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Supporting the Inclusion of a Student with Asperger Syndrome: A Case Study using Conjoint Behavioural Consultation and Self-management

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Conjoint behavioural consultation (CBC) is an indirect form of service delivery that combines the resources of home and school to meet the academic, social and behavioural needs of children. The purpose of this paper is to demonstrate the utility of CBC as a service delivery model for supporting the inclusion of a student with Asperger syndrome in a mainstream setting. A case study methodology was employed to assess the effectiveness of an evidence-based intervention (self-management) delivered in the context of the CBC model. Results indicated a significant increase in teacher ratings of behavioural control (on-task and compliant behaviour) from baseline to treatment. Clinically meaningful changes in parent and teacher perceptions of challenging behaviour were evident. Measures of treatment acceptability and effectiveness, treatment integrity and consumer satisfaction also yielded positive results. This exploratory study provides support for the use of CBC as a framework by which to join parents and teachers in the delivery of effective behavioural interventions for students with high functioning autism spectrum disorders in mainstream settings. The findings are discussed in relation to the limitations of the study, and to future research directions and implications for practice.

Introduction

Asperger syndrome, also known as Asperger's disorder, is an autism spectrum disorder characterised by severe and sustained impairments in social interaction, and by the development of restrictive patterns of behaviour, interests and activities (*DSM-IV-TR*; American Psychiatric Association, 2000). Children and young people with Asperger syndrome often experience problems related to their social deficits such as

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poor regulation of attention, emotional distress, academic difficulties and high rates of challenging behaviour (Ghaziuddin, 2002; Klin & Volkmar, 2000; Simpson & Myles, 1998; Tantam, 2003). As a result, many students with this autism spectrum disorder are at risk of academic underachievement, school drop-out, peer rejection and internalising disorders such as anxiety and depression (Adreon & Stella, 2001; Myles & Simpson, 2002).

Although the prevalence of Asperger syndrome has not been definitively established, there has been a dramatic increase in the use of this diagnostic category in our schools (Barnhill, 2001). Providing effective behavioural supports and interventions for these children presents a unique challenge to their families and the educational communities that serve them. Most students with Asperger syndrome receive their education in mainstream classrooms with teachers who have limited experience and training in working with children with special needs (Myles & Simpson, 2002). At present, the efficacy information on strategies for managing the problem of challenging behaviour often found in students with Asperger syndrome is limited (Klin & Volkmar, 2000; Kunc, 2003; Simpson & Myles, 1998). There have been few investigations to assist psychologists in programming for the successful inclusion of children with high-functioning autism spectrum disorders (Klin & Volkmar, 2000). The case study presented here illustrates how practitioners can use conjoint behavioural consultation (CBC) as a model for establishing home-school partnerships and implementing evidence-based interventions to facilitate the integration and maintenance of students with challenging disabilities such as Asperger syndrome in mainstream education settings.

Home-School Collaboration

Parent involvement is an important component of programmes designed to improve the educational outcomes for children with disabilities. Two decades of research clearly indicate that students benefit when families are involved in collaborative relationships with school personnel and that active parent involvement is related to positive student outcomes such as increased student achievement and fewer discipline problems in the classroom and at home (Christenson, 1995; Christenson, Rounds, & Franklin, 1992; Christenson & Sheridan, 2001). According to Christenson (2004), the family-school mesosystem has a powerful effect on children's school success. Students demonstrate greater gains in academic, social and behavioural performance when interventions are implemented within a systems framework. Moreover, a collaborative partnership between parents and educators based on a common interest enhances the likelihood that behavioural interventions will be effective (Clark & Fiedler, 2003; Greenwood & Hickman, 1991). Because Asperger syndrome is an autism spectrum disorder that occurs across settings, ongoing parent-teacher collaboration is an essential foundational element in the development and implementation of intervention programmes (Kunc, 2003; Myles & Simpson, 2001; Safran & Safran, 2001).

Conjoint Behavioural Consultation

How can psychologists work with parents and teachers to foster the best possible outcome for students with Asperger syndrome in mainstream classrooms? School-based consultation is considered one of the primary vehicles for accomplishing this goal. Research has established a preference for consultative services among consumers and practitioners of school psychological services, as well as the efficacy of consultation approaches (Gutkin & Curtis, 1999; Sheridan, Welch, & Orme, 1996). Increasing numbers of psychologists in the UK and USA are adopting consultation as a framework for service delivery in response to the dissatisfaction with traditional psychometric approaches to treating children's problems (Bramlett & Murphy, 1998; Larney, 2003; Sheridan & Gutkin, 2000; Wagner, 2000). Consultation models have become pivotal in contemporary educational and school psychology reform and play an integral role in the shift from traditional assessment-driven structures to an ecological and problem-solving paradigm of professional practice (Dennis, 2004; Kratochwill & Stoiber, 2000; Wagner, 2000). They offer practitioners a potentially powerful tool with which to deliver a wide range of services to students, parents and teachers (Gutkin, 1996).

CBC is a relatively new model of consultation that intervenes at the home-school level and actively engages educators and families in mutual decision-making (Sheridan, Eagle, Cowan, & Mickleson, 2001). It is defined as a structured, indirect form of service delivery in which parents, teachers and support personnel join together in a collaborative effort to meet the academic, social or behavioural needs of children (Sheridan, Kratochwill, & Bergan, 1996). The model utilises an ecological-systems approach and recognises the reciprocal influences of the home-school mesosystem on the student's behaviour and learning. The relationship between home and school is conceptualised as a cooperative and interactive partnership with shared ownership of the student's problem.

The CBC process incorporates the problem-solving stages and objectives of the traditional behavioural consultation model: problem identification, problem analysis, treatment implementation and treatment evaluation (Kratochwill & Bergan, 1990). Briefly, parents and teachers work cooperatively as a consultation team with the assistance of an educational/school psychologist to target a specific problem, collect data, develop a treatment plan, and conjointly evaluate the success of the treatment plan. During the problem identification stage, the consultation team explores shared concerns, determines target behaviours and selects a method of collecting data. During problem analysis, the team analyses the baseline data and develops an intervention plan to address the target behaviour. The intervention plan is then put into practice during the treatment implementation stage. During the treatment evaluation stage, the consultation team evaluates the overall effectiveness of the intervention plan and determines goal attainment. The consultation case is concluded when the discrepancy between the student's existing and desired behaviour is substantially reduced or eliminated. A detailed description of CBC theory, procedures and objectives is found in Sheridan et al. (1996).

The early research on CBC has been promising and indicates that the model can be an effective process for delivering evidence-based interventions to students with diverse learning and behaviour problems (e.g. Colton & Sheridan, 1998; Galloway & Sheridan, 1994; Sheridan et al., 2001; Sheridan, Kratochwill, & Elliott, 1990; Weiner, Sheridan, & Jenson, 1998; Wilkinson, 2005). Although support for CBC has been accumulating, investigation of the model is a work in progress. Additional case-based research is needed to expand CBC's empirical base and document its acceptability and effectiveness as a model for structuring and delivering support to students with special needs, their parents and teachers in typical school practice situations (Colton & Sheridan, 1998; Freer & Watson, 1999; Sheridan, 1997).

Purpose

The purpose of this case study was to demonstrate how psychologists can integrate research and practice in school-based consultation and partner with parents and educators to meet the individual needs of students with challenging disabilities. The primary aim was to illustrate procedures by which CBC can be used to structure and deliver an evidence-based intervention for a student with Asperger syndrome in actual school practice. Application of the CBC model was informed by the strong empirical foundation for parent involvement and applied research indicating the importance of the family-school mesosystem when intervening with children's academic and behavioural problems. A treatment package consisting of CBC and self-management was implemented in the mainstream classroom to address the student's challenging (off-task and non-compliant) behaviour. Observational ratings of classroom behaviour and empirically-based measures of externalising behaviour served as outcome measures. Assessment of social validity included participants' subjective evaluations of the acceptability and effectiveness of the CBC/self-management intervention.

Method

Participants

The student in this case study was Alan (pseudonym), a 9-year old Caucasian boy diagnosed with Asperger syndrome and attention-deficit/hyperactivity disorder. His educational history included long-standing difficulties in the areas of social interaction, attention and impulse control and aggression. Alan was described as highly argumentative, resistant, immature and not well-accepted by other children. He also demonstrated difficulty in the areas of appropriateness of response, task persistence, attending and topic maintenance. Although capable in many academic areas, Alan's off-task and non-compliant behaviour significantly interfered with his learning and adjustment. A review of pertinent evaluative information indicated average cognitive ability and normal language function. Academic achievement was not considered

significantly discrepant from measured intellectual ability. Among Alan's strengths were his well-developed visualisation skills and memory for facts and details. He also demonstrated a strong desire for structure, rules and order.

Alan was fully included in his mainstream fourth-grade classroom with one teacher and 27 classmates in a suburban intermediate school with an enrolment of 944 students. He received no direct special educational services outside this general education setting. Problematic behaviours reported by his parent and classroom teacher included frequent off-task behaviour, arguing with adults and peers, temper tantrums, and non-compliance with home/classroom rules. Few children wanted to play, sit or work with Alan owing to his frequent intrusive and disruptive behaviour. Cross-informant (parent and teacher) behaviour ratings on the Achenbach System of Empirically Based Assessment (ASEBA: Achenbach & Rescorla, 2001) included significant endorsements such as "Argues a lot; doesn't get along with other students; can't concentrate, pay attention; disrupts class discipline; defiant; impulsive, acts without thinking; demands a lot of attention; disobedient at home". Alan's case was referred for consultation to assist with the development, implementation and monitoring of an intervention plan to reduce his challenging classroom behaviour, as he was in danger of being excluded from his mainstream placement. He participated in a daily medication regimen (Adderall) prior to consultation to address his attention deficit and maintained this treatment schedule throughout all phases of consultation and intervention. Alan's mother and fourth-grade teacher, an educator with 17 years of classroom experience, served as joint consultees. The consultant (author) was a school psychologist with credentials and experience in behavioural assessment and consultation.

Consultation Process

The consultation process consisted of problem identification (PI), problem analysis (PA), treatment (plan) implementation (TI), treatment monitoring (TM) and treatment (plan) evaluation (TE), made operational by four structured interviews. The stages of CBC were implemented via standardised protocols detailing specific objectives and procedures of the model (see Sheridan et al., 1996). The consultant developed the treatment monitoring (TM) stage to enhance fidelity to the intervention plan. Figure 1 depicts the conceptual framework of the CBC model used to engage parents and teachers in the problem-solving process (Sheridan & Kratochwill, 1997).

Prior to beginning the consultation process, the consultant held meetings with parent and teacher consultees to (a) establish rapport, (b) share information about the goals and procedures of CBC, and (c) discuss roles and responsibilities. All consultation interviews were conducted in the school's conference room on mutually convenient dates and times. Alan's parent and teacher fully participated in each consultative interview session, which ranged from approximately 45 to 60 minutes in length. All consultation stages were implemented over a six-week time period.

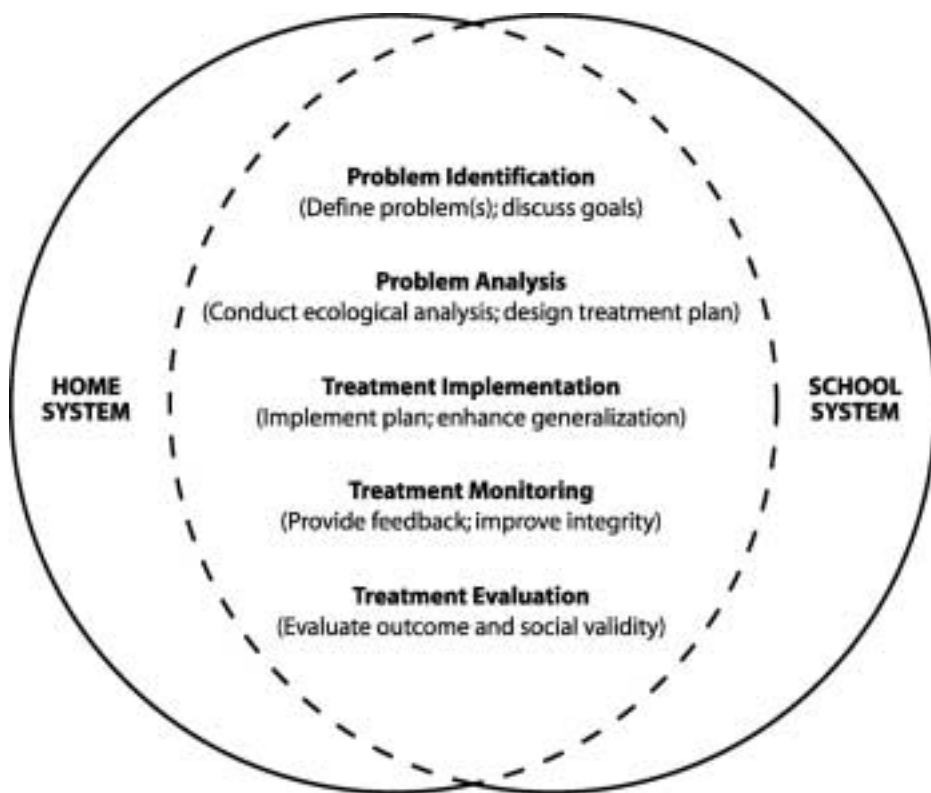


Figure 1. Framework for conjoint behavioural consultation

Note. Adapted from Sheridan, S. M. (1993). Models for working with parents. In J. E. Zins, T. R. Kratochwill & S. N. Elliott (Eds.) *Handbook of consultation services for children: applications in educational and clinical settings* (p. 118). San Francisco, CA: Jossey-Bass. Copyright 1993 by Jossey-Bass Inc. Publishers. Adapted with permission

Problem identification. A conjoint problem identification interview (CPII) was conducted to initiate consultation services, specify the target behaviour and discuss data collection procedures. In accordance with the CBC model, the consultant worked with consultees to operationally define target behaviours. Alan's teacher described challenging behaviour such as problems regulating attention, talking out and interrupting the teacher, leaving his seat without permission, bothering other children, arguing with adults and peers and being non-compliant. Alan's parent also reported that Alan was experiencing difficulty attending and completing tasks at home and that he was often argumentative and non-compliant with parental requests and directives. The consultation team identified off-task behaviour and non-compliance with teacher requests/classroom rules as the behaviours targeted for treatment. Off-task behaviour was operationally defined as behaviours where the student, after initiating the appropriate task-relevant behaviour, attends to stimuli other than the assigned work. Non-compliance was operationally defined as a failure on the part of the student to initiate appropriate behaviour in response to a teacher request, peer interaction or classroom

rule. Alan's teacher agreed to use an observational rating scale to obtain a repeated measure of his challenging classroom behaviour during the consultation process.

Problem analysis. A conjoint problem analysis interview (CPAI) was conducted following a baseline condition of five observation sessions. During this stage of consultation, the consultant and consultees analysed the baseline data, agreed upon a goal for behaviour change and discussed implementation of a behaviour intervention plan. Parent and teacher were afforded an opportunity to discuss (a) shared goals and objectives, (b) available resources and supports, (c) the characteristics of students with Asperger syndrome, and (e) effective and ineffective adult responses to these characteristics (Kunce, 2003; Safran & Safran, 2001). Analysis of anecdotal information and observational data indicated that Alan's high level of off-task and non-compliant behaviour was stable across time and that he was most likely to demonstrate this challenging behaviour during morning independent work and small-group instructional activities. Consistent with the scientist-practitioner approach to practice, the research literature was consulted to determine the efficacy of potential interventions before an implementation decision was made. This is in keeping with the behavioural consultation model in which the consultant shares his or her expert knowledge of psychology and education and actively guides the problem-solving process while providing ample opportunity for consultee participation (Bramlett & Murphy, 1998; Kratochwill & Bergan, 1990). Following a review of Alan's strengths and weaknesses and the closeness of match between home and school ecosystems, several possible intervention strategies were considered by the consultation team. A self-management intervention comprised of self-monitoring, goal-setting, and contingency reinforcement was selected and agreed to by all parties. This treatment plan was considered cost-effective, ecologically less intrusive than traditional contingency management approaches, and capitalised on Alan's strong memory and visualisation skills. The shared objective was to reduce his off-task and non-compliant behaviour by applying self-monitoring procedures in the classroom and reinforcement across home and school settings. Parent and teacher were informed of the importance of maintaining home-school communication and consistency across settings in reinforcing appropriate classroom behaviour. They were also encouraged to involve Alan in the selection of incentives and to develop a reinforcement menu to ensure that he received positive reinforcement in school and at home.

Behavioural intervention plan. One of the salient characteristics of students with Asperger syndrome is an absence or a poorly developed set of self-management skills (Jordan, 2003). This includes difficulty directing, controlling, inhibiting or monitoring and generalising behaviours required for social adjustment both in and outside the classroom. Because most students with Asperger syndrome do not internalise social rules, their behaviour is often intrusive and disruptive. Self-management interventions have been increasingly recommended to address the needs of students who demonstrate difficulty acquiring and using self-regulation skills. They have strong

empirical support and have been implemented successfully with a variety of learning and behaviour problems in school, at home and in the community (Cole & Bambara, 2000; Cowan & Sheridan, 2003; Hoff & DuPaul, 1998; McDougall, 1998; Todd, Horner, & Sugai, 1999). For example, self-management strategies and parent involvement have been identified as effective and emerging intervention practices for children on the autism spectrum (Odom, Brown, Frey, Karasu, Smith-Canter, & Strain, 2003). Because of their emphasis on promoting behavioural independence and responsibility in the classroom, self-management procedures are considered viable alternatives to traditional external behaviour management approaches for students with challenging disabilities (Callahan & Rademacher, 1999).

The agreed-upon self-management strategy was delivered to Alan in his classroom during the *treatment (plan) implementation* (TI) stage of consultation. The intervention consisted of two primary components: (a) self-assessment and (b) self-recording. Self-assessment involved the covert questioning of behaviour (e.g. Was I paying attention?) and self-recording the overt documentation of the response to the self-assessment question on a recording form. Alan was told "self-management means accepting responsibility for managing and controlling your own behaviour so that you can accomplish the things you want at school and home". He was also given an example of the target behaviours to be self-monitored. For example, "on-task" behaviour was defined as (a) seated at own desk, (b) work materials on desk, (c) eyes on teacher, board, or work, and (d) reading or working on an assignment. "Compliant" was defined as following classroom rules by (a) asking relevant questions of teacher and neighbour, (b) raising hand and waiting turn before responding, (c) interacting appropriately with other students, and (d) following adult requests/instructions. Following two days of practice, Alan self-monitored his behaviour on a daily basis. A self-recording checklist was taped to the upper right-hand corner of his desk. Because he was the only student who was self-monitoring in the class and other students might be disturbed by an auditory cue, the teacher physically cued Alan to self-monitor by tapping the corner of his desk, on average, every 10 minutes during independent and small-group instruction (Cole, Marder, & McCann, 2000; Shapiro, Durnan, Post, & Skibitsky Levinson, 2002). When cued, Alan covertly asked himself "Was I on-task?" and "Was I following directions/classroom rules?" He then marked the self-recording sheet with a "plus" (yes) or "minus" (no), indicating his response to the self-assessment questions regarding the target behaviours. Alan and his teacher held a brief meeting each afternoon to compare ratings, determine whether the behavioural goals were met for that day and sign the self-recording checklist. Alan was praised for accurate recording during the daily review meetings and for his cooperation in completing the self-monitoring form. When 80% of his daily behavioural goals were met, Alan could make a selection from a group of incentives such as additional computer-game time and access to a preferred game or activity before school dismissal. The self-recording checklist was then sent home for parent signature, so his parent(s) could review his behaviour and provide a reward (e.g. access to his hand-held computer game) contingent upon meeting his behavioural goals. The signed checklist was returned to the teacher the next day to ensure ongoing

home-school communication. The intervention plan was implemented for 15 school days after which the self-monitoring procedure was faded by increasing the intervals between cues. The goal was eventually to have Alan self-monitor independently.

Treatment monitoring. A conjoint treatment monitoring interview (CTMI) was completed during the treatment implementation stage of consultation to enhance fidelity to the behavioural intervention plan (treatment integrity). The consultant met with consultees to (a) review Alan's behavioural progress, (b) provide performance feedback, (c) determine whether the self-monitoring steps were completed, (d) examine permanent products such as self-monitoring forms and home-school notes, and (e) offer encouragement and praise for accurate implementation of the intervention (Noell, Duhon, Gatti, & Connell, 2002).

Treatment (plan) evaluation. The treatment evaluation interview (CTEI) was initiated at the conclusion of the treatment implementation stage to determine whether the intervention plan was effective. A judgement of the congruence between consultation objectives and performance was based on an evaluation of the data collected during the baseline and treatment stages of CBC. Alan's parent and teacher were asked whether consultation services should be kept in place, modified or terminated. Ratings of student behaviour, consultant effectiveness and treatment acceptability were also completed at this time. Because consultees were generally satisfied with the improvement in Alan's behaviour, the self-monitoring intervention plan was faded. Parent and teacher agreed to continue their home-school communication via a daily report of Alan's classroom behaviour. Observational ratings were conducted approximately four weeks following the final consultation session to assess the maintenance of treatment effects.

Measurement

Observational ratings. An observational rating scale was used to provide a repeated measure of Alan's target behaviour. The highly complex, time-consuming and intensive nature of traditional direct observational methods made their use impractical in this naturalistic field study. Observational ratings recording methods provide a solution to the dilemma of balancing the need for an accurate and reliable measure of behaviour with the demands of time, resources and expertise available to the classroom teacher (Abidin & Robinson, 2002; Steege, Davin, & Hathaway, 2001).

Alan's teacher rated her overall perception of his disruptive behaviour two or three times weekly following 50-minute instructional periods which included both independent learning activities and small-group instruction. This schedule reduced the time demands on the teacher but still provided a reasonable sample of Alan's behaviour with which to evaluate the intervention. The target behaviours of off-task behaviour and non-compliant behaviour were aggregated under the global category of "disruptive off-task behaviour". Observational ratings were made on a 9-point

Likert-type rating scale with 1 indicating a high occurrence of disruptive behaviour and 9 indicating a low rate of disruptive behaviour occurrence (1 to 3 = poor; 4 to 6 = needs improvement; 7 to 9 = good). Prior to data collection, Alan's teacher was trained didactically to (a) observe Alan and identify target behaviours, (b) review the Likert scale, and (c) practise observing and recording the corresponding numerical rating on the observational rating form. The consultant served as secondary observer and independently rated Alan's behaviour during the training sessions until inter-observer agreement reached 80%. Behavioural ratings were collected throughout all stages of CBC (baseline, treatment and follow-up) and used as time series data to assess the effectiveness of the intervention plan.

Behavioural Checklists

The Child Behaviour Checklist for Ages 6–18 (CBCL/6–18; Achenbach & Rescorla, 2001) and the Teacher's Report Form (TRF; Achenbach & Rescorla, 2001) of the ASEBA are among the most frequently used empirically based instruments for quantifying children's internalising problems such as anxiety and depression and externalising problems such as aggression and non-compliance. They were completed by Alan's parent and teacher prior to the initiation of CBC and at the time of consultation termination. Raw scores and normalised *T*-scores were obtained for the Social Problems, Attention Problems and Aggressive Behaviour syndrome scales, and the broad-based Externalising scale. Scores were classified as "clinically significant" versus "normal" according to the borderline clinical cut points that extend from the 93rd to the 97th percentile (*T*-scores from 65 to 69) for the syndrome scales and the 84th to the 90th percentile (*T*-scores from 60 to 63) for the externalising scale. Alan's Social Problems, Attention Problems, Aggressive Behaviour, and Externalising behaviour scores were all within the borderline clinical range prior to consultation, indicating significantly more behaviour problems than are typically reported by parents and teachers of boys his age.

Treatment Acceptability

Consultees' perceptions of the acceptability and effectiveness of CBC were assessed via an adaptation of the Behaviour Intervention Rating Scale (BIRS; Von Brock & Elliott, 1987). The BIRS has been used to document social validity outcomes in a number of conjoint behavioural consultation studies involving parents and teachers (Cowan & Sheridan, 2003; Finn & Sladeczek, 2001). The BIRS acceptability factor is comprised of 15 items scored on a six-choice Likert scale ranging from "strongly disagree" to "strongly agree". The BIRS effectiveness factor is comprised of seven items and provides a measure of perceived consultation effectiveness. Consultees completed the BIRS following the CBC treatment evaluation interview (CTEI). Alan's perceived acceptability of the self-monitoring intervention was assessed with the Children's Intervention Rating Scale (CIRP; Witt & Elliott, 1985). The CIRP is a reliable instrument that has been used in field-based consultation research to

collect data on students' perception of intervention acceptability (Cowan & Sheridan, 2003; Wilkinson, 2003). Alan responded to seven items pertaining to fairness and acceptability on a 6-choice Likert scale ranging from "I agree" to "I disagree" (e.g. "The method used to deal with my behaviour problem was fair", "The method used by the teacher would be a good one to use with other students"). The CIRP was completed following the CTEI and administered in an interview rather than a pencil-and-paper format.

Consultant Effectiveness

The Consultation Evaluation Form (CEF; Erchul, 1987) was used to assess consultees' satisfaction with the consultant and CBC services. The CEF is considered a reliable measure that has been used in school-based consultation research (Sheridan et al., 2001; Wilkinson, 2003). Alan's parent and teacher responded to a seven-choice Likert scale ranging from "strongly disagree" to "strongly agree" on 12 items assessing the degree to which consultees found the consultant helpful and effective (e.g. "The consultant offered useful information", "The consultant helped me find alternative solutions to problems").

Results

Observational Ratings

Figure 2 graphically displays the observational rating data for Alan across baseline, treatment and follow-up conditions. Visual analysis indicates a stable non-ascending baseline trend and an immediate, distinguishable improvement in behavioural control associated with implementation of the self-monitoring intervention plan. There were no overlapping data points between baseline and treatment conditions. The mean teacher rating of disruptive behaviour was 3.80 ($SD = 0.83$) during baseline and improved to 6.42 ($SD = 0.53$) with implementation of the behavioural intervention plan. This represents a significant (69%) increase in on-task and compliant behaviour from baseline to treatment. The observational rating data collected at a 4-week follow-up reflects maintenance of positive treatment effects following consultation, average behaviour control remaining 64% above the baseline phase.

Behavioural Checklists

Normative comparisons of ratings on the TRF and CBCL indicated a substantial improvement in Alan's home and school behaviour from pre-treatment to post-treatment. As indicated in Table 1, Alan's T -scores on the TRF social problems, Attention Problems and Aggressive Behaviour syndrome scales fell from the borderline clinical range to the normal range ($T < 65$) of functioning. The relatively high peak on the broad-based Externalising problem behaviour scale also decreased to the

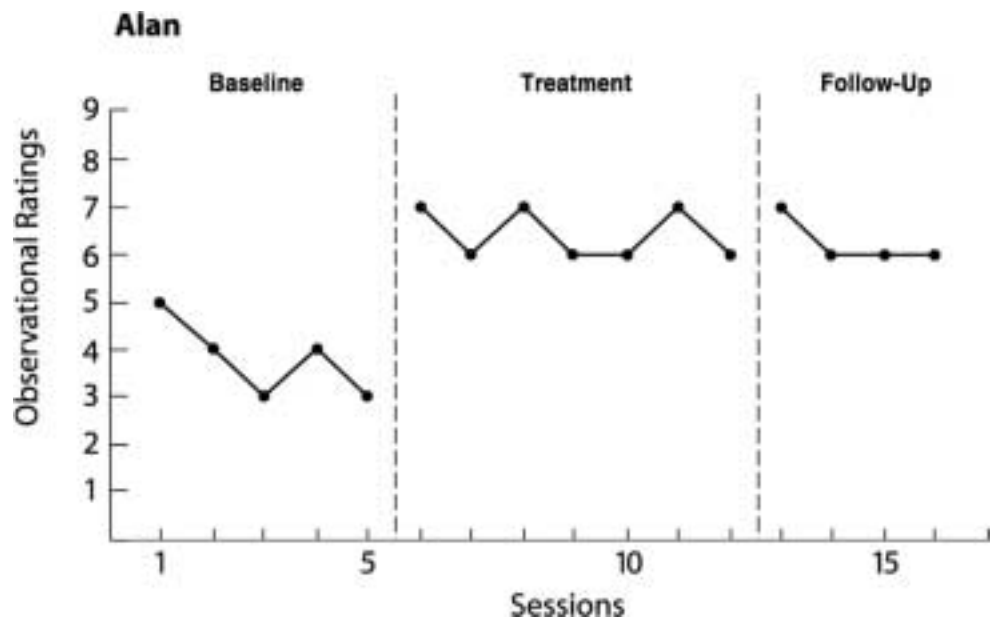


Figure 2. Behaviour ratings across consultation phases

same normative level ($T < 60$) as non-referred peers. Likewise, there was a marked reduction in problem behaviour reported at home. Normal T -scores were obtained on the CBCL Attention Problems, Aggressive Behaviour and Externalising problem scales following consultation. Although improvement was noted on the Social Problems syndrome scale, Alan's T -score remained in the borderline clinical range following treatment.

Ratings of Acceptability and Effectiveness

The consultees' perceived acceptability of CBC was assessed on the BIRS. Alan's parent and teacher reported that the consultation procedures were highly acceptable (mean acceptability factor item scores of 5.87 and 4.93 on a 6-point Likert scale,

Table 1. Pre-treatment (Pre) and post-treatment (Post) scores on the TRF and CBCL

	TRF		CBCL	
	Pre	Post	Pre	Post
Soc	65	56 *	73	67
Attn	65	57 *	67	59 *
Agg	66	59 *	66	59 *
Ext	64	58 *	63	59 *

Note. Soc = Social Problems; Attn = Attention Problems; Agg = Aggressive Behaviour; Ext = Externalising Behaviour. * Denotes a clinically important change between pre- and post-treatment.

respectively). They strongly agreed to items such as “Consultation was an acceptable intervention for the child’s problem behaviour”, “Consultation was a fair way to handle the problem behaviour”, “Most parents and teachers would find consultation appropriate for other behaviour problems”, and “I would be willing to use consultation again”.

Perception of consultation outcome was measured on the effectiveness factor of the BIRS. Alan’s parent and teacher both reported mean ratings of 5.29, reflecting a high level of perceived consultation effectiveness. Consultees rated as highly effective items such as “Consultation should produce a lasting improvement in behaviour”, “The child’s behaviour should remain at an improved level”, and “Other behaviours are also likely to be improved by consultation”. Alan’s acceptability of the consultation treatment plan was evaluated with the CIRP. His responses suggested that the self-monitoring intervention was generally acceptable (3.86 on a six-point Likert scale). He strongly agreed to items such as “The plan was fair”, “I liked the plan for my behaviour problems” and “I think the plan helped me to do better in school”.

Consultant Effectiveness

The CEF was administered to assess consultees’ perceptions of consultant effectiveness and consumer satisfaction. Alan’s parent and teacher reported a high level of perceived effectiveness and satisfaction with the consultant (mean item scores of 6.83 and 7.0 on a seven-point Likert scale, respectively). Consultees strongly agreed to items such as “The consultant was generally helpful”, “The consultant was a good listener”, “The consultant viewed his role as a collaborator rather than an expert”, and “The consultant helped identify useful resources”.

Treatment Integrity

A review of permanent products (e.g. self-monitoring checklists) was completed during the treatment monitoring interview (TMI) to assess the integrity with which consultees implemented the behavioural treatment plan. This included a daily checklist completed by Alan’s teacher to document fidelity to the steps of the self-monitoring intervention (e.g. cued student to self-monitor, gave incentive when earned, sent self-recording checklist home) and self-recording forms signed by both consultees. A decision was reached during the conjoint treatment evaluation interview (CTEI) regarding the overall level of treatment integrity. Consultees reported 90% adherence to the self-monitoring plan, indicating that treatment integrity was adequate.

Discussion

These findings suggest that CBC and self-monitoring was an acceptable, effective and practical method of providing behavioural support to a student with Asperger syndrome who was fully included in a mainstream classroom. Visual and descriptive

analyses indicated an immediate and distinguishable improvement in observational ratings (low occurrence) of Alan's challenging behaviour during implementation of the CBC/self-monitoring intervention and maintenance of positive treatment effects at a four-week follow-up. Consultees' perceptions of CBC were consistently positive as evidenced by their subjective ratings of effectiveness, acceptability and consultant satisfaction. Alan's parent and teacher expressed considerable satisfaction with the process (acceptability) and outcomes (effectiveness) of consultation. They consistently indicated a strong willingness to participate in CBC again and recommended the use of consultation to other parents and teachers. Alan's parent also socially validated the CBC/treatment plan by reporting concurrent improvement in her child's behaviour at home, thereby suggesting treatment effects across settings (Gresham & Noell, 1993). Anecdotal information collected during the study indicated that Alan's parent felt part of a "team" and that she welcomed the focus on solutions rather than problems. Alan's teacher reported that she was pleased with the shared problem-solving approach of CBC and felt that parental involvement and support played an important role in Alan's improved behavioural control. An important consideration is whether CBC and self-monitoring produced clinically important changes in Alan's behaviour across settings. According to the CBCL and TRF, Alan's levels of social difficulties in the classroom, inattention and off-task behaviour, aggression and non-compliance, and broad-based externalising behaviour problems moved to the normative range following consultation and were similar to neurotypical peers. The reduction in teacher-reported aggressive behaviour is especially important in that the TRF Aggressive behaviour syndrome scale has been found to be a strong predictor of emotional and behavioural disorder (EBD) and special-class placement (McConaughy, Mattison, & Peterson, 1994; Nelson, Babyak, Gonzalez, & Benner, 2003). Moreover, longitudinal research has found that decreases on the TRF Externalising and Aggressive behaviour scales are associated with positive outcomes, such as a lessening of aggression, improvements in general classroom functioning and decreases in restrictive educational programming (Mattison & Spitznagel, 2002). The reduction in reported attention problems is also notable in that a high proportion of students with AS present with a coexisting diagnosis of attention-deficit/hyperactivity disorder (ADHD) (Ghaziuddin, 2002; Tantam, 2003).

Limitations and Future Research

Although the present case study offers encouraging evidence of the effectiveness of CBC and self-monitoring, several limitations warrant caution when interpreting the results. As a result, the findings should be considered exploratory at this time. An obvious limitation is the participation of only one student who had been diagnosed with Asperger syndrome. Generalisation of these findings to other students with high functioning autism spectrum disorder requires replication. A second limitation involves the reliability and validity of observational ratings by Alan's teacher. Although inter-observer data was collected prior to consultation, objective behavioural observations and reliability indices were not completed during the consultation

process. Independent observations and direct observational methods such as interval recording or momentary time sampling may have produced a more precise measure of behaviour. Practical constraints typically associated with school-based research also limited the number of observation sessions that could be completed during baseline and treatment conditions. A related limitation is the lack of direct or independent observations of Alan's behaviour in the home setting. As a result, there is no way of knowing to what extent the intervention had an effect on behaviour across settings. Another shortcoming involves the use of the case study (A–B) design. Although shown to be a valid and useful approach for integrating the scientist–practitioner roles in educational/school psychology practice, it does not control for threats to internal validity. A more rigorous design such as the multiple-baseline or alternating treatment design is needed to make assumptions about the functional relationship between the intervention and behaviour change.

The findings obtained in this case study offer several areas for future research and practice. Importantly, the aforementioned methodological limitations require attention in order to increase the robustness of the research design. Future research methodology might also apply qualitative procedures to enhance our understanding of how relationship factors contribute to consultation effectiveness. The conjoint treatment monitoring stage (TM) implemented in this study represents a significant modification to the CBC model. Further examination is required to determine its effectiveness in enhancing treatment integrity. The independent variable in this study was conceptualised as a treatment package comprised of CBC and self-monitoring. Neither can be identified in isolation as producing the behavioural change. A component analysis should be completed to determine the differential effects of CBC and self-monitoring on treatment outcomes. Future research might also link CBC and self-management strategies to functional behaviour analysis. For example, functional assessment may be used to understand problem behaviour in context and select specific behaviours that can become target behaviours for self-management (Smith & Sugai, 2000). Efforts should also be made to investigate the effectiveness of self-management interventions in home and community contexts. Lastly, future consultation studies should include parent and teacher outcome measures in addition to traditional student outcome measures to assess gains for consultees.

Implications for Practice

Psychologists are in a pivotal position to function as liaisons between home and school systems and facilitate problem-solving when partnering for the individual needs of children (Sheridan & Gutkin, 2000). We have a responsibility to forge meaningful connections and relationships with families and must learn to think “systemically” in order to improve the learning and behaviour outcomes for children and youth (Christenson, 2004; Sheridan & Gutkin, 2000; Wagner, 2000). This case study illustrates systematic procedures by which practitioners can utilise the CBC model to combine resources across home and school, bridge the research-to-practice gap, foster a collaborative process with parents and teachers during the inclusion

process, reduce their sense of isolation and deliver high-quality consultative services to all stakeholders. Moreover, the CBC service delivery paradigm used in this study is congruent with recent legislative initiatives and policies in the UK and US mandating intervention-oriented practices and meaningful parental participation in their children's education (Hymer, Michel, & Todd, 2002; Miller & Black, 2001; Christenson, 2004; Sheridan & Gutkin, 2000).

A further implication involves the shift to an "intervene-evaluate" approach to practice exemplified by the present case study. This example of the scientist-practitioner approach allows the psychologist to play a critical role in identifying and disseminating behaviour interventions with demonstrated effectiveness. What we learn from individual case evaluation in real-life contexts can be used to inform research, improve the generalisations of our interventions, and help develop collaborative solutions to children's problems (Kratochwill & Stoiber, 2000).

An important implication of this case study involves the effectiveness of self-monitoring as a behaviour management tool. Many children with Asperger syndrome do not respond well to typical "top down" or traditional external manipulation of antecedents and consequences. Self-management strategies provide students with an opportunity to participate in the development and implementation of their management programme, an important consideration for students with Asperger syndrome and a useful step towards self-control (Klin & Volkmar, 2000; Myles & Simpson, 2001; Jordan, 2003). Shifting the responsibility for managing specified behaviours from teachers and other external sources to the student is compatible with the characteristics of Asperger syndrome in which locus of control and structure are highly valued (Simpson & Myles, 1998). Self-management is also considered a pivotal skill that might facilitate the generalisation of adaptive behaviour, promote independence, and produce broad behavioural improvements across home and school settings for children with autism spectrum disorders (Koegel, Koegel, & Carter, 1999). Moreover, self-management procedures can be easily learned by both students and teachers and systematically implemented in the classroom. The feasibility and effectiveness of CBC and self-management demonstrated here suggests that this intervention technique might be utilised as an effective component of a multimodal treatment package for increasing the inclusion of students with challenging behaviours in mainstream classrooms.

Conclusion

Supporting students with Asperger syndrome in mainstream settings presents a significant challenge to educators and families. Although the needs of children with autism spectrum disorders are complex, they can be accommodated in mainstream placements if provided with the appropriate supports (Jordan, 2003). This case study contains many of the components of positive behaviour support, such as a commitment to the collaborative problem-solving process, parent education and involvement and the use of empirically supported treatments. It furthers the agenda of integrating evidence-based interventions in practice and provides direction for

more controlled investigations of the CBC model with high functioning students on the autism spectrum. As the prevalence of Asperger syndrome increases, parents and educators will become more concerned with the need to implement appropriate behavioural supports at home and in the classroom. In the absence of large-scale efficacy studies, we must rely on a combination of professional judgement, careful evaluation of individual student progress, consultation and collaboration with parents and teachers, and case study data to make decisions regarding intervention strategies (Kunce, 2003; Safran, 2001). In this regard, the use of CBC and self-monitoring outlined in this case study appears to be a promising paradigm for use by psychologists in facilitating the inclusion of students with challenging disabilities such as Asperger syndrome in mainstream classrooms.

References

- Abidin, R. R., & Robinson, L. L. (2002). Stress, biases, or professionalism: What drives teachers' referral judgments of students with challenging behaviours? *Journal of Emotional and Behavioural Disorders*, 10, 204–212.
- Achenbach, T. M., & Rescorla, L. A. (2001). *Manual for the ASEBA School-Age Form & Profiles*. Burlington, VT: University of Vermont, Research Centre for Children, Youth, and Families.
- Adreon, D., & Stella, J. (2001). Transition to middle and high school: Increasing the success of students with Asperger syndrome. *Intervention in School and Clinic*, 36, 266–271.
- American Psychiatric Association. (2000). *Diagnostic and Statistical Manual of Mental Disorders* (4th edn, text rev.) Washington, DC: Author.
- Barnhill, G. P. (2001). What is Asperger syndrome? *Intervention in School and Clinic*, 36, 258–264.
- Bramlett, R. K., & Murphy, J. J. (1998). School psychology perspectives on consultation: Key contributions to the field. *Journal of Educational and Psychological Consultation*, 9, 29–55.
- Callahan, K., & Rademacher, J. A. (1999). Using self-management strategies to increase the on-task behaviour of a student with autism. *Journal of Positive Behaviour Interventions*, 1, 117–122.
- Christenson, S. L. (1995). Best practices in supporting home–school collaboration. In A. Thomas & J. Grimes (Eds.), *Best practices in school psychology III* (pp. 253–267). Washington, DC: National Association of School Psychologists.
- Christenson, S. L. (2004). The family–school partnership: An opportunity to promote the learning competence of all students. *School Psychology Review*, 33, 83–104.
- Christenson, S. L., Rounds, T., & Franklin, M. J. (1992). Home–school collaboration: Efforts, issues, and opportunities. In S. L. Christenson & J. C. Conoley (Eds.), *Home–school collaboration: Enhancing children's academic and social competence*. Silver Spring, MD: National Association of School Psychologists.
- Christenson, S. L., & Sheridan, S. M. (2001). *Schools and families: Creating essential connections for learning*. New York: Guilford Press.
- Clark, D., & Fiedler, C. R. (2003). Building family–school relationships during the assessment and intervention process. In M. J. Breen, & C. R. Fiedler (Eds.), *Behavioural approach to assessment of youth with emotional/behavioural disorders* (pp. 561–585). Austin, TX: Pro-Ed.
- Cole, C. L., & Bambara, L. M. (2000). Self-monitoring: Theory and practice. In E. S. Shapiro, & T. R. Kratochwill (Eds.), *Behavioural assessment in schools: Theory, research, and clinical foundations* (2nd edn) (pp. 202–232). New York: Guilford.
- Cole, C. L., Marder, T., & McCann, L. (2000). Self-monitoring. In E. S. Shapiro & T. R. Kratochwill (Eds.), *Conducting school-based assessments of child and adolescent behaviour* (pp. 121–149). New York: Guilford.

- Colton, D. L., & Sheridan, S. M. (1998). Conjoint behavioural consultation and social skills training: Enhancing the play behaviours of boys with attention deficit hyperactivity disorder. *Journal of Educational and Psychological Consultation*, 9, 3–28.
- Cowan, R. J., & Sheridan, S. M. (2003). Investigating the acceptability of behavioural interventions in applied conjoint behavioural consultation: Moving from analogue conditions to naturalistic conditions. *School Psychology Quarterly*, 18, 1–21.
- Dennis, R. (2004). So far so good? A qualitative case study exploring the implementation of consultation in schools. *Educational Psychology in Practice*, 20, 17–29.
- Erchul, W. P. (1987). Relational communication analysis of control in school consultation. *Professional School Psychology*, 2, 113–124.
- Finn, C. A., & Sladeczek, I. E. (2001). Assessing the social validity of behavioural interventions: A review of treatment acceptability measures. *School Psychology Quarterly*, 16, 176–206.
- Freer, P., & Watson, T. S. (1999). A comparison of parent and teacher acceptability ratings of behavioural and conjoint behavioural consultation. *School Psychology Review*, 28, 672–684.
- Galloway, J., & Sheridan, S. M. (1994). Implementing scientific practices through case studies: Examples using home-school interventions and consultation. *Journal of School Psychology*, 32, 385–413.
- Ghaziuddin, M. (2002). Asperger syndrome: Associated psychiatric and medical conditions. *Focus on Autism and Other Developmental Disabilities*, 17, 138–143.
- Greenwood, G. E., & Hickman, C. W. (1991). Research and practice in parent involvement: Implications for teacher education. *The Elementary School Journal*, 91, 279–288.
- Gresham, F. M., & Noell, G. H. (1993). Documenting the effectiveness of consultation outcomes. In J. E. Zins, T. R. Kratochwill, & S. N. Elliott (Eds.), *Handbook of consultation services for children: Applications in educational and clinical settings* (pp. 249–273). San Francisco, CA: Jossey-Bass.
- Gutkin, T. B. (1996). Core elements of consultation service delivery for special service Personnel: Rationale, practice, and some directions for the future. *Remedial and Special Education*, 17, 333–340.
- Gutkin, T. B., & Curtis, M. J. (1999). School-based consultation theory and practice: The art and science of indirect service delivery. In C. R. Reynolds, & T. B. Gutkin (Eds.), *The handbook of school psychology* (3rd edn) (pp. 598–637). New York: Wiley.
- Hoff, K. E., & DuPaul, G. J. (1998). Reducing disruptive behaviour in general education classrooms: The use of self-management strategies. *School Psychology Review*, 27, 290–303.
- Hymer, B., Michel, D., & Todd, L. (2002). Dynamic consultation: Towards process and challenge. *Educational Psychology in Practice*, 18, 47–62.
- Jordan, R. (2003). School-based intervention for children with specific learning difficulties. In M. Prior (Ed.), *Learning and behaviour problems in Asperger syndrome* (pp. 212–243). New York: Guilford Press.
- Klin, A., & Volkmar, F. R. (2000). Treatment and intervention guidelines for individuals with Asperger syndrome. In A. Klin, F. R. Volkmar, & S. S. Sparrow (Eds.), *Asperger syndrome* (pp. 340–366). New York: Guilford Press.
- Koegel, R. L., Koegel, L. K., & Carter, C. M. (1999). Pivotal teaching interactions for children with autism. *School Psychology Review*, 28, 576–594.
- Kratochwill, T. R., & Bergan, J. R. (1990). *Behavioural consultation in applied settings: An individual guide*. New York: Plenum.
- Kratochwill, T. R., & Stoiber, K. C. (2000). Uncovering critical research agenda for school Psychology: Conceptual dimensions and future directions. *School Psychology Review*, 29, 591–603.
- Kunce, L. (2003). The ideal classroom. In M. Prior (Ed.), *Learning and behaviour problems in Asperger syndrome* (pp. 244–268). New York: Guilford Press.
- Larney, R. (2003). School-based consultation in the United Kingdom. *School Psychology International*, 24, 5–19.

- Mattison, R. E., & Spitznagel, E. L. (2001). Longitudinal use of the Teacher's Report Form in tracking outcome for students with SED. *Journal of Emotional and Behavioural Disorders*, 9, 86-93.
- McConaughy, S. H., Mattison, R. E., & Peterson, R. L. (1994). Behavioural/emotional problems of children with serious emotional disturbances and learning disabilities. *School Psychology Review*, 23, 81-98.
- McDougall, D. (1998). Research on self-management techniques used by students with disabilities in general education settings. *Remedial and Special Education*, 19, 310-321.
- Miller, A., & Black, L. (2001). Does support for home-school behaviour plans exist within teacher and pupil cultures? *Educational Psychology in Practice*, 17, 245-261.
- Myles, B. S., & Simpson, R. L. (2001). *Asperger syndrome: A guide for educators and parents* (2nd edn). Austin, TX: Pro-Ed.
- Myles, B. S., & Simpson, R. L. (2002). Asperger syndrome: An overview of characteristics. *Focus on Autism and Other Developmental Disabilities*, 17, 132-137.
- Nelson, J. R., Babyak, A., Gonzalez, J., & Benner, G. J. (2003). An investigation of the types of problem behaviours exhibited by K-12 students with emotional and behavioural disorders in public school settings. *Behavioural Disorders*, 28, 348-359.
- Noell, G. H., Duhon, G. J., Gatti, S. L., & Connell, J. E. (2002). Consultation, follow-up, and implementation of behaviour management interventions in general education. *School Psychology Review*, 31, 217-234.
- Odom, S. L., Brown, W. H., Frey, T., Karasu, N., Smith-Canter, L. L., & Strain, P. S. (2003). Evidence-based practices for young children with autism: Contributions of single-subject design research. *Focus on Autism and Other Disabilities*, 18, 166-175.
- Safran, S. P. (2001). Asperger syndrome: The emerging challenge to special education. *Exceptional Children*, 67, 151-160.
- Safran, J. S., & Safran, S. P. (2001). School-based consultation for Asperger syndrome. *Journal of Educational and Psychological Consultation*, 12, 385-395.
- Shapiro, E. S., Durnan, S. L., Post, E. E., & Skibitsky Levinson, T. (2002). Self-monitoring procedures with children and adolescents. In M. A. Shinn, H. M. Walker, & G. Stoner (Eds.), *Interventions for academic and behaviour problems II: Preventive and remedial approaches* (pp. 433-454). Bethesda, MD: National Association of School Psychologists.
- Sheridan, S. N. (1997). Conceptual and empirical bases of conjoint behavioural consultation. *School Psychology Quarterly*, 12, 119-133.
- Sheridan, S. M., Eagle, J. W., Cowan, R. J., & Mickelson, W. (2001). The effects of conjoint behavioural consultation: Results of a 4-year investigation. *Journal of School Psychology*, 39, 361-385.
- Sheridan, S. M., & Gutkin, T. B. (2000). The ecology of school psychology: Examining and changing our paradigm for the 21st century. *School Psychology Review*, 29, 485-50
- Sheridan, S. M., Kratochwill, T. R., & Bergan, J. R. (1996). *Conjoint behavioural Consultation: A procedural manual*. New York: Plenum.
- Sheridan, S. M., Kratochwill, T. R., & Elliott, S. N. (1990). Behavioural consultation with parents and teachers: Delivering treatment for socially withdrawn children at home and school. *School Psychology Review*, 19, 33-52.
- Simpson, R. L., & Myles, B. S. (1998). Aggression among children and youth who have Asperger's syndrome: A different population requiring different strategies. *Preventing School Failure*, 42, 149-153
- Sheridan, S. M., Welch, M., & Orme, S. F. (1996). Is consultation effective? A review of outcome research. *Remedial and Special Education*, 17, 341-354.
- Smith, B. W., & Sugai, G. (2000). A self-management functional assessment based behaviour support plan for a middle school student with EBD. *Journal of Positive Behaviour Interventions*, 2, 208-217.
- Steege, M. W., Davin, T., & Hathaway, M. (2001). Reliability and accuracy of a performance based behavioural recording procedure. *School Psychology Review*, 30, 252-262.

- Tantam, D. (2003). Assessment and treatment of comorbid emotional and behaviour problems. In M. Prior (Ed.), *Learning and behaviour problems in Asperger syndrome* (pp. 148–174). New York: Guilford Press.
- Todd, A. W., Horner, R. H., & Sugai, G. (1999). Self-monitoring and self-recruited praise: Effects on problem behaviour, academic engagement, and work completion in a typical classroom. *Journal of Positive Behaviour Interventions*, 1, 66–76.
- Von Brock, M. B., & Elliott, S. N. (1987). The influence of treatment effectiveness information on the acceptability of classroom interventions. *Journal of School Psychology*, 25, 131–144.
- Wagner, P. (2000). Consultation: Developing a comprehensive approach to service delivery. *Educational Psychology in Practice*, 16, 9–18.
- Weiner, R., Sheridan, S. M., & Jensen, W. R. (1998). Effects of conjoint behavioural consultation and a structured homework program on math completion and accuracy in junior high students. *School Psychology Quarterly*, 13, 281–309.
- Wilkinson, L. A. (2003). Using behavioural consultation to reduce challenging behaviour in the classroom. *Preventing School Failure*, 47, 100–105.
- Wilkinson, L. A. (2005). An evaluation of conjoint behavioural consultation as a model for supporting students with emotional and behavioural difficulties in mainstream classrooms. *Emotional and Behavioural Difficulties*, 10, 119–136.
- Witt, J. C., & Elliott, S. N. (1985). Acceptability of classroom management strategies. In T. R. Kratochwill (Ed.), *Advances in school psychology* (Vol. 4, pp. 251–288). New Jersey: Erlbaum.

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