	.040	.842	.048
Teacher	Motivation	25.07 (7.92)	25.86 (9.60)	25.69 (7.13)	25.93 (8.12)	.008	.931	.000

Note. ACES = Academic Competence Evaluation Scales; CBC = Conjoint Behavioral Consultation; SAU = School-as-usual

* $p < .05$

Table 5

Parent–Teacher Relationship Scale-II and Competence in Problem-Solving Scale, Parent and Teacher Report

Reporter	Variable	CBC		SAU		F	*p*	η2
		Pre *M* (*SD*)	Post *M* (*SD*)	Pre *M* (*SD*)	Post *M* (*SD*)			
Parent	PTRS Join	3.02 (0.34)	3.45 (0.23)	2.99 (0.18)	2.93 (0.47)	3.941	.056	.206
Parent	PTRS Comm	3.76 (1.16)	4.30 (0.93)	3.42 (1.32)	3.04 (1.10)	2.357	.135	.023
Teacher	PTRS Join	4.16 (0.47)	3.21 (0.27)	3.95 (0.72)	3.02 (0.26)	4.628	.041*	.046
Teacher	PTRS Comm	3.23 (1.03)	3.87 (0.81)	3.95 (0.72)	3.31 (0.77)	1.824	.182	.131
Parent	PCPS	4.56 (0.43)	5.55 (0.45)	4.04 (0.85)	4.57 (0.67)	7.950	.008*	.048
Teacher	TCPS	4.49 (0.62)	5.30 (0.38)	4.24 (0.62)	4.67 (0.75)	3.404	.070	.168

Note. PTRS = Parent-Teacher Relationship Scale-II; Join = Joining; Comm = Communication-to-other; PCPS = Parent Competence in Problem-Solving; TCPS = Teacher Competence in Problem-Solving; CBC = Conjoint Behavioral Consultation; SAU = School-as-usual.

* $p < .05$