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Is Consultation Effective?

A Review of Outcome Research

Susan M. Sheridan, Marshall Welch, and Scott F. Orme

Abstract

This review summarizes the findings of consultation and teaming research from 1985 to 1995. It analyzes and critiques various methodological features of the research and draws conclusions regarding the current state of consultation and teaming outcome studies. Specific questions addressed in this review include (a) how much empirically based outcome research has been conducted since 1985, (b) what the common methodological features incorporated into the current consultation research are, and (c) what conclusions regarding the current status of outcome research in consultation can be drawn. Behavioral consultation studies were most prevalent (compared to mental health consultation, organizational development consultation, teaming, and other models). Nearly three-fourths of all studies reported some positive outcomes. Methodological advances have been made in some areas, such as the use of experimental designs, multiple outcome measures, assessment of acceptability, and attention to social validity. However, the majority of these advances are incorporated primarily into the behavioral consultation research, not into studies investigating other consultation approaches. Practice implications and a research agenda are offered based on the results of this review.

School-based consultation approaches are generally recognized as viable and acceptable means of service delivery for many educational disciplines. The attention afforded

to these approaches is burgeoning, as evidenced by a plethora of textbooks (see listing in the *Handbook of Consultation Services for Children*, Zins, Kratochwill, & Elliott, 1993), special issues (such as presented herein), and even a journal dedicated to educational and psychological consultation (*Journal of Educational and Psychological Consultation*). However, it is also recognized that the impetus for providing indirect services through consultation and teaming far outweighs its empirical base; in other words, although there is overwhelming encouragement for special educators, school psychologists, counselors, and others to incorporate consultation as a central feature of their roles, research-based support has been accumulating slowly.

The purposes of this article are to (a) summarize the previous reviews of consultation outcome research, (b) review the recent (1985–1995) empirically based outcome research in educational settings, (c) analyze and critique various methodological features of recent research, (c) draw conclusions regarding the current state of outcome research in consultation, and (d) provide recommendations for future directions in consultation outcome research. Our emphasis is on research in traditional approaches to consultation (*i.e.*, triadic service delivery involving a consultant working with one or more consultees to address concerns regarding a third-party client) as opposed to team-based approaches (*i.e.*, involving a group of individuals sharing unique perspectives to assist in problem resolution).

Consultation Defined

Consultation involves an indirect problem-solving process between a specialist (*e.g.*, special educator, school psychologist, mental health worker, social worker) and one or more persons

(e.g., parents, teachers) to address concerns presented by a client (e.g., student, classroom, system; Gutkin & Curtis, 1990; Medway, 1979). The key characteristics of consultation include its indirect and problem-solving emphasis, collegial and voluntary nature, and attention to process and outcome. Various models of consultation exist, including behavioral (Bergan & Kratochwill, 1990), mental health (Caplan, 1970; Meyers, Parsons, & Martin, 1979), and organizational development (Schmuck, 1990). Variations of these models include "collaborative consultation" (Idol, Paolucci-Whitcomb, & Nevin, 1986), "instructional consultation" (Rosenfield, 1987), "process consultation" (Schein, 1969), and "resource/consulting teacher" (Idol, 1989).

Previous Reviews of Consultation Outcomes

In the 1970s and 1980s, several critiques of consultation outcome research were published with generally confirmatory conclusions. Among these, the most noteworthy were those by Mannino and Shore (1975), Medway (1979, 1982), Medway and Updyke (1985), Gresham and Kendell (1987), West and Idol (1987), and Kratochwill, Sheridan, and VanSomeren (1988) (see Note 1).

Previous reviews of the consultation literature generally considered changes in the consultee, client, or system to be the most relevant outcome variables (e.g., Mannino & Shore, 1975; Medway, 1982). In general, overall positive changes were reported in these reviews. For example, Mannino and Shore reported that consultee, client, and system changes were evident in 74%, 58%, and 50% of the studies, respectively. In a review of 29 outcome studies, Medway (1979) reported at least some positive changes in 78% of the studies. Likewise, Medway (1982) found that 84% of the studies reviewed suggested positive changes in the consultee or client. Meta-analyses have also concluded that participants (consultants, consultees, clients) who participated in consultation were substantially "better off" than those who do not participate (Medway & Updyke, 1985; Sibley, 1986). Although these meta-analyses have not yielded significant differential effects across consultation models (*i.e.*, behavioral, mental health, and organizational development), other reviews have favored behavioral consultation approaches (Gresham & Kendell, 1987; Medway, 1979, 1982). Any comparisons across models must be approached cautiously, because much of the previous research has failed to consistently define (or even identify) operative features of the model under investigation (Kratochwill *et al.*, 1988), and because different dependent measures have been used to evaluate various aspects of consultation outcome.

Whereas generally consistent positive findings are common with respect to the published consultation outcome reviews, the lack of methodologically sound and externally valid studies contributing to this knowledge base is also recognized consistently. For example, Gutkin (1993a), Kratoch-

will *et al.* (1988), and West and Idol (1987) raised consistent research limitations, including (a) theoretical and definitional confusion, (b) lack of procedural detail regarding consultation procedures, (c) reliance on descriptive evaluation procedures and concomitant paucity of experimental designs (including lack of control groups, baseline data, and single case studies), (d) the tendency to assess attitudinal or subjective data rather than direct and objective data, (e) univariate analyses of consultation outcomes, (f) limited or absent information regarding consultation integrity, (g) lack of attention to individual characteristics (e.g., consultant background, skills, or training), and (h) inattention to long-term follow-up and generalization.

In a review of behavioral consultation research, Kratochwill *et al.* (1988) outlined a clear research agenda. Although their review focused on behavioral consultation *per se*, many generalizations can be made to the broader consultation research base. Their suggested research approach emphasized the need for clear specification of the consultation model being investigated; the use of standardized procedures and assessment of the consultation process (including consultation integrity); the use of multifaceted outcome assessment measures across behaviors, methods, settings, and perspectives; inclusion of single case experimental designs; and broadened criteria for evaluating efficacy of behavioral consultation (including social validity, treatment acceptability, breadth of changes, and cost-efficiency). Many of these factors were also identified by other reviewers (e.g., Gresham & Kendell, 1987; Gresham & Noell, 1993; Gutkin, 1993b; Pryzwansky, 1986; West & Idol, 1987) as important elements for applied consultation research.

In summary, reviews of consultation outcome research were common from the 1970s to the mid-1980s. Such reviews consistently suggested the dire need to strengthen several methodological features of consultation research. The most recent comprehensive reviews, however, were published in the mid- to late-1980s, with representative studies dating to approximately 1985 (e.g., Gresham & Kendell, 1987; Kratochwill *et al.*, 1988; West & Idol, 1987). No known extensive critique of consultation outcome research has been conducted since that time. Such a critique is important to evaluate the progress that has been made in the empirical understanding of school-based consultation services. Of particular importance is the degree to which consultation researchers have incorporated the methodological recommendations made by previous reviewers.

METHOD

Organization of the Current Review

In this study, we attempted to provide an update of the consultation outcome literature by carefully reviewing and critiquing the studies conducted from 1985 to the present. Specific re-

search questions include (a) how much empirically based outcome research has been conducted since 1985, (b) what are the common methodological features incorporated into the current consultation research, and (c) what conclusions can be drawn regarding the current status of outcome research in consultation?

Based on research recommendations offered by previous authors, the following elements are considered essential to further the knowledge base in consultation research: (a) identification of the consultation model; (b) articulation of the consultation target; (c) objective dependent measures to assess outcomes; (d) sound experimental design, (e) assessment of consumer satisfaction, social validity, and consultation integrity; and (f) attention to follow-up and generalization. These elements were selected as focal in the current review because they were suggested consistently as important directions for future research in previous reviews (see Note 2).

Cooper's (1989) recommendations for conducting integrative literature reviews guided the present study. Further, several procedures described in a "topographical" (*i.e.*, descriptive) review by Fuchs, Fuchs, Dulan, Roberts, and Fernstrom (1992) were replicated.

Selection of Articles

Articles selected for this review include those defined as consultation outcome studies and dated 1985 to 1995 (see definitions provided in previous section). Outcomes were measured in terms of direct or indirect, objective or subjective accounts of client performance. Changes in consultees (*e.g.*, attitudes, behaviors) and systems (*e.g.*, referrals to special education) were also deemed appropriate outcome targets for inclusion. Additional criteria for inclusion were that the study was conducted in an educational setting or dealt with student concerns, and that it was either published in a refereed journal or cited in *Dissertation Abstracts International*.

Certain types of articles were excluded from this review. As in Fuchs *et al.* (1992), survey, simulation, and process-oriented analyses (such as those pertaining to relational or control variables, *e.g.*, Erchul, 1987) were excluded. Also excluded were studies that evaluated direct service, changes in consultants, applied behavioral analysis, and other interventions with consultation being of secondary importance.

Search Procedures

Many of the search procedures used in Fuchs *et al.* (1992) were duplicated in this review. Specifically, these include hand searches of select journals, a computer search of the on-line databases of Educational Resources Information Center (ERIC) and *Dissertation Abstracts International* (DAI), a cross-reference with articles from the Appendix of Fuchs *et al.* (1992), a search of references in previously published comprehensive reviews of consultation, and inquiries of colleagues who are known to conduct consultation research.

These procedures resulted in a total of 46 articles or dissertations included in this review.

HAND SEARCHES OF PROFESSIONAL JOURNALS. Thirteen journals were reviewed for the years 1985-1995. These journals include *Exceptional Children*, *Journal of Counseling Psychology*, *Journal of Educational and Psychological Consultation*, *Journal of Learning Disabilities*, *Journal of School Psychology*, *The Journal of Special Education*, *Journal of Counseling and Development*, *Learning Disability Quarterly*, *Professional Psychology: Research and Practice*, *Psychology in the Schools*, *Remedial and Special Education*, *School Psychology Quarterly*, and *School Psychology Review*.

The hand search was conducted in two steps. First, one individual previewed all of the titles and abstracts of the selected journals. Second, consultation articles that appeared to meet the inclusion criteria were photocopied and read carefully by the senior author (see Note 3). Seventeen were judged appropriate for inclusion based on the focus (*i.e.*, outcome-based), setting (*i.e.*, educational/ school), and source (*i.e.*, refereed journal or DAI).

COMPUTER SEARCHES. A computer-aided search was completed for the on-line databases of Educational Resources Information Clearinghouse and DAI. ERIC was reviewed from 1985 and beyond. The following descriptors were entered into the computerized search (the number of abstracts each descriptor generated is reported in parentheses): teacher consultation (38), behavioral consultation (27), school consultation (49), consultant and behavior (69), school psychologists and teachers (36), organizational development and consultation (10), counselor-teacher cooperation (17), and consultation programs and behavior (46). A total of 292 possible articles were identified. Abstracts were read independently by all three authors. Articles that appeared to meet the selection criteria were followed up with careful reading by the first and second authors independently, who determined their appropriateness for inclusion. Of these, nine were included in this review.

DAI was searched from 1985 to 1995. Search descriptors included "school consultation," "teacher consultation," "mental health consultation," "behavior consultation," "consultation with teacher," and "consulting with teacher." A total of 73 abstracts were generated, and these were reviewed by the first author, who determined their appropriateness for inclusion based on the focus (*i.e.*, outcome-based) and setting (*i.e.*, educational/school). Of those deemed appropriate, 17 were included in this review (dissertations that were subsequently published in a refereed journal were not included to avoid dual representation). This represents 37% of the total number of studies included in this review (the remaining 63% appeared in professional journals).

CROSS-REFERENCE WITH FUCHS ET AL. (1992). In an appendix to their topographical summary of consultation research, Fuchs *et al.* (1992, pp. 165-174) provided a list of all

outcome articles and dissertations used in their review. Their article (encompassing research from 1974 to 1989) provided an additional 9 articles appropriate for this review (*i.e.*, articles that met our criteria and that were not already identified in the previous search strategies). Although attempts were made to obtain these articles from other libraries (*i.e.*, inter-library loan requests were made), only one was actually obtained and included in this review.

SEARCH OF REFERENCE LISTS AND REVIEWS OF LITERATURE. In careful readings of the outcome studies, additional references were identified in some cases. These were obtained in situations where they were not already available, reviewed carefully by the first author, and included when appropriate. Likewise, reference lists of recent reviews (post-1985) of the literature (*i.e.*, Gresham & Kendell [1987], West & Idol [1987], Kratochwill *et al.* [1988], Gresham & Noell [1993], and Gutkin [1993a, 1993b]) were perused. Articles identified in this way overlapped with those identified through other means, so this strategy resulted in no additional studies for the review.

PERSONAL INQUIRIES. Inquiries were made of colleagues at various institutions who were believed to be conducting consultation outcome research. As a result of these inquiries, two additional studies were identified and included. Both of these were published in journals that were not included in the original search.

Analysis of Outcome Studies

The previously summarized recommendations for consultation outcome research (*i.e.*, important research directions identified in comprehensive reviews) were put into table form to allow for a structured synthesis of relevant outcome research. The primary research variables under consideration in this review are listed in Table 1. The degree to which outcome studies addressed the variables identified in the table was used to evaluate methodological rigor of, and draw conclusions from, consultation research.

CODING PROCEDURES. The first and second authors served as primary raters in this review. Specifically, a form was developed whereby the raters provided an initial coding of all 46 articles or dissertations based on the aforementioned variables. Twenty-five percent of these were randomly assigned to a secondary rater, who was trained in consultation and provided with definitions for each of the research variables. The secondary rater achieved an agreement of 85% with the primary raters across categories (agreement was computed as the total number of ratings on which the two raters agreed, divided by the total number of agreements plus disagreements, multiplied by 100).

RESULTS

The studies in this review are listed in the Appendix. A summary of the consultation research organized by identified outcome variables is presented in Table 2. The percentage of studies reporting the use of the identified variables is given in Table 3.

General Effectiveness

In general, consultation was found to produce at least some positive results in 76% of the studies reviewed. Thirty-three percent of the studies reported some neutral results (*i.e.*, no changes, changes on some measures but not others, or no difference compared to control groups), and 4% of the studies reported at least some negative results. When considering all of the outcomes reported across studies (*i.e.*, 60 outcomes reported across the 46 studies), 67% were positive, 28% were neutral, and 5% were negative. Following this general level of analysis, a review of use and outcome by consultation model was conducted.

Model

USE. Consistent with the findings of previous reviewers (*e.g.*, Alpert & Yammer, 1983; Fuchs *et al.*, 1992; Medway, 1979, 1982), the majority of outcome research reported since 1985 used a behavioral consultation model or one of its variants (*e.g.*, "conjoint behavioral consultation," with parents and teachers serving as co-consultees; Sheridan, Kratochwill, & Elliott, 1990). Specifically, 46% of the articles reviewed for this article investigated the effects of behavioral consultation. Mental health consultation and organizational development consultation were analyzed in only 11% and 4% of the studies, respectively. "Other" consultation models were identified 28% of the time, and in 11% of the studies a model was not specified.

OUTCOME. A summary of the direction of results based on the model used appears in Table 4. As can be seen in the table, behavioral consultation (BC) studies have afforded the most consistently positive results. Specifically, of all BC studies reviewed ($N = 21$), 95% reported at least one positive outcome, and 9% reported at least one neutral outcome. Of all outcomes reported in the BC studies, 89% were in the positive direction. Eleven percent of all BC outcomes were considered neutral, with no negative results reported.

Of the five mental health consultation studies reviewed, positive findings were reported in three (60%), and neutral outcomes were reported in three (60%). Of all outcomes reported in mental health consultation, 57% were positive and 43% were neutral. No negative findings were reported.

Of the 13 studies investigating "other" models, 5 (38%) reported positive results, 10 (77%) found neutral results, and 1 (8%) yielded negative results. Of all outcomes reported for

Table 1. Code Categories and Definitions Across Research Variables**Model^a**

BC = Behavioral Consultation
MHC = Mental Health Consultation
OD = Organizational Development
O = Other
NS = Not Specified

Target for Change^a

CI:B = Client Behavior
CI:A = Client Academic
Ce:S = Consultee Skill (Performance)
Ce:A = Consultee Attitude/Other
Sy:R = System Referral Patterns
Sy:O = System Other
NS = Not Specified

Measures

DO = Direct Observation (objective, in vivo assessment of behaviors in naturalistic or analogue setting yielding direct accounts of performance)
R = Ratings (behavioral checklists and rating scales, informant reports)
T = Tests (standardized measures of achievement, personality, etc.)
RF = Referrals to Special Education (number or percentage of students referred to the special education identification or assessment procedures in a school or district)
O = Other (measures other than those specified above)
NS = Not Specified (no information provided)

Design

Ex/G = Experimental/Group (large N design using experimental procedures to minimize threats to internal validity)
Qs/G = Quasi-experimental/Group (large N design failing to control for various threats to internal validity)
Ex/S = Experimental/Single Subject (small N design using experimental procedures to minimize threats to internal validity)
Qs/S = Quasi-experimental/Single Subject (small N design failing to control for various threats to internal validity)
Des = Descriptive (designs wherein outcomes are described rather than tested using empirical procedures)
Cor = Correlation (designs wherein relationships between variables are evaluated)
NS = Not Specified (no information provided)

Consumer Satisfaction/Treatment Acceptability (assessment of consumers' perceptions of the quality of services, or the acceptability of services to consumers)

Y = Yes
N = No

Social Validity (assessment of the clinical or practical meaningfulness of changes based on subjective evaluations or social comparisons)

Y = Yes
N = No

Consultation/Team Integrity (assessment of the degree to which the consultation or team procedures followed the model)

Y = Yes
N = No

Direction of Findings

+ = Positive and consistent results related to consultation or teaming services provided
0 = Neutral; no change, inconsistent (some positive, some negative), or no difference compared to a control group or alternative model of service delivery
- = Negative results related to consultation or teaming services provided

Follow-Up (assessment of the maintenance of outcomes after formal procedures are terminated)

Y = Yes
N = No

Generalization (assessment of the changes in nontargeted behaviors, settings, or individuals)

Y = Yes
N = No

^a Model of consultation and target for change specified by authors.

these models, 29% were positive, 65% were neutral, and 6% were negative. For studies that failed to specify a model ($N = 5$), 4 (80%) reported positive results and 1 (20%) reported negative results. Of all the outcomes reported in these studies, 67% were positive and 33% were negative.

Consultation Targets

The targets of consultation included the participant(s) for whom services were intended (*i.e.*, client, consultee, or system) and the nature of the primary concern (*i.e.*, behavioral, academic, skill, attitude, referrals, other). Many studies reported more than one consultation target. Clients' behavioral and academic issues were targeted in 48% and 33% of the studies, respectively. Consultee skills and attitudes (or other) were identified in 22% and 15% of the studies, respectively. Changes in referral patterns were targeted in 13% of the studies, with other system issues addressed in 4%. Specific targets were not identified in 4% of the studies.

Of all the targets identified in the consultation studies, the majority (33%) dealt with behavioral concerns of clients. This result was followed by academic concerns of clients (22%), skill building in the consultee (15%), attitudes or other consultee-related issues (10%), changes in referral patterns within the school (9%), and other system-related concerns (3%).

Measures

Various measures were used to assess consultation outcomes across the studies, including direct observations, ratings, tests, referrals, and other. Multiple measures were included in 46% of the studies, with 67% of these studies using direct methods (*i.e.*, observations) as one of the outcome measures.

Ratings (*e.g.*, checklists or scales) were the most frequently used outcome measure across all studies. Specifically, 62% of the studies used ratings as at least one assessment procedure. Forty-four percent of the studies used direct observations (only BC studies and those not specifying a model used direct observations), and 15% used referral to special education counts. Ten percent of the studies used tests as a dependent measure, and "other" procedures were used in 16% of the studies. Seven percent of the studies failed to specify the procedures used to measure outcome.

Design

Experimental group or single-subject procedures were used to evaluate consultation outcome in 46% of the studies. Fifty percent of the studies used quasi-experimental, descriptive, correlational, or qualitative approaches to analyze outcomes (*i.e.*, descriptive, correlational, and qualitative procedures were used to report outcome results in 13%, 6%, and 4% of the studies, respectively; and two studies failed to report on design).

The use of group designs continues to be most prevalent in consultation research. Specifically, 41% of all studies used group procedures to analyze consultation effects (35% used experimental group procedures; 6% used quasi-experimental group procedures). Single-subject research designs were used in 33% of the studies (11% used experimental and 22% used quasi-experimental single-subject designs).

An important distinction between models concerns the designs used to investigate effects. BC and "other" consultation studies were similar in that approximately half of the research using these models used experimental procedures to evaluate outcomes. A difference between these two areas is their use of single-subject and group designs, and their results. More than half (57%) of BC research used single-subject designs to investigate outcome, whereas no single-subject studies assessed "other" models. Of the single-subject research studies conducted in the BC literature, all used either experimental designs (*e.g.*, multiple-baseline design) or controlled case studies. One third of the BC research studies used group procedures, compared with approximately three fourths of the studies using "other" models. Further, all but one BC study yielded at least some positive results, whereas only 38% of "other" models did so. Only 20% of the mental health investigations and none of the organizational development research studies used experimental procedures.

Consumer Satisfaction/Social Validity/Process Integrity

Assessment of consumer satisfaction was reported in 48% of the studies reviewed. Social validity procedures were used in 37%. The integrity with which participants followed the model being investigated was assessed in 26% of the studies.

Follow-Up/Generalization

Follow-up of consultation outcomes after the procedures were terminated was assessed in 26% of the studies. Generalization across setting, behavior, or individual was evaluated in 6%.

DISCUSSION

Conclusions Regarding Outcome Research

The title of this article asks the question, "Is consultation effective?" The results of this review of outcome studies across models suggests that, in general, consultation services yield favorable results on at least some dimensions. It should be recognized, however, that the majority of studies reviewed were found in professional journals. Indeed, a bias may exist to publish positive findings, in that, unfortunately, studies with nonsignificant findings are rarely published.

Table 2. Summary of Outcome Studies by Model and Year^a

Authors and year	Model	Target	Measures	Design	Consumer satisfaction	Social validity	Process integrity	Follow-up	Generalization	Direction of results
Kratochwill, Elliott, & Busse (1995)	BC	C1:B/A	R, DO	Qs/S	Yes	Yes	Yes	No	No	+
Bramlett (1994)	BC	C1:A	T	Ex/G	Yes	No	No	No	No	+
Carrington Rotto (1994)	BC	C1:B Ce:S	DO, R	Ex/S	Yes	Yes	No	Yes	No	0 0
Carrington Rotto & Kratochwill (1994)	BC Ce:S	C1:B	DO, R	Ex/S	Yes	Yes	Yes	Yes	No	+
Dunson (1994)	BC	C1:B	DO, R	Ex/G	No	Yes	No	No	No	+
Galloway & Sheridan (1994)	BC	C1:A	DO	Qs/S	Yes	Yes	Yes	Yes	No	+
Sheridan & Colton (1994)	BC	C1:B	DO	Qs/S	Yes	No	Yes	Yes	No	+
Noll, Kamps, & Seaborn (1993)	BC	C1:B	RF	Des	Yes	Yes	No	No	No	+
Taverne (1993)	BC	Ce:S	DO, T	Qs/S	Yes	Yes	Yes	Yes	No	+
Hughes & DeForest (1993)	BC	C1:NS Ce:S	R	Corr	Yes	Yes	No	No	No	0 +
Doll & Kratochwill (1992)	BC	C1:B Ce:S	DO, R	Qs/S	No	Yes	No	No	No	+
Sheridan (1992)	BC	C1:B/A	DO, R	Qs/S	Yes	No	Yes	No	No	+
Allen & Kramer (1990)	BC	C1:B	DO	Ex/S	No	Yes	No	No	No	+
Fuchs, Fuchs, & Bahr (1990)	BC	Sy:R C1:B/A	R, DO, RF	Ex/G	Yes	Yes	Yes	No	No	+
Fuchs, Fuchs, Bahr, Fernstrom, & Stecker (1990)	BC	C1:B/A	DO, R	Ex/G	Yes	Yes	Yes	Yes	No	+
Sheridan, Kratochwill, & Elliott (1990)	BC	C1:B	DO, R	Ex/S	No	Yes	Yes	Yes	Yes	+
Fuchs & Fuchs (1989)	BC	C1:B/A	R, DO	Ex/G	No	No	Yes	No	Yes	+
Gutkin, Henning-Stout, & Piersel (1988)	BC	Sy:R	RF	Ex/G	No	No	No	No	No	+
Pray, Kramer, & Lindskog (1986)	BC	C1:B	DO	Qs/S	No	Yes	No	Yes	No	+
Tunnecliffe, Leach, & Tunnecliffe (1986)	BC	Ce:O	T	Ex/G	No	No	No	Yes	No	+
Emery (1986)	BC	C1:B Ce:S	DO	Qs/S	No	No	No	No	No	+
Mele (1993)	MHC Ce:A	C1:B	R	Des	Yes	No	No	No	No	+
Gutkin & Hickman (1990)	MHC	C1:NS Ce:NS Sy:NS	R	Corr	No	Yes	No	No	No	0
Duffy (1986)	MHC	C1:B	R	NS	No	No	No	No	No	0
Sabatino (1986)	MHC	C1:B Ce:O	R, O	Ex/G	No	No	No	No	No	+
Maitland, Fine, & Tracy (1985)	MHC	NS	R	Corr	Yes	No	No	No	No	+
Grossman (1994)	NS	C1:B	R, DO	Ex/G	No	No	No	No	No	+
Johnston (1990)	NS	Sy:O	DO, R	QL	No	No	No	No	No	+
VanWagener (1987)	NS	C1:B Ce:S	NS	Qs/S	Yes	No	No	No	No	- -

Table 2, continued

Authors and year	Model	Target	Measures	Design	Consumer satisfaction	Social validity	Process integrity	Follow-up	Generalization	Direction of results
Wilczenski, Sulzer-Azaroff, Feldman, & Fajardo (1987)	NS	C1:A	DO, O	Ex/S	No	Yes	No	Yes	No	+
Cochrane & Ballard (1986)	NS	C1:A	DO	Qs/S	Yes	Yes	No	Yes	No	+
Welch, Richards, Okada, Richards, & Prescott (1995)	O	C1:A Ce:A Sy:R	R, T, RF, O	Qs/G QL	Yes	No	No	No	No	0 0 +
Behrens (1994)	O	Ce:A	R	Des	Yes	No	No	No	No	+
Meadows (1993)	O	Ce:O	O	Des	No	No	No	No	No	0
Fuchs, Fuchs, Hamlett, & Ferguson (1992)	O	C1:A Ce:S	T, O	Ex/G	No	No	Yes	No	No	+
Singer (1992)	O	C1:B Ce:S	R, T	Ex/G	No	No	No	No	No	0 -
Yocum (1992)	O	Sy:R	RF	NS	No	No	No	No	No	0
Wesson (1991)	O	C1:A	T	Ex/G	No	No	Yes	No	No	0
Amico (1990)	O	Sy:R	RF, R	Ex/G	No	No	No	No	No	0
Schulte, Osborne, & McKinney (1990)	O	C1:A	T, R	Ex/G	Yes	No	No	No	No	0
Tindal, Parker, & Germann (1990)	O	C1:A	R	Qs/G	No	No	No	No	No	0
Hanninen (1989)	O	Ce:S	NS	Ex/G	No	No	No	No	No	+
Carrow (1988)	O	Ce:A C1:B	R	Ex/G	Yes	No	No	No	No	+
Tindal, Shinn, Walz, & Germann (1987)	O	C1:A	R	Qs/G	No	No	No	No	No	0
Ponti, Zins, & Graden (1988)	OD	Sy:R	R, RF	Des	Yes	No	No	No	No	+
Curtis & Metz (1986)	OD	Sy:O	NS	Des	No	No	No	No	No	+

^a Code categories across research variables are listed in Table 1.

The results of this review are strikingly similar to those found previously. Mannino and Shore (1975) and Medway (1979) reported that school consultation proved at least partially effective in 78% and 76% of studies, respectively. Similarly, 76% of the studies examined for this review from 1985 to 1995 found positive results on at least some measures.

Given the strong recommendations for improving consultation research in numerous previous reviews of the literature, it might have been expected that the quality and rigor with which current research is conducted would be strengthened. Examination of outcome studies conducted since 1985 suggests that this has occurred in some, but certainly not all, of the consultation research cited in this review. Compared to earlier outcome studies, the methodological rigor of consultation studies has improved in certain areas. In the research

conducted since 1985, experimental designs were used in 46% of the studies. Further, as suggested by Gresham and Kendell (1987) and Kratochwill *et al.* (1988), multiple outcome measures and assessment of acceptability and social validity are being incorporated into consultation research more often.

Regardless of positive steps in the methodology and generally positive results in consultation research, it is still premature to report unequivocally on the effectiveness of school consultation. The primary reason for caution at this time concerns the relatively limited amount of research in models other than BC, the use of less rigorous methodology in other types of consultation research, and the fewer positive outcomes yielded by such studies. However, advances have been made in BC research. The majority of outcome studies published in

the literature and cited in DAI investigated BC or one of its variants. Outcomes in these studies continue to be convincingly positive. In fact, considering that the methodological standards are much more rigorous in BC studies than in those using other consultation models, it appears that BC yields the most favorable results. It is also recognized, however, that because of fewer published research studies on the other models, a definitive statement regarding their efficacy is premature.

Interestingly, the majority of studies using models other than those with well-articulated theoretical bases (behavioral, mental health, and organizational development consultation) yielded neutral results. Further, the largest percentage of negative findings were in studies wherein a model was not specified. In fact, negative findings occurred only in studies using models other than BC or in those in which a particular model was not specified. This supports the notion that well-constructed models articulated from sound theoretical bases may be superior to those without clear conceptual frameworks. It

is possible that consultation outcomes are enhanced by a clear and specific orientation to practice, thus enhancing empirical findings. It is also possible that consultation studies emanating from specific theoretical perspectives lend themselves to focused and systematic analyses to a greater degree than approaches that lack such perspectives. The specific features enhancing theoretically based consultation practices are unclear and warrant additional research attention.

Methodological Critique of Consultation Research

DESIGN. Conclusions regarding the efficacy of consultation approaches must consider the experimental rigor used in the outcome studies. Although experimental designs tend to be used in the majority of studies, they are still used less than half the time. Further, although some previous reviewers (*e.g.*, Gresham & Kendell, 1987; Kratochwill *et al.*, 1988) suggested the use of experimental single-subject procedures

Table 3. Percentage of Studies Reporting Use of Identified Variables

	Behavioral consultation (n = 21)	Mental health consultation (n = 5)	Organizational development (n = 2)	Other (n = 13)	Not specified (n = 5)
Percentage of studies ^a	46	11	4	28	11
Target					
Client	86	80	0	61	80
Consultee	33	60	0	54	20
System	9	20	100	23	20
Measure					
Multiple	52	20	50	46	60
Direct observations	76	0	0	0	60
Ratings	52	100	50	69	40
Tests	14	0	0	38	0
Referrals	14	0	50	31	0
Other	0	20	0	23	20
Not specified	0	0	0	8	20
Design					
Experimental	52	20	0	54	40
Quasi-experimental	38	0	0	23	40
Correlational/descriptive/qualitative	10	40	100	23	20
Group	33	20	0	77	20
Single-subject	57	0	0	0	60
Not specified	0	20	0	8	0
Consumer satisfaction	57	40	50	38	40
Social validity	67	20	0	0	40
Process integrity	47	0	0	15	0
Follow-up	43	0	0	0	40
Generalization	9	0	0	0	0

^a Percentage of all studies reporting use of each model.

Table 4. Direction of Results by Model

	Behavioral consultation (n = 21)	Mental health consultation (n = 5)	Organizational development (n = 2)	Other (n = 13)	Not specified (n = 5)
Percentage of studies ^a					
Positive	95	60	100	38	80
Neutral	9	60	0	77	0
Negative	0	0	0	8	20
Percentage of results ^b					
Positive	89	57	100	29	67
Neutral	11	43	0	65	0
Negative	0	0	0	6	33

^a Percentage of all studies reporting at least one positive, neutral, or negative result; figures do not necessarily add to 100% owing to mixed results in some studies.

^b percentage of all results that are in the positive, neutral, or negative direction.

to investigate the efficacy of consultation, single-subject studies continue to lag behind group studies in prevalence. Use of single-subject designs to evaluate consultation outcomes continues to require research attention.

Interestingly, approximately one half of the behavioral and "other" consultation studies used experimental procedures to assess outcomes, compared to only 20% of organizational development and mental health consultation studies. The majority of studies investigating each of these models relied on descriptive procedures to assess outcomes, which presents problems when attempting to draw conclusions about the efficacy of services. This level of analysis adds support to BC studies, which generally use rigorous designs and yield positive outcomes compared with other models. Likewise, it points to the importance of investigating the effects of mental health and organizational development consultation using more rigorous procedures.

MEASURES. Direct, objective, reliable, and valid measures of outcome are important to place confidence in the outcomes reported. Further, the use of multiple measures has been recommended by several previous reviewers (Gresham & Kendall, 1987; Gutkin, 1993b; Kratochwill *et al.*, 1988; West & Idol, 1987). Although information on reliability and validity are not available for many of the measures used, it is possible to look at the range of outcome measures used across studies. Approximately half of all studies used multiple measures to assess outcome, but fewer than one third of these incorporated direct observations as one of the assessment procedures. The most frequently used outcome measure was ratings or informant reports, followed by direct observations. Clearly, there is a need to encourage continued use of direct observations, particularly as one of multiple measures to assess consultation outcomes.

Assessing additional outcomes regarding consumer satisfaction, social validity, maintenance, and generalization of effects is a related area in need of further research. Some methodological advances appear to be emerging in these areas, as close to half of the studies reviewed incorporated a measure of consumer satisfaction or acceptability (49%). Slightly fewer than one half reported the assessment of the degree to which their outcomes were socially valid, or meaningful in a "real-life" context. However, little is known about the long-term effects of consultation services, because fewer than one third of the studies reported follow-up data. Alarming, the assessment of generalization of effects (across persons, settings, or behaviors) is almost nonexistent. This is a crucial area in need of further research.

An additional area in need of research attention is the integrity with which consultation procedures are followed. This issue of "process integrity" is important to ensure that what is being practiced and evaluated is in general compliance with the goals and objectives of consultation. The documentation of process integrity is critical when reporting whether "consultation" in general, or a specific model of consultation, was effective. Many studies reviewed herein described the procedures with which consultation services were delivered; however, very few actually monitored the strategies used by consultants. Although this is an important advance, it is still incorporated into less than one third of consultation research.

Implications for Practice

Although the purposes of this article were to review the recent empirically based consultation outcome literature and provide recommendations for future research directions, several implications for practice are evident. First, it appears that a clearly articulated model for practice is important. Regardless

of whether a mental health, behavioral, or organizational development model is utilized, the rationale and procedures for its adoption should be clear. Goals, objectives, and procedures differ among models; therefore, a sound match between practitioner, need, and model is critical.

A second important implication concerns the “other” or eclectic models that are reported in some of the consultation literature. From this review, it appears that these models are less effective than those that are better developed and have sound conceptual and empirical validation. It is possible that recognized consultation models were used in the “other” studies but that the procedures were not articulated with adequate clarity for the coding purposes of this review. Nevertheless, it is noteworthy that a large percentage of studies with no clearly recognized consultation model yielded equivocal findings. Consultation practitioners may find it important to make efforts to adhere to commonly recognized, research-valid models for practice.

Third, practitioners might want to consider incorporating single-subject design elements into their consultation cases more directly than has been done in the past. A closer relationship between research and practice is essential, and a sound approach to practice within a scientist-practitioner framework is necessary. Numerous procedures can be integrated into case studies to strengthen the inferences that are possible. Perhaps most important, ongoing, direct, objective measures of consultation targets can be collected. Systematic data collection across baseline, intervention, and follow-up phases is essential. For example, permanent products, such as number of items completed and accuracy counts, can be used to document academic performance in a repeated fashion. Standardization of consultation procedures can also increase the integrity and efficacy of services. Likewise, assessment of the acceptability of interventions and the use of adjunctive measures (e.g., rating scales) can corroborate the effects of consultation interventions. Additional procedures that can be integrated easily into consultation practice to strengthen the conclusions regarding case study outcomes have been outlined by Kratochwill (1985).

Further Recommendations for Advancing Consultation's Empirical Base

It is critical that research in the area of consultation continue, but at a more rigorous level. Following is a specific agenda for consultation research; it generally follows those provided in previous reviews. Although advances are being made, many are still called for.

1. *More studies assessing the outcomes of mental health and organizational development models are needed.* The empirical scrutiny of these models should include clear delineation of procedures; identification of the targets for change; the use of direct, objective measures; a sound empirical design;

the assessment of consumer satisfaction, social validity, and process integrity; and the evaluation of maintenance and of generalization of effects.

2. *The use of direct, objective measures within the context of a multimethod assessment framework is necessary in all consultation research.* It is not enough to simply use multiple measures if they are all indirect in nature. Whereas ratings, informant reports, referral rates, and other measures are useful, they do not directly measure outcomes for clients or consultees. Direct measures are essential to understanding effects of consultation services at the most basic level.

3. *More experimental single-subject research is needed.* Carefully conducted single-subject research can glean information on an individual client or consultee that is not possible using group designs. Often what is most important in consultation services is the degree to which positive effects are realized by individuals. Change or variability in individual behavior as a function of services is often the most important dimension on which to evaluate utility of the procedures. Small-*N* designs allow for this level of analysis, whereas group designs treat individual variability as a source of error (see Note 4). To understand the unique effects of consultation services for individual clients, consultees, or systems, practitioners must conduct analysis at the single-subject level. Such designs are generally user-friendly and useful in applied settings, such as schools. Many single-subject designs (such as those using multiple baselines or alternating treatments) contain rigorous standards that, when conducted carefully and correctly, allow researchers to rule out several threats to internal validity. Even carefully controlled case studies (e.g., AB designs with withdrawal conditions, follow-up, and replication) can be useful in furthering the knowledge base in consultation (see Kratochwill, 1985, for a discussion).

4. *More attention to outcomes beyond the client level is needed.* Commonly noted consultation goals often include change in consultees' skills or attitudes, as well as system-wide functioning. However, it is interesting that these outcomes are rarely measured. Further, it is often assumed that consultation services can prevent future problems through the generalization of consultees' improved skills and knowledge; however, there is virtually no research assessing this phenomenon.

5. *Greater attention must be paid to integrity issues.* In other words, it is not sufficient to report that “consultation” services were conducted. Nor is it possible to measure the effects of “behavioral” or “mental health” consultation (for example) without assessing specific practices of a consultant. Standardization of procedures in the form of guidebooks, interview forms, and worksheets can facilitate this process. In this way, conclusions regarding the effects of a given model can be made with greater confidence. Until it can be demonstrated that the procedures suggested within each model are effective, widespread promotion of any model is premature.

6. *Consultation research must begin to assess follow-up and generalization more systematically than has been done in the past.* It is important to understand the long-term effects of services on clients, consultees, and systems. Likewise, an untapped area of research is the effects of consultation on individuals, behaviors, or settings not directly targeted. Examining these effects is essential, because consultation services are often founded on the assumptions that they can produce positive benefits to students who are not direct participants and that consultees will continue to use skills obtained in consultation in other situations. Clearly, these assumptions are in need of empirical attention.

SUMMARY

Consultation seems to produce positive results approximately three fourths of the time. This finding has been replicated across reviews by Mannino and Shore (1975) and Medway (1979) and is substantiated by this study. Furthermore, school-based consultation outcome research is slowly improving, albeit in a manner that is somewhat unparallel across models. It is hoped that this trend will continue, and that a continued increase in methodological rigor will further elucidate important elements of consultation practice as they relate to essential outcomes.



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Notes

1. Other reviews of consultation are also available. For example, Fuchs, Fuchs, Dulan, Roberts, and Fernstrom (1992) provide an excellent "topographical" review of consultation research, identifying primarily the sources in which research is published and other descriptive features. These authors describe sources for consultation research, targets for change, types of measures used, and other features of consultation research. However, they do not critique the literature per se in terms of its qualities and limitations.
2. Our selection of these features does not diminish the validity of other important research strategies and designs. Our purpose, however, was to bring to date previous reviews and reassess the status of the outcome literature in relation to prior recommenda-

tions. Therefore, continuity with the previous reviews was considered essential.

3. Given the extensive number of journals included, only one individual reviewed articles in the hand search, and no interrater reliability data are available for those retained for the final analysis. This is recognized as a limitation of this review.
4. Clearly, single-subject, group, and qualitative research designs are desirable and necessary. Emphasis here is placed on advancing the use of single-subject methods given their relatively infrequent use in studies to date.

Authors' Note

Preparation of this article was supported in part by a U.S. Office of Special Education and Rehabilitative Services grant to the first and second authors (Grant No. H029K40154). The opinions expressed in this article are the authors' and do not necessarily reflect the views of the funding agency.

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Appendix

Articles and Dissertations Included in Analysis

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