Monitoring treatment integrity: An alternative to the ‘consult and hope’ strategy in school-based behavioural consultation

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Monitoring Treatment Integrity

An Alternative to the ‘Consult and Hope’ Strategy in School-Based Behavioural Consultation

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ABSTRACT An international trend in school psychology services is a shift from an emphasis on assessment-based activities to a paradigm of consultation problem-solving and behavioural intervention. As the profession experiences an expansion of roles and functions, school psychologists should have an understanding of a critical aspect of behaviour change: treatment integrity (Gresham, 1989). Treatment integrity (or fidelity) refers to the extent to which an intervention is implemented as intended (or planned). This article describes the construct of treatment integrity as it relates to the implementation of consultation-derived behaviour intervention plans. Practical approaches for assessing and monitoring the integrity of treatments are presented. A treatment-monitoring interview (TMI) is proposed as an initial step towards developing a technology to assess and facilitate treatment integrity in school-based behavioural consultation practice. Limitations, implications for practice and future research directions are discussed.

KEY WORDS: behavioural consultation; intervention plans; performance feedback; self-reports; treatment integrity

Introduction
The role of consultation in the practice of school psychology is expected to expand significantly over the next decade. Consultation has become pivotal in contemporary school psychology reform in many countries and an important component in the shift from an emphasis on assessment-related activities to an ecological and problem solving paradigm.
of practice (Kratochwill and Stoiber, 2000; Sheridan and Gutkin, 2000). Numerous surveys both in the USA and internationally indicate that this indirect model of service delivery is one of the most valued professional activities of the school psychologist. Educators have also expressed a desire for practitioners to broaden their roles to include more school-based consultation and advisory work (Anthun, 1999; Farrell et al., 2005; Gilman and Gabriel, 2004; Kratochwill and Stoiber, 2000; Reschly, 2000; Watkins et al., 2001). Legislative initiatives such as the Individuals with Disabilities Education Reform Act (IDEA ’04) in the USA and the SEN Code of Practice in the UK promise to provide further impetus and support for the expansion of problem-solving consultation and intervention-oriented services by school psychologists in these countries.

**Behavioural consultation**

Decades of research have documented the efficacy of consultation as a model of service delivery for remediating a wide variety of children’s learning and behavioural problems in general education settings (Gutkin, 1996; Kratochwill and Stoiber, 2000). Of the several theoretical models available to practitioners (e.g. mental health, organizational and behavioural), **behavioural consultation** (BC; Kratochwill and Bergan, 1990) has been identified as the most popular amongst school psychologists both in the UK and USA (Erchul and Martens, 2002; Larney, 2003). The BC model has also received substantial empirical support in reviews, meta-analyses and case studies (e.g. Bramlett and Murphy, 1998; Kratochwill et al., 1995; Larney, 2003; MacLeod et al., 2001; Medway and Updyke, 1985; Sheridan et al., 1996; Wilkinson, 1997, 2003).

As traditionally articulated, BC involves indirect services wherein a consultant (e.g. school psychologist) works directly with a consultee (e.g. teacher, parent) as a means of producing change in a client (e.g. student) (Kratochwill and Bergan, 1990). The model is typically described as a four-stage problem-solving process (**problem identification, problem analysis, treatment (plan) implementation and treatment evaluation**) operationalized by three standardized interviews. During the **problem identification interview** (PII), the consultant and consultee define the problem behaviour in observable terms, identify important environmental conditions that influence behaviour and establish a method of data collection for evaluating the intervention. During the **problem analysis interview** (PAI), the consultant and consultee evaluate the baseline data, conduct an ecological analysis and develop an intervention plan to remediate the target problem. Consultation proceeds with the implementation of the treatment (intervention) plan. Although there are no formal interviews conducted during the
treatment implementation stage, the consultant uses brief contacts with the consultee(s) to monitor the intervention plan. Data collection continues as a source of information to document the effectiveness of the plan. Lastly, a treatment evaluation interview (TEI) is conducted to determine whether problem solution has been achieved. When the identified discrepancy between the existing and desired behaviour is substantially reduced or eliminated, the consultant and consultee decide on termination of the consultation process. A detailed description of the stages, objectives and procedures of BC can be found in Kratochwill and Bergan (1990).

Treatment integrity
Identifying an effective treatment is a necessary but insufficient condition for producing behaviour change (Wickstrom et al., 1998). The success of intervention plans is largely dependent on the extent to which a treatment is implemented as intended or planned by consultees (e.g. teachers) or what has been termed treatment integrity (Gresham, 1989; Truscott et al., 2003). Treatment integrity reflects the accuracy and consistency with which each component of the treatment or intervention plan is implemented. It is an important link between the use and effectiveness of interventions in school settings and one of the key aspects of scientific investigation (Elliott and Busse, 1993). Treatment plans implemented with poor integrity make it difficult to draw accurate inferences about the relationship between an intervention and behaviour change (Gutkin, 1993). In other words, a lack of treatment integrity information compromises our knowledge of what interventions (or components) are responsible for problem resolution or improvement. In many consultation cases, absent or weak treatment effects might be the result of the poor integrity of interventions, despite their demonstrated empirical support. According to Gresham (1989) ‘Many failures in consultation and interventions probably can be attributed to the fact that intervention plans are not implemented as intended’ (p. 137). Therefore, it is essential that treatment integrity information be collected when implementing consultation-derived interventions in order to distinguish between ineffective treatments and potentially effective interventions implemented with poor integrity (Gresham, 1989; Gutkin, 1993).

Treatment integrity in research and practice
Although the importance of treatment validity has been acknowledged in the literature, this construct has largely been ignored in research and practice (Erchul and Shulte, 1996; Lane et al., 2004; Witt et al., 1996). Relatively few intervention studies have monitored or systematically assessed treatment integrity (Gresham, 1989; Gresham, 2004).
For example only 20 percent of behavioural intervention studies published from 1968 to 1980 presented data concerning treatment integrity (Peterson et al., 1982). Likewise, 14.4 percent of school-based and 16 percent of child-based behavioural intervention studies published from 1980 to 1990 provided treatment integrity information (Gresham et al., 1993a, 1993b). Similarly, a recent survey of intervention articles published in three major learning disabilities journals found that only 18.5 percent of the studies measured and reported data on treatment integrity (Gresham et al., 2000).

Based on the extant research, it would seem that attention to treatment integrity is the exception rather than the rule (Gresham et al., 1993b). Moreover, there appears to be a ‘double standard’ in consultation research and practice. School psychologists are expected to give careful attention to the design and implementation of interventions, selection of outcome measures and the accuracy with which the outcome data are collected (e.g. inter-rater and inter-observer reliability) (Lane et al., 2004). On the other hand, the same consideration is not given to the implementation of school-based interventions (Gresham et al., 2000). Practitioners frequently assume that a consultee’s good intentions and verbal agreement will result in fidelity to their intervention plans. Research also suggests that in a majority of cases, school psychologists either fail to monitor plans or do not include an evaluation component in their consultation practice. When evaluations are conducted, informal teacher verbal reports tend to be the most common form of outcome measure (Bramlett et al., 2002).

It appears that treatment integrity is more often assumed rather than evaluated and empirically documented (Gresham, 1989). This reliance on a ‘consult and hope’ strategy (consult and hope the intervention is implemented with integrity) is troublesome in that it impedes our ability to establish functional relationships between treatments and outcomes (Erchul and Shulte, 1996; Gresham et al., 1993b). Without information regarding treatment integrity, consultants have little idea as to whether their intervention plans are effective (Gresham, 1989; Witt et al., 1997). Moreover, the failure to monitor and report fidelity data limits our efforts to replicate treatment effects. Clearly, establishing the integrity of treatments should be regarded as a critical aspect of consultation research and practice (Gresham, 1989).

**Purpose**

Whilst it seems logical that the behavioural consultation literature should pay more, not less attention to the assessment and reporting of treatment integrity data, this does not appear to be the case (Gutkin, 1993). In fact, the BC model addresses the issue of treatment integrity
in only a cursory manner (Witt et al., 1996). According to Erchul and Shulte (1996), BC fails to recognize the importance of this construct. Although brief contacts are made with the consultee during treatment implementation, the traditional BC model does not provide a structured method of monitoring treatment integrity (Kratochwill and Bergan, 1990). The primary purpose of this article is to describe an expansion of the traditional BC process that provides school-based consultants with a method of assessing and monitoring fidelity to intervention plans.

Monitoring treatment integrity

There are several methods school psychologists can use to document the extent to which behavioural interventions agreed upon during consultation are being implemented as intended by the change agent (e.g., teacher or parent). Although systematic observation is the most direct means of assessing treatment integrity, this procedure is vulnerable to reactivity effects and tends to be a labour intensive activity which is not always feasible given the time constraints and logistical problems encountered in ‘real world’ school settings (Wilczynski et al., 2000). There are, however, less direct methods that can be utilized by practitioners to monitor the integrity of treatment plans. They include: (a) consultee self-reporting; (b) permanent products; (c) behavioural interviews and (d) feedback from consultants (Lane et al., 2004).

Self-reports. Self-reports of treatment integrity involve having consultees report the extent to which they have implemented each component of the intervention scheme. Table 1 provides an example of how treatment integrity can be assessed using a self-report method. As shown, the teacher reported that five out of six self-management intervention components were implemented on Monday, Tuesday and Friday, resulting in a daily integrity rating of 83 percent; (b) two out of six components were applied on Wednesday and Thursday, indicating 33 percent integrity each day and (c) components one and two were implemented with 100 percent fidelity over the course of the week. Although self-reports can provide school psychologists with important treatment integrity data, not all interventions are well-suited to this assessment method. Moreover, this technique may overestimate the level of treatment fidelity and produce inaccurate reports (Gresham et al., 2000).

Permanent products. Permanent product assessment refers to a product that is generated as the result of an intervention and evaluated to determine the extent to which a corresponding component was implemented as intended (Lane et al., 2004). To illustrate, a permanent product could be used to monitor the treatment integrity of the intervention used in the previous self-report example (Table 1). In this
instance, treatment integrity would be assessed by examining the student’s self-monitoring recording form at the end of each day to determine fidelity to this intervention component. Another example might involve an intervention to increase academic productivity. Classroom worksheets or assignments would be collected and evaluated by the consultant to determine accuracy and the level of task completion. Permanent products have the advantage of being less time consuming, more efficient, less reactive and potentially more accurate than other assessment methods (Gresham et al., 2000; Lane et al., 2004).

Interview and performance feedback. Research indicates that a combination of treatment monitoring and performance feedback increases the level of treatment implementation and student behavioural outcomes (Jones et al., 1997; Mortenson and Witt, 1998; Noell et al., 1997; 2000; 2002; 2005; Witt, et al., 1997). Expanding the traditional BC model to include a structured treatment monitoring stage, rather than only brief informal contacts, might be an effective means by which to provide valuable performance feedback and supportive assistance to consultees. (Coddington et al., 2005; Knoff et al., 1995; Perez-Gonzalez et al., 2004; Wilkinson, in press).

Table 2 depicts the stages and objectives of the expanded BC model. The primary objective of the treatment monitoring interview (TMI) is to increase the strength of the treatment plan. A structured interview (see Appendix 1) is conducted with the consultee(s) to: (a) review the student’s behavioural progress; (b) identify barriers or obstacles to plan implementation and (c) determine the need for plan modification. A

### Table 1  Example of a Treatment Integrity Checklist

<table>
<thead>
<tr>
<th>Intervention components</th>
<th>M</th>
<th>T</th>
<th>W</th>
<th>T</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Reviewed behaviour goal(s) with student</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>2. Cued student to self-monitor and record response</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>3. Compared ratings with student</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td>4. Provided verbal praise for accurate ratings</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td>5. Gave reward when behavioural goal was met</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td>6. Sent behaviour recording form to parent</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
</tbody>
</table>
performance feedback session is then conducted to: (a) analyse treatment integrity data (permanent products and self-report checklists); (b) provide positive praise for completed components and corrective feedback for steps omitted or incorrectly implemented; (c) address consultee questions and concerns; (d) determine the need for further training or support and (e) reaffirm the consultee’s commitment to implementing the plan.

Limitations
While expanding the BC model to include a formal TMI would seem to hold promise for improving treatment integrity, some limitations are inherent in this approach. As conceptualized here, the consultation process is a labour-intensive activity. The four consultation interviews require a substantial investment of time from both the consultant and
The high level of active participation and commitment required by the expanded BC process might be unrealistic for many educators given their classroom schedules and limited planning time (Wilczynski et al., 2000). Likewise, more frequent feedback than that provided by the TMI may be required to sustain treatment implementation, further increasing logistic demands (Jones et al., 1997; Noell et al., 2005). From a cost-benefit perspective, procedural aspects of BC may need adjustment to accommodate these empirical barriers. For example it might be necessary to streamline the process and reduce duplication to improve efficiency. Another important limitation involves the use of consultee self-reports to monitor treatment plan implementation. This method can be influenced by social desirability and may inflate estimated levels of integrity when compared to direct observation and permanent product data (Gresham et al., 2000; Lane et al., 2004).

Implications and future research
Research challenges the assumption that traditional BC results in adequate treatment integrity (Jones et al., 1997). Knowing that an intervention is effective and understanding how to use it does not guarantee its accurate implementation and use (Wickstrom et al., 1998). Likewise, including elements of rational persuasion (e.g. discussing the importance of the intervention and addressing possible objections) in brief meetings with consultees are inadequate to support consistent treatment implementation (Truscott et al., 2003). Consultee self-reports and permanent products combined with structured interviews and performance feedback are essential to monitoring and sustaining adequate treatment integrity (Mortenson and Witt, 1998; Noell et al., 2005).

Expanding the BC process to include a TMI offers consultants a practical and effective method of monitoring treatment integrity. Practitioners and researchers should find the interview procedures and objectives presented in this article helpful in coordinating the intervention process and providing efficient follow-up on treatment plan implementation. Treatments implemented with poor integrity can prompt consultants to make adjustments to treatment plans and expend greater time and effort on the plan implementation stage of consultation (Gresham et al., 1993b). Information gleaned via the TMI can also be used to determine whether additional procedures or support are needed for training consultees to implement the intervention properly.

Empirically validated procedures for assessing and improving treatment implementation are not well developed and remain a critical
research need. Future research should investigate adaptation of the TMI to consultation practice to determine its effectiveness in facilitating treatment integrity. Additionally, research should examine the agreement between direct observation and self-reports/permanent products to evaluate the robustness of these indirect assessment methods. It is also unclear what levels of treatment integrity are necessary to ensure positive outcomes. Treatment integrity and student performance might be measured at varying points during treatment implementation to determine the extent to which continued direct support and performance feedback are necessary to maintain an adequate level of treatment integrity. Lastly, research should include the experimental manipulation of both treatment acceptability and integrity as dependent variables to more fully understand their roles in behaviour change (Noell et al., 2002).

**Conclusion**

The fidelity with which consultative-derived intervention plans are implemented with students is an essential component of consultation practice (Gresham et al., 2000). As problem-solving consultation is more widely adopted by the global school psychology community, practitioners will need to embrace the behavioural consultation model as an evolving entity that can be modified to accommodate new methods and innovation (Erchul and Schulte, 1996). Expanding the model to include the treatment monitoring interview described in this article holds promise as an alternative to the ‘consult and hope’ strategy currently utilized by most school-based consultants. It represents an initial step in developing the structure and technology necessary to address one of the major challenges faced by all school psychologists: assuring the accurate implementation of our interventions.

**References**

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Appendix 1

Treatment Monitoring Interview (TMI)

Child’s name: __________________ Date: __________________

Teacher’s name: __________________ Age: __________________

School: __________________ Grade: __________________

The consultant should question and/or comment on all of the following:
Opening salutation

General statement/question regarding plan implementation

a. How successful were you in implementing the intervention as discussed during our last meeting? Please describe.
Record responses: ______

b. Is the plan producing the desired change in target behaviour? What changes have you observed in the student’s academic/behavioural performance (positive or negative)?
Record responses: ______

Obstacles to plan implementation

a. Have you encountered any barriers to implementing the plan? If so, please specify. What can we do to overcome them?
Record responses: ______

b. Does the plan need to be altered or changed in some way in order to effective? If yes, how? Will revising the plan help you to implement it more consistently?
Record responses: ______

Data based (performance) feedback

a. Let’s look at the data you’ve collected so far so we can evaluate the student’s progress (summarize/graph student performance data and evaluate permanent products).
Record responses: ______
b. Let’s review your treatment plan (self-report) ratings and discuss any of the steps you had difficulty implementing (provide praise for completed components). If you are having problems, do you need more training or assistance in order to implement the plan? If so, please describe.
Record responses: ________

Next appointment
When can we meet again to discuss the data and determine whether the plan has been effective?

Date:
Day:
Time: