INNOVATION ADOPTION AND ORGANIZATION CHANGE: PROGRAM EVALUATION IN GERONTOLOGY

by

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ABSTRACT

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The reported research describes a randomized field experiment designed to measure the effectiveness of a participative goal-setting consultation intervention intended to change the program evaluation practices of 43 organizations providing services to older adults in three cities in Michigan. The effectiveness of the experimental manipulation is examined within the context of the structure and environment of the organizations providing the focus for change. Change in program evaluation practices is discussed as a special case of the general process of innovation adoption in organizations.

Mixed support was found for the efficacy of the experimental intervention. Interview measures revealed a strong main effect for the intervention, explaining 21 percent of the outcome variance. Participative goal-setting provided the intervention component most highly correlated with innovation adoption (r = .64, P. < .001). Self-report measures of adoption of evaluation methods failed to reveal any significant effects. Measurement differences were discussed as possible reasons for the discrepancy. The experimental

intervention did not change the level of cognitive acceptance of evaluation practices or evaluation knowledge.

Stepwise multiple regression analyses were used to estimate the multivariate relationship between psychological, organizational structure, and organizational environmental characteristics and the adoption of innovative evaluation practices. The adoption of program evaluation methods was best predicted by knowledge of intervention group membership, education, attitudes toward evaluation practices, and expected tenure on the job (R^2 = .43). Posttest attitudes toward program evaluation were best predicted by pretest attitude scores, number of organizational staff, degree of participation in decision making, and interorganizational relations (R^2 = .40).

Several implications of the research and suggestions for future research are provided. It is suggested that future work focus on 1) determination of the correct unit of analysis for theory and intervention; 2) experimental validation of organizational change strategies and the use of organizational theory to predict their success; 3) methods to facilitate innovation adoption and implementation in organizations; 4) use of sequential, longitudinal research designs; and 5) development of data-based planning and change in public policy.

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CHAPTER I

Introduction

The present report describes a study designed to measure the effectiveness of a participative, goal-setting consultation intervention intended to change the program evaluation practices of organizations providing services to older adults in three cities in Michigan. The effectiveness of the experimental manipulation is examined in the context of the structure and environment of the organizations providing the focus for change. Change in program evaluation practices is discussed as a special case of the general process of innovation adoption in organizations.

Decreasing social resources and concern arising from equivocal results have pressed social policy makers to question frequently the merit of social programs. This increased attention has contributed to the impetus for the development of a rigorous and scientific program evaluation methodology, making possible for the first time a scientific theory of social and organizational change.

Program evaluation is conceived here to be an innovative management decision tool capable of contributing to the reduction of uncertainty associated with making programmatic decisions. Moreover, the practice of program evaluation is believed to assist in the design and management of more efficient and effective organizational practices and services. Finally, the application of rigorous and scientific

program evaluation methods is believed necessary to develop a useful and meaningful theory of social problem causation and resolution, a required step in the establishment of the "experimenting society" (Campbell, 1971).

Human service organizations provide a tool for social improvement and change in American society. It is their responsibility to address and mitigate pressing social problems. Social problems may be prolonged and exacerbated in direct proportion to the inability or reluctance of human service programs to measure their own success. The amelioration and solution of social problems requires in part that human service programs increase their ability to measure and demonstrate their effectiveness.

Stephen (1935) early urged the use of evaluation methods to measure the efficacy of New Deal programs during the 1930's. However, extensive use of evaluation has only recently been widely advocated by social scientists (Campbell, 1969, 1971; Caro, 1971; Fairweather, 1967; Fairweather & Tornatzky, 1977; Rossi & Williams, 1970; Rossi, Freeman, & Wright, 1979; Suchman, 1967; Weiss, 1972).

The acceptance and implementation of evaluation techniques have not kept pace with their rapid development. Where program evaluation methods have been used, the results have been frequently ignored by policy makers (Bernstein & Freeman, 1975; Wholey, Scanlon, Duffy, Fukumoto & Vogt, 1970) or have not been implemented systematically (Caplan, Morrison, & Stambough, 1975; Weiss, 1980). Moreover, program

evaluation methods have been perceived at times by human service professionals to be insensitive to the complexities characterizing their programs and to be a manipulative device used by governmental decision makers to camouflage predetermined decisions to terminate programs (Attkisson & Broskoski, 1978), decisions which may originate in caprice or may be motivated by pursuit of political advantage.

The lag witnessed in the adoption of program evaluation methodology is not unlike the lag evidenced in the adoption of other types of new knowledge. Glaser (1976) has shown that some innovations may take as long as 100 years to diffuse fully throughout a particular social system.

Several factors may affect the rate of diffusion of innovations. An examination of these factors may provide insight into the diffusion of program evaluation methodology among human service agencies. Moreover, an examination of this literature may indicate how this diffusion can be facilitated, i.e., show how the adoption of program evaluation methods by human service organizations might be fostered. The purpose of the present research is to examine experimentally a method for influencing this adoption process.

Innovation Diffusion and Implementation

The empirical study of diffusion began during the 1930's when rural sociologists studied the spread of agricultural information from scientists in state universities to farmers (Ryan, 1948; Ryan & Gross, 1943), although theoretical work probably originated with Tarde (1903). The study of the

diffusion of innovations has since expanded to include the examination of literally thousands of different social and technological products and processes. The multidisciplinary growth in diffusion research has contributed to an almost overwhelming number of publications; Rogers, Williams, & West (1977), for example, cited 2750 publications. Some believe this growth has been due to the ability of social scientists to conduct research having potentially significant social consequences (Downs & Mohr, 1976). An unfortunate cost for this growth has been great theoretical fragmentation.

Rogers (1962; Rogers & Shoemaker, 1971) first suggested a nomothetic theory might explain diffusion phenomena. He believed this process was independent of discipline, type of innovation, or research method (Rogers & Eveland, 1975). From his analysis, Rogers constructed what has come to be called the classical model of diffusion. This model consists of four stages (Rogers & Shoemaker, 1971, p. 103).

1. Knowledge. The individual is exposed to the innovation's existence and gains some understanding of how it functions.
2. Persuasion. The individual forms a favorable or unfavorable attitude toward the innovation.
3. Decision. The individual engages in activities which lead to a choice to adopt or reject the innovation.
4. Confirmation. The individual seeks reinforcement for the innovation decision he has made, but he may reverse his previous decision if exposed to conflicting messages about the innovation.

Although Rogers' model provided a conceptual breakthrough for diffusion researchers, critics have pointed to several weaknesses and have suggested alternative conceptions

of change (Berman & McLaughlin, 1975; Havelock, 1973a, 1973b; Yin, 1978; Yin, Heald, & Vogel, 1977; Yin, Quick, Bateman, & Marks, 1978; Zaltman, & Duncan, 1977; Zaltman, Duncan & Holbek, 1973). Rogers has modified the classical model in recognition of these criticisms (Eveland, Rogers, & Klepper, 1977; Rice & Rogers, 1980; Rogers & Eveland, 1975).

The major weakness of the classical diffusion model is its predominate focus upon the individual, perhaps arising in part from its origin in the study of change among individual farmers. The classical diffusion model does not attempt to account for the different processes in organizations that influence the adoption and implementation of innovations (Havelock, 1973b; Rogers & Eveland, 1975; Zaltman, et al., 1973). Many variables shown to influence the adoption of innovations by individuals make little or no sense when considering organizations, e.g., organizations do not have attitudes toward the innovation; many organizational variables related to innovation adoption result in nonsense when generalized to individuals, e.g., formalization of rules governing behavior. Thus, generalizability of the classical model may be limited to innovation adoption among individuals (Zaltman, et al., 1973; Rogers & Eveland, 1975).

A second major weakness of the classical diffusion model is its conceptualization of the innovation. The classical model generally views the innovation as a fixed quantity, arising again, perhaps, from the original study of adoption of agricultural products. It is not at all clear that the

process of innovation adoption works similarly for more amorphous and ephemeral innovations like educational curricula, social intervention programs, or social science knowledge (Berman & Mclauglin, 1975; Downs, 1978; Downs & Mohr, 1976; Hall & Loucks, 1978; Larsen, 1980; Mohr, 1978; Weiss, 1980).

Related to the view that innovations are unitary phenomena is the conception of the adoption decision. Traditionally, diffusion researchers viewed adoption as a binary response in which one either adopted the innovation or one did not. Post-adoption processes often were not examined, although Rogers and Shoemaker (1971) discussed the possibility of functional and dysfunctional consequences of adoption. Innovation researchers have recently developed a more comprehensive view of innovation adoption, including the examination of changes in the innovation subsequent to adoption (Hall & Loucks, 1978; Rice & Rogers, 1980; Yin et al., 1977; 1978). Disagreement exists, however, regarding the merit of deliberate adaptation of the innovation to local conditions and needs by adopting organizations (Calsyn, Tornatzky, & Dittmar, 1977; Glaser & Backer, 1977). Although innovation adoption is frequently seen now as a process of continuous and gradual specification, a linear, stage model is generally accepted (Eveland, Rogers, & Klepper, 1975; Yin et al., 1978).

The final conceptual weakness of traditional notions of innovation adoption rests in the implicit assumption that innovation and change are intrinsically good (Rogers &

Eveland, 1975; Zaltman, 1979). This view is problematic because the diffusion of innovations perceived positively by potential adopters may not occur in the same fashion as innovations perceived negatively (Zaltman, 1979). This failure to examine the innovation adoption decision in greater detail may also partly explain the pervasive existence of contradictory research results (Downs, 1978; Downs & Mohr, 1976; Mohr, 1978).

The weaknesses in the traditional diffusion model are addressed in the present research. First, organizations provide the unit of analysis for examining innovation adoption, allowing greater generalizability of diffusion research results. Second, the innovation is not viewed here to be a fixed quantity. In the present study, it is possible for organizations to adopt portions of the innovation. Finally, adoption of the innovation is not assumed to be beneficial. One of the instruments used in the present research (Agreement with Evaluation Practices) measures whether potential adopters think current evaluation practices should be used in their agency.

A more complete determination of the generalizability of innovation theory requires the inclusion of varied units of analysis and diverse samples. The study of innovation adoption in gerontological organizations provides the focus for the present research because innovation adoption in this type of organization has not been examined by researchers. Because innovation adoption by organizations is one of the

primary focuses of the present research, major models of organizational functioning will be briefly discussed below.

Organizational Models

In some respects, innovation and change in organizations may be more resisted than change among individuals. The relationship of innovation in organizations will vary, however, across type and structure of organization and stage of the innovation process (Burns & Stalker, 1961; Hage, 1965; 1980; Hage & Aiken, 1970; Hall, 1977; Lawrence & Lorsch, 1967; Perrow, 1979; J. Thompson, 1967; V. Thompson, 1965; Wilson, 1966; Zaltman, Duncan, & Holbek, 1973; Zaltman & Duncan, 1977). This variation is true both for the creation of innovations within organizations and the adoption of innovations created outside of organizations. Historical models of organizational functioning have shaped current conceptions of innovation creation and adoption in organizations and, therefore, will be briefly discussed.

The bureaucratic model is probably the oldest, rational theory of organizations (Weber, 1947). Bureaucratic structure emerges as a consequence of the attempt by organizations to impart some degree of rationality to an uncertain environment through the use of division of labor, structured roles and formal rules of behavior (Weber, 1947). Hall (1963) provided early empirical support for the existence of these dimensions, although they were demonstrated by organizations in varying degree. Innovation may become problematic for

organizations that demonstrate to a greater extent bureaucratic characteristics. Typically, innovation is resisted because it causes a disruption of routine and threatens maintenance of rational control, especially rule observance and superordinate-subordinate role relationships (V. Thompson, 1965). Organizations demonstrating bureaucratic dimensions to any great extent may be less likely to adopt innovations produced outside the organization but may be more likely to implement innovations faithfully once adopted (Zaltman et al., 1973).

Many scholars suggest the bureaucratic model is too restrictive and neglects the role of human relationships in organizational functioning. The human relations model (Barnard, 1938; Likert, 1967; Roethlisberger & Dickson, 1947), stressing the importance of norms and other forms of informal behavioral control, emerged to address this weakness in the bureaucratic model.

The human relations model focuses primarily on morale, leadership, productivity, and the structuring of groups (Perrow, 1979, p. 98). This increased stress on human relationships directs study to the importance of communication and cooperation rather than more formal organizational characteristics. Human relations proponents advocate looser control and increased tolerance for diversity, which is believed to be positively related to innovation (Burns & Stalker, 1961). While some empirical evidence exists to suggest a positive relationship between looser control and

innovation, only equivocal support can be provided to demonstrate that superior organizational performance results from adherence to human relations tenets like participation in decision making (Locke & Schweiger, 1979; Perrow, 1979).

Another major approach to the study of organizations focuses on the interaction of the organization with its environment. Both structural and interpersonal characteristics are studied. In this "adaptive systems" view, the major goal of the organization is survival, and the organization adapts in any way necessary to insure it (Tosi, 1975, p. 93). This approach includes the "Environmental Model" (Perrow, 1979) and the "Contingency-Choice Perspective" (Hall, 1977). Typically, organizational forms are seen as a function of tasks, goals, or technology, with organizational functioning varying as a result of the fit of organizational characteristics with environmental demands (Galbraith, 1973; Lawrence & Lorsch, 1967; Litwak, 1961; Perrow, 1967; J. Thompson, 1967; Woodward, 1965). The response of organizations to innovation depends on this "organization-environment fit."

The two stage innovation model developed by Zaltman and his colleagues (Zaltman et al., 1973; Zaltman & Duncan, 1977) is an environment matching model. Similar to Wilson (1966), the stages of the Zaltman model include an initiation stage (the organization becomes aware of the innovation, decision makers form attitudes toward the innovation, and the decision is made to adopt the innovation) and an implementation stage

(both initial and sustained implementation). Given the different tasks associated with each stage, different organizational structural characteristics become important. Organizations should differentiate their structure at each stage of innovation adoption and implementation. At the initiation stage, adopting organizational units should have higher complexity, lower formalization and lower centralization. During the implementation stage, organizational units should have lower complexity, higher formalization and higher centralization. This contribution from Zaltman and his colleagues offers the first contingency perspective on the adoption of innovations by organizations.

Tornatzky, Roitman, Boylan, Carpenter, Eveland, Hetzner, Lucas, & Schneider (1979, pp. 8-9) have also contributed to the contingency perspective of organizational innovation. These authors suggest that innovations requiring uniform tasks (Litwak, 1961) might be more likely to be adopted by organizations stressing rules, job specialization and hierarchical decision making; innovations requiring non-uniform tasks might be more attractive to organizations stressing participation, limited hierarchy and open communication (pp. 8-9). Little innovation research using this organization-environment focus has been reported.

A review of the results of research examining innovation within, and innovation adoption by, organizations will clarify these relationships. While limited longitudinal, experimental research examining the interaction between

organization type and innovation adoption and change has been reported (Tornatzky, Fergus, Avellar, & Fairweather, 1980), several investigators have used cross-sectional survey data to document the relationship between organizational characteristics, innovation adoption, and change.

Innovation and Organizations

Burns and Stalker (1961), examining case studies of innovation among twenty electronics firms in England and Scotland, first attempted to establish empirically a relationship between innovation and organization structure. Organizations are interpreted as mechanistic or organic. Mechanistic systems are believed to be appropriate in stable environmental conditions and are characterized by (1) specialized differentiation of functional tasks, (2) precise definition of organizational roles, rights and obligations, and (3) a tendency toward superordinate-subordinate structured interaction (p. 120). In many respects the mechanistic model parallels the classical Weberian conception of bureaucracy. The organic form is represented by (1) adjustment and continual redefinition of individual tasks and roles, (2) a network structure of control, authority and communication, and (3) communication based on the exchange of information and advice rather than instructions and decisions (p. 121). The organic form of structure has several components in common with human relations perspectives of organizational functioning. Burns and Stalker (1961) conclude that organic forms of organizations are likely to be more innovative and

receptive to innovation adoption and change, although no mechanism is suggested whereby organizations might deliberately change to address new environmental demands (Fleischer, 1978, p. 10).

Jerald Hage and his colleagues have reported several studies that substantiate and extend many of the observations first made by Burns and Stalker (Aiken & Hage, 1968; 1971; Dewar & Hage, 1978; Hage & Aiken, 1967a, 1967b, 1970; Hage & Dewar, 1973). The highlight of this program of research was the discovery that organizational characteristics most related to innovation adoption and change in 16 human service organizations were complexity, centralization, formalization and interorganizational relations. A summary of these findings is presented below. A more complete discussion may be found in Hage and Aiken (1970), Zaltman et al., (1973), and Zaltman and Duncan (1977).

Complexity typically refers to the level of knowledge and expertise in an organization. Indicators frequently used to represent complexity include the number of occupational specialities, their level of professionalization, and the existence of a differentiated task structure (Hage & Aiken, 1970; Heydebrand & Noell, 1973; Wilson, 1966).

Complexity has been shown to be related positively to change and innovation adoption. Hage and Aiken (1967b, p. 509) report a moderately strong, positive relationship between complexity ($\underline{r}$ = .48 for no. of occupational specialties; $\underline{r}$ = .37 for extra-organizational professional activity)

and innovation adoption. Additional evidence for the link between level of professionalization and innovation adoption in organizations has been provided by Corwin (1972), Counte and Kimberly (1974), Heydebrand and Noell (1973), Kimberly (1978), and Kimberly and Evanisko (1981).

The relationship between complexity and innovation adoption may not be so straightforward. Zaltman et al. (1973, pp. 137-138) have suggested that complexity may have a positive relationship with change only during the early initiation stage; a negative relationship may exist during the later implementation stage. No data have been reported to document this interaction.

The causal relationship between organizational complexity and innovation adoption is not precisely understood. Hage and Aiken (1970, pp. 33-35) suggest that the training and norms of experts and professionals prepare them to value new knowledge and motivate them to incorporate this new knowledge into their work. The frequency of inclusion of professionals in the innovation process has been shown to vary with the type of experts and their position in the organization (Tushman, 1977).

Complexity may be related to innovation adoption in the following way. The search by professionals for new knowledge may resemble the behavior of cosmopolite individuals (Gouldner, 1958a, 1958b), who have been shown to be early adopters of innovations (Rogers & Shoemaker, 1971). Highly complex organizations have large numbers of different types

of professionals. The large amount and diversity of information that is consequently brought into the organization increases the awareness and knowledge of innovations existing outside the organization. This constant influx of new knowledge through professionals and other experts may create performance gaps--perceived discrepancies between what the organization is doing and what its professionals feel it ought to do (A. Downs, 1966). Efforts to resolve these discrepancies may lead either to the adoption by the organization of outside innovations or the production of its own innovations (March & Simon, 1958). Although it might appear at first glance that larger organizations with more professionals would be more likely to adopt innovations, the relationship between complexity, organizational size and innovation remains unclear (Child, 1972; Dewar & Hage, 1978; Hage & Dewar, 1973; Kimberly, 1976; Moch & Morse, 1977; Pugh, Hickson, Hinings, & Turner, 1968).

Centralization of decision making has also been linked with the adoption of innovations by organizations. Centralization refers to the structure of decision making in organizations. Hage & Aiken (1970) also include the distribution and exercise of power and control, although this may be a separate dimension (Ouchi, 1977; Tannenbaum, 1968; Tannenbaum, Kavcic, Rosner, Vianello, & Wiesner, 1974). Generally, the fewer the number of organizational staff involved in decision making, and the higher they are located in the administrative hierarchy, the more centralized the organization is said to be.

Hage & Aiken (1970) suggest the concentration of power arising from centralization leads to the preservation of the status quo, thus reducing tolerance for the change that is often required for innovation adoption. Moreover, the concentration of decision making tends to isolate decision makers and hinder feedback from staff members lower in the organization. This concentration may especially impede innovation adoption if the organization is staffed primarily by professionals, who, as we saw above, are likely to be sources of new knowledge. Thus the concentration of power and decision making reduces the flow of innovation related information into the organization and to those members that may influence innovation related decisions. Centralization may further reduce the flow of information into the organization if the number of boundary spanning positions is reduced (J. Thompson, 1967; Tushman, 1977).

A moderately strong, positive relationship between an indicator of centralization (r = .48 for participation in decision making) and the adoption of new programs was reported by Hage & Aiken (1967b, pp. 509). Further evidence for the importance of participation in decision making has been provided by (Fairweather et al., 1974; Moch & Morse, 1977; Stevens & Tornatzky, 1980; Tornatzky, Avellar, Fergus, & Fairweather, 1980). Greater participation in decision making reflects the existence of organic characteristics (Burns & Stalker, 1961). There is no agreement, however, concerning the influence of participative decision making on

the total performance of the organization (Locke & Schweiger, 1979).

Innovation adoption in organizations may depend on the stage of the innovation process (Zaltman & Duncan, 1977; Zaltman et al., 1973). Centralization might limit innovation awareness and reduce the probability of innovation adoption, the first stage of the adoption process; more centralized decision making might facilitate implementation of the innovation, the second stage of the innovation process, once the decision to adopt has been made.

A third organizational characteristic reported to be associated with the adoption of innovations is formalization. Formalization refers to the degree to which rules and procedures are written. Formalization also usually refers to the extent to which deviation from these written rules and procedures is permitted. High formalization places restraints on individual behavior in that most work related behavior is prescribed and little latitude for deviance is allowed.

Hage and Aiken (1967b, p. 511) found a moderate negative relationship (r = -.47) between an indicator of formalization (job codification) and innovation adoption. This finding supports the case study results of Burns and Stalker (1961). There is little agreement, however, regarding the form of this relationship. Although Hage and Aiken (1970) state that high formalization might impede implementation of the adoption, Zaltman et al. (1973) disagree. Zaltman et al. (1973) suggest that low formalization at the initiation stage

increases the ability of organization members to gather and process information, which increases awareness of the innovation. However, with increased formalization during implementation, users of the new innovation can more easily be made aware of new role changes that inevitably accompany implementation, thus improving utilization. Parenthetically, high formalization at the implementation stage might limit the activities of inside advocates of the innovation, an organizational activity empirically linked to implementation success (Fairweather et al., 1974; Glaser, 1976; Havelock, 1973b; Rogers & Shoemaker, 1971).

The previous analysis has shown that several structural characteristics internal to organizations, viz., complexity, centralization, and formalization, influence the creation and adoption of innovations. These aspects of organizations are critical to the study of innovation because they have an enduring and pervasive effect on all organizational behavior. Also important is the relationship of the organization to other organizations in its environment, i.e., the interorganizational network.

The interorganizational network includes varying numbers of organizations linked through communication and exchange of resources. Interorganizational networks are not much different from television networks, transportation networks, or any other type of social network (Politser, 1980). Each point or node in the network is linked through communication and maintained through the exchange of resources, with stronger ties

representing greater interdependency in exchange (Cook, 1977). Access to resources can be improved through the addition and strengthening of links (Sarason, Carrol, Maton, Cohen, & Lorentz, 1977). Social and material exchange is the adhesive that binds together networks; the behavior of network participants is shaped by this exchange (Blau, 1964; Homans, 1950; Thibaut & Kelley, 1959).

Exchange among organizations is characterized by several factors which contribute to the existence and success of the relationships (Levine & White, 1961). York (1979) has summarized these factors: (1) interagency awareness, (2) resource interdependence, (3) domain consensus, (4) goal and task similarity, and (5) conflict. The factors most germane to the present research are interagency awareness and resource interdependence, and will be discussed below. This discussion draws greatly from the summary by York (1979).

Although at first glance this observation may seem inane, interorganizational relations are impossible without the awareness of other organizations and their activities. Levine, White, and Paul (1963) report that over half of the services provided by 34 agencies providing medical and social services were unknown to other community agencies. York (1979) suggests that this lack of awareness might be due to the absence of boundary spanning personnel, but he provides no empirical evidence for this conclusion. In addition to awareness, the physical opportunity for interaction must exist (Schermerhorn, 1975). Interorganizational awareness is

a prerequisite for the development of interorganizational relations.

The scarcity or uneven distribution of resources is frequently cited as one of the major factors spurring the development of interorganizational relationships. Among human service agencies, resources may include (1) clients, (2) consultation services, and (3) information (Levine, White & Paul, 1963). Resources must be important to goal realization, and the exchange must be viewed by the participants as reciprocal and equitable (Lehman, 1975).

Interorganizational relations may be related to innovation adoption through the following sequence of events. The first stage might include the awareness of relevant other organizations in the local environment. Next, as a consequence of interaction, organizations establish consensus regarding their respective domains, recognize the similarity between their respective goals and tasks, and increase interdependence through the exchange of resources. Finally, if conflict between organizations is not excessive, organizations may establish stronger collaborative relationships. As a result of interaction, members of organizations become aware of innovative programs and practices. Moreover, subtle pressures to adopt these innovations manifest themselves in attempts by professionals and others in organizations to demonstrate their "professionalism" through knowledge and implementation of new programs and practices in their respective organizations. While it is unknown whether interorganizational relations is linked in this fashion to innovation

adoption, there is moderate empirical support for the linkage itself.

Aiken and Hage (1968), in their study of 16 human service organizations, found rather strong support (r = .74) for a positive relationship between their measure of innovation adoption (number of new programs) and the number of programs conducted jointly with other organizations. Network centrality has also been shown by Becker (1970a, 1970b) to be significantly related to innovation adoption and diffusion among organizations. At the individual level of analysis, network position has often been associated with innovation adoption (Rogers & Shoemaker, 1971).

The research that has been discussed thus far has documented the relationships between adoption and implementation of innovations and characteristics of organizations and their environment. Not presented yet are the results of research examining attempts to change organizations and, more specifically, to change organizations such that the likelihood of innovation adoption is increased.

Organizational Change

Bennis (1966, p. 251), in the first McGregor Memorial Lecture, spoke rosily of the advent of "organizational revitalization...the deliberate and self-conscious examination of organizational behavior and the collaborative relationship between managers and scientists to improve performance." Based on humanistic-democratic ideals, organizational change emerging from the collaborative efforts of scientists and

managers was to usher in a new era of "temporary systems" devoted to the legitimate expression of imagination and creativity. Scientists were to act as midwives for this new era; working as active change agents, they were to use social science knowledge to manipulate strategic leverage points in organizations and consequently improve interpersonal relations and organizational effectiveness (Bennis, 1965).

It appears unlikely that change agents have successfully persuaded organizations to adopt conclusively this new value system (Tichy, 1974). Nevertheless, change agents continue to be a strategy frequently used for organizational change (Tichy & Hornstein, 1976). Change agents have often attempted to facilitate innovation adoption by individuals and organizations (Rogers & Shoemaker, 1971; Zaltman et al., 1973; Zaltman & Duncan, 1977).

Change agents may be located inside or outside the target organization, although organizational location may contribute to the radicalness of the possible change (Tichy, 1974). Moreover, the techniques exercised by change agents vary greatly (Hornstein, Bunker, Burke, Gindes, & Lewicki, 1971).

Change agents typically act as "linking agents" between the source of knowledge and the adoption/utilization system (Havelock, 1973a). This role shares many of the characteristics of J. Thompson's (1967) boundary spanning unit, its function being to act as a buffer between units within the organization, or between the organization and the larger

environment. Much of the activity of this linking role consists of encoding and decoding information so that the interacting systems may better communicate with each other. The existence of boundary spanning units is especially critical in highly complex environments or when the activities of the respective systems are very incongruent (J. Thompson, 1967).

Rogers and Shoemaker (1971, p. 248), in an exhaustive review of innovation adoption research, discovered that the simple provision of knowledge is not sufficient and suggested that the following characteristics should be possessed by the successful change agent attempting to influence innovation adoption. Change agent success was found to be positively related to:

1. The extent of change agent effort.
2. The demonstration of a client-orientation rather than change-agency-orientation.
3. The degree to which the program is compatible with clients' needs.
4. The change agent's empathy with clients.
5. The degree of homophily with clients.
6. The extent to which the change agent works though opinion leaders.
7. Credibility in the eyes of clients.
8. The effort used to increase the client's ability to evaluate innovations.

As can be seen in the suggestions for change agent success made by Rogers and Shoemaker (1971), interpersonal interaction is a critical component of the change process. This mode of communication is partly responsible for the ability of the change agent to confront successfully the resistance frequently demonstrated by potential adopters of innovations (Havelock, 1973b). Empirical support for this

comes from Fairweather et al. (1974) and Stevens and Tornatzky (1980), which are discussed in detail below.

Fairweather and his colleagues (Fairweather et al., 1974), in a national field experiment examining the adoption of an innovative mental health program by Veteran's Administration Hospitals, compared the relative effectiveness of different degrees of interpersonal interaction. Conditions in the first "approach" phase consisted of (1) brochures, (2) workshops, or (3) use of a demonstration version of the innovation. Participants in the demonstration conditions were more likely to adopt the innovation (Fairweather et al., 1974, p. 77), suggesting the relative superiority of a more active, interpersonal approach. The second stage of the experiment compared the effectiveness of an "action consultant" to a written manual. Participants in this second stage included only those organizations which had decided to adopt the innovation during the first stage. Thus, all participants in the second stage of the study had made some commitment to adoption. Organizations receiving active consultation were significantly more likely to adopt and implement the innovation, suggesting the efficacy of an active change agent.

Supporting evidence has been reported by Stevens (1977; Stevens & Tornatzky, 1980). These investigators examined the comparative effectiveness of private and group telephonic and

face-to-face consultation in fostering the adoption of evaluation methodology by substance abuse agencies. These interventions provided increasing amounts of interpersonal interaction. Program evaluation knowledge was disseminated to all participants in a three-day workshop. An analysis of variance revealed that the group consultation (type of consultation) was more effective than private consultation, and on-site consultation (type of site) was more effective than telephonic consultation. A significant interaction between type of consultation and type of site was also found.

These experimental comparisons of different degrees of interpersonal interaction offer an exceptional view of the innovation adoption process in organizations as they represent the few, randomized, longitudinal, field experiments in the area. The results from these studies show that active consultation can be effective in influencing the adoption of complex social innovations. Active consultation is more effective than the simple provision of information (Fairweather et al., 1974), and face-to-face active consultation within a group context is more effective than telephonic active consultation to private individuals (Stevens & Tornatzky, 1980) in facilitating the adoption of a social innovation by human service organizations. Unclear, however, is the generalizability of these findings. The Fairweather study included only Veterans Administration hospitals. Stevens and Tornatzky examined only substance abuse agencies. While both of these types of organizations provide human

services, they are predominantly staffed by professionals. Fairweather et al., (1974) included hospital superintendents, psychiatrists, psychologists, social workers, and nurses. The participants in Stevens' (1977) study were slightly less professional, in that no persons holding a doctoral degree were allowed to participate.

Also left unanswered by these studies is the type of group consultation necessary to move the organization toward adoption of the innovation. In both studies, groups were composed of individuals from the same organization. These staff members then acted as internal advocates for adoption of the innovation by the organization. The change agent primarily offered technical and motivational support to group members. Thus, while group consultation was shown to be effective in promoting innovation adoption, the participation of other organizational staff may have contributed to the significant main effect. The effectiveness of the consultant may have been confounded with other group and organizational processes like superordinate and subordinate role relationships. The present study controls for this confound by employing consultation groups composed of members from different organizations.

Another limitation of these results is the failure to ground the experimental design in an extensive theoretical context. The Fairweather study made an attempt by examining the influence of organizational decision making, specifically, participative decision making. Stevens also examined

participative decision making. Both studies additionally included some organizational variables like size and perceived resources. Little attempt was made to examine the environmental context within which the organizations were located. Also, the body of research examining innovation and organizational structure and interorganizational relations was ignored.

This limited integration of organizational change and organization theory is not unusual. In fact, the absence of any theoretical foundation among organizational change practitioners in endemic (French & Bell, 1975; Huse, 1980), although there are some exceptions (Beer, 1980). The present research attempts to extend and strengthen the results found earlier by these investigators. First, a sample of organizations very different from those already used is studied. This group of organizations includes human service agencies that provide services to older adults. Typically, the staff of these agencies are not professional; many of them work only part time (Davis, 1981a).

Second, the present research will attempt to integrate modestly the theoretical work examining intraorganizational structure/processes, interorganizational relations, and the adoption of innovations by organizations. The relationship between these organizational variables and action consultation will also be examined. Finally, the effectiveness of a type of action consultation never tested before in promoting innovation adoption is examined. This consultation intervention is discussed below.

Consultation Intervention

The intervention used in the present research attempts to facilitate the adoption and implementation of program evaluation methods with a consultation intervention stressing three components: 1) expansion of interorganizational relations and social support, 2) use of structured-goal setting, and 3) provision of program evaluation knowledge.

The relationship between interorganizational relations and innovation adoption was discussed above. The consultation intervention takes advantage of, and tries to foster, the interorganizational relations of participants. Participants are told to seek innovation related resources from other organizations in the consultation group and their environment. The actual procedures used to increase this sharing are discussed in the next chapter.

The provision of social support among participants is also stressed in the consultation intervention. The use and effects of social support have recently received considerable attention from community psychologists. Emshoff, Davis, and Davidson (1981) argue that social support possesses the following characteristics. Social support:

1. satisfies the need an individual has for affection and esteem;
2. implies a mutual obligation among individuals to exchange material resources;
3. implicitly and/or explicitly includes the societal integration of the individual through the acquisition of rewarding roles; and
4. implicitly and/or explicitly assists the individual in validating expectations about others, contributing to the individual's construction of reality.

Typically, social support is conceived as an interpersonal process that assists in the satisfaction of the social and psychological needs of the individual (Caplan, 1974; Caplan & Killilea, 1976). Emshoff et al. (1981) argue, however, that networks providing social support might be developed across groups and organizations. Such networks could be built among organizations sharing similar goals and needs, but individually lacking resources to accomplish satisfactorily all of these goals.

Sarason et al. (1977) provide case study evidence of a natural support network comprised of a variety of human service organizations serving a common geographic area. The major outcomes they report include increased productivity and sense of support, and a decreased sense of alienation. Although they do not discuss whether this type of network could be deliberately created and beneficially manipulated, some evidence exists to suggest that this is possible (Bogat & Jason, 1980; Caplan & Killilea, 1976; Davis & Jason, 1982). The deliberate creation of such networks has not been tested among organizations, although Schermerhorn (1981) has suggested how this might be done.

Some suggest further that task-oriented support groups may enhance task completion (Davis, 1979). Empirical evidence for this is sketchy. Some job placement counseling programs having a significant network component have been shown to be highly successful with youth (Azrin, Flores, & Kaplan, 1975), handicappers (Davis, Johnson, & Overton, 1979)

and the elderly (Gray, 1980), although this effect is confounded with other structured activities. The success of task-oriented support groups among organizations is unknown.

The social support component is included in the consultation intervention to address the affective barriers to innovation adoption cited by Frohman and Havelock (1973), i.e., perceived fears regarding threats to social relationships, outside malevolence, personal position, and status differences with the consultant.

Another focus of the consultation intervention includes structured goal-setting. This refers to precise delineation of what is to be accomplished as a result of the consultation intervention. Goals represent the aim of action (Locke, Shaw, Saari, & Latham, 1980). Locke et al. (1981), in a review of goal-setting in laboratory and field studies, report almost overwhelming support for the finding that specific and challenging goals increase task performance.

Locke (1968) first suggested a theory of goal-setting for organizations. Locke (1968) showed in eight laboratory experiments that use of specific goals increased performance, and that harder goals, if accepted, led to greater performance that easier goals. Latham and Yukl (1975) conclude in their review of 27 correlational and experimental studies that goal-setting is effective over an extended period of time in a variety of organizations.

Participative goal-setting is used in the present consultation intervention to increase effort and persistence in

adopting program evaluation methods through the structuring of adoption related behavior. Moreover, the setting of goals allows a more gradual estimation of the "benefit/risk ratio" of the innovation. Participants may choose to adopt only a portion of the innovation (only some evaluation methods), thus increasing the "trialability" of the innovation. This trialability has been shown to be an important characteristic of successfully adopted innovations (Rogers & Shoemaker, 1971).

A final component of the consultation intervention includes instruction in program evaluation methods. Participants learn how to use evaluation methods and how to improve management of their organizations using the collected data. Knowledge is presumed necessary for adoption. This is explained in greater detail in the next chapter.

So far, research and theory in innovation have been discussed because they reveal several factors that might influence the adoption of program evaluation methods. Theory and research examining organizational structure and processes were reviewed because the focus of the present research is organizations that provide services to older adults. Strategies shown to be successful in promoting organizational change were discussed because it is the intention of the present research to test an attempt to change the innovation adoption behavior of organizations. Finally, the present

research attempts to provide a modest extension and integration of the previously disparate bodies of work of organizational theory and change. An explicit statement of the hypotheses tested in the reported research is reported below.

Research Hypotheses

Experimental Hypotheses

Hypothesis 1: Participants of organizations receiving the consultation intervention will report greater adoption and implementation of program evaluation practices than participants of organizations not receiving the intervention.

Hypothesis 2: Participants of organizations receiving the consultation intervention will demonstrate greater knowledge of program evaluation practices than participants of organizations not receiving the intervention.

Hypothesis 3: Participants of organizations receiving the consultation intervention will demonstrate more favorable agreement with program evaluation practices than participants of organizations not receiving the intervention.

Correlational Hypotheses

Hypothesis 4: Indicators of centralization will be negatively related to the adoption and implementation of program evaluation practices.

Hypothesis 5: Indicators of formalization will be negatively related to the adoption and implementation of program evaluation practices.

Hypothesis 6: Indicators of complexity will be positively related to the adoption and implementation of program evaluation practices.

Hypothesis 7: Indicators of agreement with evaluation practices will be positively related to the adoption and implementation of program evaluation practices.

Hypothesis 8: Knowledge of evaluation methods will be positively related to the adoption and implementation of program evaluation practices.

Hypothesis 9: Interorganizational relations will be positively related to the adoption and implementation of program evaluation practices.

Hypothesis 10: Interorganizational relations will be positively related to agreement with program evaluation practices.

CHAPTER II

Methods and Procedures

Sample Selection

Three communities in Michigan--Lansing, Grand Rapids, and Southfield--provided research sites. In all cases, Area Agencies on Aging (regional planning and funding agencies for aging related services throughout the state) were contacted and included in the planning of the study and recruitment of participants. Area Agencies on Aging (AAAs) provided lists of all public and private agencies delivering human services to the elderly within their geographical jurisdiction. Listed agencies provided a range of services to older adults, e.g., nutrition, legal-aid, housing, home-care and recreation. No restrictions regarding source of funding were placed on participants, resulting in representation of publicly and privately funded services. The only restriction placed on participation was that services be directed primarily to the elderly. (This restriction was stipulated by the funding source.)

The director of all organizations providing services to the elderly was contacted by letter and invited to participate in a free, two-day program evaluation workshop. Each organization choosing to participate in the evaluation workshop was asked to select one staff member to attend. It was suggested that the agency director, if unable to attend,

should send the staff member usually responsible for evaluation and planning related tasks.

Five program evaluation workshops were presented--three in Lansing, and one each in Grand Rapids and Southfield. Of approximately 150 organizations in each community invited to participate, a total of 56 organizations chose to do so: 28 in Lansing and 14 each in Grand Rapids and Southfield (Table 1). Of these participants, three chose not to complete the full two-day workshop (due to inappropriateness of material), seven chose not to continue after participating in the workshop (generally due to time constraints or lack of interest), and three were deemed unacceptable for the sample (one participant exclusively provided evaluation services to other agencies; one participant was from the same agency as another participant; the participant from the third agency represented a regional administrative unit for other service providers and did not provide services).

Experimental Design

The dependent variables included the adoption and implementation of program evaluation methods, knowledge of program evaluation methods, and agreement with evaluation practices. The experimental intervention consisted of the manipulation of interpersonal interaction with a six-week, face-to-face consultation designed to promote the adoption of program evaluation methods. Participants not receiving the consultation intervention received only the workshop. Participants were randomly assigned to either a consultation group or

Table 1

Participants by Geographic Workshop

	Lansing			Grand Rapids	Southfield	Total
	W1	W2	W3			
Participants	17	7	4	14	14	56
Drop out during workshop	2				1	3
Drop out after workshop	2	2		1	2	7
Excluded after workshop		1		1	1	3
Total in Sample for Pretest	13	4	4	12	10	43

workshop-only group after participation in the workshop (Table 2). The assignment of participants and composition of groups will be further discussed below.

Experimental Intervention

The first phase of the intervention included the dissemination of the innovation. The innovation was disseminated through a two-day workshop in evaluation planning and methods. Participants were also given a specially edited 200 page program evaluation manual to assist in the innovation dissemination. The purpose of the workshop was twofold: (1) to equalize across participants, as much as possible, knowledge of evaluation methods, and (2) to provide a comparison with the method most commonly used by policy makers to change the practices of human service organizations, i.e., workshops.

Table 2

Experimental Conditions

	Consultation with workshop	Workshop only
Lansing	n = 15	n = 10
Grand Rapids	n = 8	n = 5
Southfield	n = 6	n = 6
Drop out	n = 5	n = 2
Sample	n = 24	n = 19

Program evaluation was conceived to include several diverse components, ranging from establishment of program objectives and goal-setting to use of randomized experiments. A review of evaluation taxonomies (Fairweather & Tornatzky, 1977; Rossi, Freeman, & Wright, 1979; Suchman, 1967; Weiss, 1972) was conducted to determine the most common components of program evaluation. The primary features of program evaluation comprised the content of the evaluation workshops. These features include:

1. Determining service goals based on participation of staff and clients.
2. Establishing measureable objectives, including the use and interpretation of standardized measurement instruments.
3. Accurate and reliable record-keeping.
4. Measurement of client satisfaction.
5. Measurement of cost-service ratios, including cost/benefit and cost-effectiveness ratios.
6. Measurement of program implementation.
7. Measurement of program effectiveness, including pre-experimental, quasi-experimental, and experimental designs.
8. Measurement of program impact on the surrounding community, including needs assessments.

Workshops consisted primarily of didactic modules structured around each of the above topics. Small group exercises were interspersed between didactic sessions to allow participants the opportunity to apply the information to their own service. Pretest measures were also administered during the workshop. An outline of the workshops is provided in Appendix A. Workshops were conducted during March (Lansing), April (Grand Rapids), and June (Southfield) of 1981. The consultation intervention began within two weeks after the end of the workshops in each respective site.

The consultation intervention was designed to facilitate the adoption of the evaluation innovation presented during the workshops. Participants were randomly assigned either to one of five consultation groups or to a workshop-only control group (see Table 3 for the assignment to conditions). Each consultation group received the same treatment. The creation of small groups was necessary because it was felt that the consultation may more easily be provided to a smaller number of people and the exchange of resources was one of the intervention components. The size of each group was determined by the best compromise between having groups large enough to provide a basis for exchange, but small enough to allow as many experimental replications as possible.

Because four members of the first Lansing consultation group withdrew from participation at the time of the first consultation session, groups 1 and 2 were combined to provide a single group of 7 members. (These participants withdrew

from the consultation groups to which they were assigned for different reasons. One person was not allowed by her parent agency to participate because the parent agency provided evaluation services; they felt these should be used rather than an outside consultant. The other three people had to withdraw because of other time commitments. They each stated that if the consultation were to be provided in the future they would choose to participate.)

Table 3

Experimental and Control Groups

	Consultation with workshop	Workshop only	Total
Lansing			
Group 1	n = 6	n = 10	n = 25
Group 2	n = 5		
Group 3	n = 4		
Grand Rapids	n = 8	n = 5	n = 13
Southfield	n = 6	n = 6	n = 12
Drop out after assign. to group	n = 5	n = 2	n = 7
Total Sample at pretest	n = 24	n = 19	n = 43

The consultation was designed to increase knowledge of evaluation methods, assist in the development of positive attitudes toward the use of evaluation, and foster adoption of evaluation methods through the use of participative goal-setting.

Consultation sessions were held weekly for six consecutive weeks in each of the three cities. In two of the research sites (Lansing and Southfield), sessions were conducted in an office provided by the local AAA. In the third city, sessions were conducted in an office provided by one of the participants. Each consultation session lasted from two to three hours. Approximately the same structure obtained for each meeting (see Appendix B for an outline of each consultation session). The first half-hour was spent reviewing material presented in the workshop. The second activity required participants to report to the group the accomplishment of program evaluation objectives selected the previous week. The final activity consisted of each participant setting new objectives to be accomplished by the following week. Objectives were agreed upon through negotiation between the group-leader and participant. All objective setting and accomplishment was conducted publicly and recorded with multiple copies, one for the group-leader and one for the participant.

Participants determined at the first session the evaluation goal they ultimately wished to achieve. For some, this included only the development and administration of a needs assessment instrument; for others, this included an evaluation of effectiveness using a pretest-posttest, quasi-experimental design.

Weekly objectives consisted of small steps in the direction of the larger goal. For example, if the ultimate goal

was an evaluation of program effectiveness, the participant might first set an objective to have a staff meeting to discuss this idea with relevant staff members. (This was encouraged.) When recording this objective, the participant was instructed to be sufficiently specific that someone else could accomplish the objective in the absence of the participant. In the case of a staff meeting, for example, the number of meetings would be determined, persons to be invited would be named, and if possible, a date and location would be selected.

Each week objectives were chosen to require greater and greater behavioral commitment to the accomplishment of the ultimate goal. Continuing the example above, the second session would require the participant to report accomplishment of the previously set objective. If the entire objective was not accomplished successfully, the participant again set the unaccomplished portion of the objective for the subsequent week. Additionally, new objectives requiring greater commitment were set. For example, the participant might next determine possible outcomes to examine, select standardized measurement instruments, select a sample for a pilot-test, conduct a pilot-test, and refine the measurement instrument. The objectives set in the last session (6th) of the consultation intervention typically included dates for pretesting, administering the intervention, and posttesting. In some cases, implementation of the innovative evaluation practice began before the end of the consultation intervention. In

this fashion, participants progressively adopted and implemented more and more of the innovative practice, thus insuring trialability (Rogers & Shoemaker, 1971).

In addition to the effectiveness of the intervention in fostering the adoption and implementation of program evaluation methods, characteristics of organizations and their environment, suggested above to be related to adoption, were measured. These characteristics were believed to moderate the success of the intervention and were interpreted as predictive independent variables. The scales used to measure adoption and implementation of evaluation practices, as well as all other variables, are presented below. First, however, the method used for scaling will be discussed.

Scaling and Data Reduction

Several general comments are necessary regarding measurement in the present study. First, scales tested previously in innovation research were used where possible. This is important because the present research is partly an attempt to synthesize previously disparate empirical domains. Use of these scales is critical if the obtained results are to provide a meaningful synthesis. Second, several of the scales used in the present study have been previously administered to organizations providing services to older adults throughout Michigan (Davis, 1981a). These scales were also used in the present research. This larger, state-wide sample (n = 108 organizations) was used to determine the psychometric characteristics of most scales used in the present

study. The workshop sample (n = 56) in the present research was used to confirm scale dimensions and to determine the psychometric characteristics of those scales used for the first time (Workshop Effectiveness, Consultation Effectiveness, and Evaluation Interview). Finally, scales and items used to measure variables interpreted at the organizational level of analysis, e.g., size, complexity, centralization, formalization, interorganizational relations, and organizational stability, are based on individual responses aggregated within their respective organizations. Scales created to measure variables interpreted at the individual level of analysis, e.g., agreement with evaluation practices, are not aggregated. Psychometric analyses for aggregated responses were conducted at the aggregate level because this is the level at which responses are interpreted (cf. Sirotnik, 1980). The psychometric procedures used adhere to the format developed by John Hunter (Hunter, 1977; Hunter & Gerbing, 1979; 1980).

Measurement models for each scale were created, including those scales used in previous research. The measurement model specified presumed relationships between underlying traits and manifest indicators. Inter-item correlation matrices for each scale were computed. An oblique, multiple groups factor analysis (Gorsuch, 1974; Harmon, 1978) using PACKAGE (Hunter & Cohen, 1969) was used to estimate the parameters of the measurement model. Finally, the fit of the data to the measurement model was determined by examining

three criteria for unidimensionality suggested by Hunter (Hunter, 1977; Hunter & Gerbing, 1979; 1980): (1) homogeneity of item meaning, (2) internal consistency, and (3) parallelism, or external consistency. Items were deleted and rearranged to improve the fit of the observed data to the measurement model until a set of unidimensional scales was obtained.

1. Homogeneity of Item Meaning. Previous usage and a priori estimates of item content were used to define meaningful clusters of items--forming scales and subscales. These scales and subscales represented the a priori measurement model. The parameters of the measurement model were estimated with oblique, multiple groups confirmatory factor analysis (Gorsuch, 1974; Harmon, 1976). Communalities were used in the diagonal so that correlations between items and cluster true scores, and correlations between cluster true scores, could be computed (Hunter & Gerbing, 1979, p. 16).

2. Internal Consistency. The assumption underlying the measurement of internal consistency is the existence of a linear relationship between cluster true scores and the items used to measure them. If this linear relationship holds, measurement errors associated with items are uncorrelated with each other or with item true scores. The lack of correlation between item errors of measurement is the definition of internal consistency, i.e., measurement error arises from error associated with sampling items from the content domain

and is random (Hunter & Gerbing, 1979, p. 20; Nunnally, 1967, p. 206ff). The extent of this measurement error was measured with coefficient alpha (Cronbach, 1951). Cluster items were rearranged to conform to the product rule for internal consistency (Hunter, 1973; Hunter & Gerbing, 1979): (a) all items were examined for equal quality i.e., similarity of inter-item correlations with item-cluster true score correlations; (b) the matrix of all items was examined for a strong-weak gradient. Finally, to provide a more rigorous measure of internal consistency, cluster scores were partialed out of their respective scales. Perfectly unidimensional scales should produce partial correlations equal to zero.

3. Parallelism. Parallelism refers to the correlation of items with other items outside of the cluster in which they are a member (Hunter & Gerbing, 1979). The degree of parallelism was determined first by examination of these correlations. Also, similarity coefficients were computed to provide a summary score of the parallelism of items within clusters (Hunter, 1973; Hunter & Gerbing, 1979).

Only predictive independent variables and dependent variables were scaled. Descriptive independent variables were represented by single indicators and, consequently, did not require the application of data reduction procedures.

Data Collection Instruments

The data were gathered with eight measurement instruments. These instruments, and the variables they were intended to measure, are discussed below. A discussion of

the psychometric characteristics of the scales contained in these instruments follows.

1. Evaluation Self-Report. This is a 22 item scale which asks respondents to report the frequency of common evaluation practices in their organization. This scale was administered during the workshop (pretest) and at the end of the consultation intervention (posttest). (See Appendix C).

2. Evaluation Interview. This is another measure of evaluation practices, consisting of 32, semi-structured interview items asking respondents to report the onset and frequency of evaluation practices in their organization. Respondents were interviewed at the end of the consultation intervention and one month later during a follow-up measurement period. (See Appendix D).

3. Agreement With Evaluation Practices. This scale consists of 22 items and is intended to measure how strongly individual staff in each of the participating organizations agree with currently accepted program evaluation practices. This scale was administered during the workshop and at the end of the consultation intervention. (See Appendix E).

4. Project/Service Information. This questionnaire collected all descriptive information, like age and education, and all predictive variable information, like centralization and complexity. It consists of 35 items and was administered during the workshop and at the end of the consultation intervention. (See Appendix F).

5. Project Interaction. This is a sociometric type rating scale consisting of a random selection of organizations providing services to the elderly in each geographical research site. Additionally, all organizations participating in the research were included in the list of rated organizations. The number of rated organizations ranged from 54 (Lansing) to 64 (Southfield). This scale was administered during the workshop and at the end of the consultation intervention. (See Appendix G).

6. Evaluation Knowledge. This fifteen item scale uses a multiple choice format to test workshop participants' knowledge of program evaluation concepts taught during the workshop and explained in the provided evaluation manual. This instrument was given at the 4 week follow-up measurement period. (See Appendix H).

7. Workshop Effectiveness. This short scale consists of six items written to tap workshop participants' perception of the evaluation workshop. This scale was administered at the end of the evaluation workshop. (See Appendix I).

8. Consultation Effectiveness. This questionnaire collects information representing consultation participants' perception of the effectiveness of the consultation intervention and their perceived ability to conduct program evaluation as a function of their participation. This scale was administered at the end of the consultation intervention. (See Appendix J).

All instruments, with the exception of the Consultation Effectiveness scale, were administered to all participants in the workshop. All instruments, with the exception of the Workshop Effectiveness, Consultation Effectiveness, and Evaluation Knowledge scales, were also administered to another person in each organization nominated by the workshop participant as knowing the most about that organization's practices. Participants nominated the staff member they believed to be most aware of organizational functioning. Nominated others were used to increase the reliability of responses (Seidler, 1974). Operationalization of the constructs measured with each of the above instruments, and their respective psychometric characteristics, are discussed below. Table 4 presents the schedule for administration of all measurement instruments.

Operationalization of Constructs

This section describes how each construct of interest discussed in the previous chapter was operationalized. The variables representing these constructs are organized into four categories: manipulation checks, descriptive and predictive process measures, and outcome measures.

Manipulation Checks. The experimental manipulation was measured with two manipulation checks. The first check examined the effectiveness of the workshops in conveying evaluation information. Participants completed the Workshop Effectiveness Questionnaire at the end of the workshop (Appendix I). This was used to estimate the comparability of

Table 4

Measurement Schedule

Scale	During Workshop	After Intervention	4 Week Follow-up	Who Completed*
Evaluation Self-Report	X	X		P, NO
Evaluation Interview		X	X	P, NO
Agreement with Evaluation Practices	X	X		P, NO
Project/Service Information	X	X		P, NO
Project Interaction	X	X		P
Evaluation Knowledge			X	P
Workshop Effectiveness	X			P
Consultation Effectiveness (consultation group only)		X		P

* P = Participant in workshop, usually the program director.

NO = Nominated other

experimental and control groups after the workshop, but prior to the intervention. This questionnaire also provided a measure of participants' expected implementation of program evaluation practices as a result of workshop participation.

The second manipulation check measured the perceived effectiveness of the consultation sessions. Participants completed the Consultation Effectiveness Scale at the end of the six-week consultation intervention (Appendix J). This was used to estimate the comparability of experimental groups and participants' rating of consultation related experiences and expectancies regarding post-consultation evaluation practices.

Descriptive Process Measures. All descriptive variables were included in the Project/Service Information questionnaire (Appendix F). These variables describe aspects of participants and their organizations that were believed to distinguish them from each other. While they were not the primary focus of the study, they may have acted to confound any effect found for the intervention. These items included the number of full-time and part-time paid and volunteer staff, number of years the agency had existed, the percent chance the project was expected to exist in the next fiscal year, number of years the respondent had worked in the agency, number of years the respondent expected to continue working in the agency, and respondents' age and sex.

Additional process measures for participants in the consultation condition included the number of sessions

attended, the number of objectives set, and the number of objectives achieved. These data were used to estimate the degree of effort, that is, whether participants in the consultation intervention demonstrated individual differences in their implementation of the experimental condition. These data were collected from goal-setting sheets completed weekly by participants in the consultation intervention.

Predictive Process Measures. At the individual level of analysis, agreement with current practices in program evaluation was measured. This was measured with the Agreement with Evaluation Practices instrument (Appendix E). This measure was designed to estimate the degree to which respondents believed evaluation and planning practices, commonly accepted as important, should be conducted in their organization. The items were written such that the organization was the referent. Respondents were asked to rate on a five-point, Likert type scale the evaluation activities included in the dependent measure. For example, respondents were asked to designate how strongly they agreed with, "My project/service should not record each client contact." Thus, the data provided a measure of how strongly respondents felt evaluation activities should be conducted in their organization and how frequently the respondents were actually performing these same activities. The behavioral anchor and organizational referent for these attitude items were meant to increase scale reliability and the ability of attitudinal change scores to predict behavioral change.

Other individual characteristics included education and training, job tenure, gender, and age. It should be recognized that some of these variables, like education, may also be interpreted as indicators of organizational constructs. In fact, some variables were analyzed both at the individual and the organizational conceptual level. Measures of organizational characteristics used to represent predictive process variables included organization size, as measured by the number of staff, amount of budget, amount of budget committed to program evaluation, and measures of organization structure, viz., complexity, centralization, and formalization. This information was included in the Project/Service Information questionnaire (Appendix F).

Complexity, centralization, formalization, and interorganizational relations were the predictive variables of primary interest at the organizational level of analysis. Typically, their measurement, and the measurement of organizational structural variables in general, has been performed one of two ways. The first method is based on aggregated individual perceptions of organizational structure and has been called perceptual (Sathe, 1978), phenomenological (Tannenbaum & Smith, 1964), or questionnaire (Pennings, 1973; Ford, 1979) measurement. The second method of measurement attempts to rely on more direct measures of organizational structure and has been referred to as institutional (Ford, 1979; Pennings, 1973; Sathe, 1978) or, simply, structural measurement (Tannenbaum & Smith, 1964). Both methods have

been used frequently by organization researchers. The aggregated perception method was used in the pioneering work of Hall (1963) and in all of the previously cited work of Hage and Aiken. The institutional approach is well represented in the work of the University of Aston group (Child, 1972; Inkson, Pugh, & Hickson, 1970; Pugh, Hickson, & Hinings, 1969; Pugh, Hickson, Hinings, MacDonald, Turner, & Lupton, 1963; Pugh, Hickson, Hinings, & Turner, 1968, 1969).

Each empirical approach has its weakness. As pointed out by Sathe (1978), the perceptual method, using aggregated questionnaire responses, has been criticized for generating "subjective" information, possibly biased by individual differences in attitudes and other characteristics. Moreover, the proper unit of aggregation may not be universally agreed upon.

Sathe (1978) has also discussed the weaknesses in the more "objective" institutional approach. The measurement of the presence of written manuals, charts, and other documents may be highly unreliable. Formal documents may be obsolete or organizations may only loosely adhere to them. Moreover, the reliance on only a small number of respondents, typically key informants, may be problematic, particularly when respondents may be less capable of providing veridical judgments.

There have been few attempts to include both types of measurements in a single study. When such attempts have been made, the results have been equivocal. Empirical comparisons (Ford, 1979; Pennings, 1973; Samuel & Mannheim, 1970; Sathe,

1978) and methodological critiques (Walton, 1981) have revealed weak and inconsistent convergent validity between these different methods used to measure organizational structure. Sathe (1978) suggested these different methods of measurement may be tapping different aspects of organizational structure, i.e., institutional methods may be measuring designed structure, the formal structure of the organization; questionnaire methods may be measuring emergent structure, the degree of formal structure experienced by organizational members in work-related activities on a day-to-day basis (p. 234).

The questionnaire approach was used in the present study because (1) conclusive evidence does not exist to demonstrate the clear superiority of either measurement method, (2) there is no unambiguous agreement regarding construct validity, (3) the degree of formal structure experienced by organization members on a day-to-day basis may be most important (Sutton & Rousseau, 1979), and (4) the present research attempts to build on and extend the findings of Hage and Aiken, who used the questionnaire approach. Although scales previously used in Hage and Aiken's research were used in the presently reported research, item stems were changed to maintain a single referent, a weakness present in the original scales (Dewar, Whetten, & Boje, 1980). Items in the scales used to measure all organizational characteristics were included in the Project/Service Information and Project Interaction questionnaires (Appendix F).

Outcome measures. The outcome of primary interest is adoption and implementation of program evaluation practices. This is measured with the Evaluation Self-Report (Appendix C) and the Evaluation Interview (Appendix D). Degree of implementation is represented by the relative scores on each of these instruments. There is also interest in change in levels of agreement with evaluation practices and knowledge of evaluation methods. Scores on these instruments are used as both independent and outcome measures. As independent measures, they are used for their ability to predict scores on the two adoption scales. The efficacy of other characteristics in predicting scores on Agreement with Evaluation Practices and Evaluation Knowledge, and the impact of the intervention, is also examined.

Psychometric Characteristics

Size: Indicators for organization size included the number of full-time and part-time paid and volunteer staff (Items 3-6 on the Project/Service Information instrument) and program budget (item 5). The base 10 logarithm was taken of program budget due to skewness of the distribution of this measure. The intercorrelation of these items was .46 ($p < .001$). The other indicator of size, amount of budget spent on program evaluation, did not significantly correlate with these two items, so it was analyzed separately.

Complexity: Indicators used to represent complexity included education (item 10), number of services provided (item 12), and the degree of extra-professional activity (items 13-17). The internal consistency of this scale was

moderate (alpha = .65). (Unless otherwise noted, all alphas reported are standardized alphas.). The degree of internal consistency was due mostly to the professionalization subscale (alpha = .71). Correlations between this indicator, education, and number of services were not significant. These scales were analyzed separately. The matrix of partial correlations remaining after cluster scores were partialed from the observed interitem correlation matrix of all organization scales, providing further evidence of internal consistency, is provided in Appendix K. This scale also demonstrated acceptable parallelism. The matrix of similarity coefficients of all organizational scales is provided in Appendix L. (All displayed alphas, partial correlations and similarity coefficients represent the fit of the scales derived from Davis (1981a) to the present sample.)

Centralization: Two scales were used as indicators of centralization. These included participation in decision making (items 24-27) and hierarchy of authority (items 26-32). The internal consistency of these scales was alpha = .91, and alpha = .84, respectively. See Appendix K for the partial correlations and Appendix L for the similarity coefficients.

Formalization: Two subscales were used to measure formalization. These were job codification (items 33-37) and rule observation (items 38-39). Their internal consistency was relatively high: alpha = .80 (job codification) and

alpha = .72 (rule observation). See Appendix K for the partial correlations and Appendix L for the similarity coefficients.

Interorganizational Relations: Indicators for this variable came from the Project Interaction Scale. Items represent two conceptually related dimensions, i.e., frequency and importance of communication among organizations. It was not possible to contact all other organizations in each community and determine the percent of reciprocal choice. Scores for frequency and importance of interaction for each selecting organization were multiplied to yield a single measure of interaction strength.

Agreement with Evaluation Practices: Indicators for this variable came from the Agreement with Evaluation Practices scale. While this scale was not rigorously unidimensional, the subscales were so highly intercorrelated they could not be used as separate multivariate predictors. Consequently, all items for this scale were treated as indicators of a single, unidimensional construct. When treated as items for one scale, the alpha was .89, providing an acceptable degree of internal consistency. Partial correlations and similarity coefficients are included in Appendix M and Appendix N, respectively.

Evaluation Knowledge: Indicators for this variable came from the fifteen items on the Evaluation Knowledge Scale. These items asked respondents to select the correct response from four multiple choice options. The KR-20 reliability of this scale was .65.

Workshop Effectiveness: This was a 6 item questionnaire that asked participants in the evaluation workshop to rate the effectiveness of the workshop. Its internal consistency was .71.

Consultation Effectiveness: Participants in the consultation intervention were asked to use this questionnaire to rate different aspects of the consultation. Although this scale was not rigorously unidimensional, the 4 subscales were very related and the combined scale internal consistency was acceptably high (alpha = .87). This scale was interpreted as measuring a single dimension.

Evaluation Practices: This variable was measured with the Evaluation Self-Report (items 1-27). Like the Agreement with Evaluation Practices discussed above, this scale was not rigorously unidimensional. Because the dimensions were so closely related, and the measure of internal consistency was so high (alpha = .85), it was treated as a scale measuring a single dimension. Partial correlations and similarity coefficients are included in Appendices O and P, respectively.

This variable was also measured with the Program Evaluation Interview. All workshop participants, and one other staff member nominated by them as being most knowledgeable about agency practices, were interviewed over the telephone after the termination of the consultation and 4 weeks later. Respondents reported whether their project/service performed any of the evaluation activities asked of them and, if so,

when they first began these activities. These semi-structured interviews were coded by two graduate students in psychology. Coders were trained until acceptably high inter-coder reliability was achieved. The average correlation between coders was .95. The internal consistency of this scale was .88.

CHAPTER III

Results

Discussion of the results will be divided into six sections. First, conceptual and empirical support for aggregation of individual responses will be provided for outcome and process measures. Second, pretest comparisons for all measured variables will be presented and variables demonstrating pretest differences, i.e., deviations from randomization, will be discussed. Third, the results of the experimental manipulation will be presented. Fourth, the influence of process variables on intervention outcomes will be discussed. Fifth, the combined influence of the intervention and significant process variables on the measures of outcome will be simultaneously estimated. Finally, a summary of the results will be provided.

Aggregation and the Unit of Analysis

The decision to aggregate individual responses must derive from two sources of proof: 1) The investigator must have good theoretical reason for aggregation, that is, the theoretical relationship between constructs must lay at the aggregate level; 2) Empirical evidence for aggregation must exist in the data, that is, there should be greater variance between units of aggregation than among members within the aggregated unit. These sources of support for aggregation increase in importance as construct indicators become more

perceptually based, such as measures of organizational climate (James, 1982a, 1982b; Jones & James, 1979; Schneider, 1975; n.d.).

Most variables included in the present study represent constructs more meaningfully interpreted at the aggregate level; the "unit of theory" is the organization (Roberts, Hulin, Rousseau, 1978). Specifically, these constructs are most germane to the program or project providing services to the elderly, and not to particular individuals working within that program. This interpretation is consonant with theory and research regarding innovation and change in organizations (Hage, 1980; Hage & Aiken, 1970).

Individual responses included in the aggregated unit come from directors of programs (or whoever else attended the program evaluation workshop) and a key informant nominated by workshop participants. Informants were nominated by workshop participants because of their presumed knowledge about agency characteristics and functioning. Nominated others were used in this fashion to increase the veracity of the collected organizational information (Seidler, 1974). Agency aggregated responses, in the form of arithmetic means, were used to represent the combined responses of workshop participants and nominated others. Empirical support for this aggregation is discussed below.

Organizational researchers are not in agreement on tests suitable for the provision of necessary and sufficient evidence for aggregation. James (1982a; 1982b; James, Wolf, &

Demaree, 1981) has recently summarized preferred methods. The typical measurement model is a random effects, one-way analysis of variance (ANOVA), where each of the K(k = 1, 2, ..., K) organizations is treated as a different level of treatment and nk individuals are nested within each level of treatment, i.e., within each organization. The mean squares from the ANOVA are used to compute a version of the intra-class correlation (ICC), representing the degree of agreement between each of the nk individuals (Bartko, 1976; Shrout & Fleiss, 1979). Agreement among individuals in the same organization should be relatively larger than agreement across organizations. That is, the variance between organizations should be greater than the variance within organizations. Investigators following this line of reasoning have used significant F ratios and high ICCs to provide evidence for the reliability of ratings and support for the consequent aggregation.

James (1982b) argues that conclusions regarding agreement between raters in organizations that are based solely on F ratios and ICCs may seriously underestimate the level of existing agreement. This underestimation is most likely to occur when (a) organizations are relatively homogeneous and little variation exists among the K mean ratings for the K organizations, and (b) raters in each of the K organizations agree almost perfectly. The result is the awkward paradox of the obtained data demonstrating a non-significant F ratio and

a negligible ICC, suggesting that organizations are not empirically distinct entities, when, in fact, organizations are characterized by a high degree of identity.

Finally, a technique often used to estimate agreement between raters, and consequently provide evidence for aggregation, is the proportion of exact agreement. This technique provides a stable, but conservative, estimate of agreement.

Because an unequivocal method for recommending aggregation does not exist, ICCs and F ratios were used for all continuous items and scales. Formula ICC(1,1) (Shrout & Fleiss, 1979) was used to compute all ICCs. This formula was used rather than the recommended ICC(2,1) because raters were interpreted as fixed effects rather than random effects in the ANOVA model. Percent exact agreement was used to estimate level of agreement at the item level on all discretely scored items.

As can be seen in Table 5, these indicators of agreement did not themselves agree.

Summary of Aggregation

The empirical justification for aggregation varied. Scales and items demonstrating greatest differences between organizations, and greatest agreement within organizations, tended to represent more concrete constructs like number of staff and budget. Scales and items representing more individual and perceptual characteristics, like the number of years expected to stay at the present service, demonstrated fewer differences across organizations and lower agreement.

Table 5

Comparison of Estimates of Rater Agreement

Scale (no. items)	N[a]	F (Prob.)	ICC	Exact[b]
Full-time paid staff (1)	28	10.87(.000)	91	*
Full-time volunteers (1)	17	2.68(.025)	63	*
Part-time paid staff (1)	28	5.17(.000)	81	*
Part-time volunteers (1)	17	7.80(.000)	87	*
Percent spent on evaluation(1)	4	---	--	
Program age (1)	27	10.99(.000)	91	*
Percent chance continue to exist (1)	28	1.43(.169)	30	*
Budget (1)[c]	11	5.56(.004)	82	*
Degree (1)[d]	25	2.39(.017)	58	55
Tenure[d]	30	2.07(.026)	52	*
Expected tenure[d]	15	.86(.608)	00	*
Age (1)[d]	31	1.93(.037)	48	*
Sex (1)[d]	32	1.65(.081)	39	71
No. of services offered (37)	35	1.23(.276)	18	77
Professionalization (4)	31	1.39(.182)	28	*
Part. in decision making (4)	31	.47(.977)	00	23
Hierarchy of authority (5)	31	.84(.680)	00	37

Table 5 (continued)

Job codification (5)	31	1.52(.126)	34	44
Rule observation (2)	25	1.30(.261)	23	49
Agreement with eval. prac. (22)	31	1.27(.255)	21	44
Evaluation self-report (22)	31	1.49(.139)	33	27
Evaluation interview (32)	38	2.96(.001)	49	66

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[a] N refers to number of organizations providing two respondents for the measure.

[b] *Denotes continuously scored items for which this measure is inappropriate.

[c] Represents the log10 transformation of budget measured in dollars. This transformed variable was used in all analyses.

[d] Represents a variable that may be interpreted at individual level of analysis and on which respondents may legitimately disagree.

It is noteworthy that the scales measuring organizational structure, used in the work of Hage and Aiken discussed in the previous chapter, demonstrated negligible differences between organizations and agreement within organizations. These scales represent well the measurement dilemmas associated with research involving homogeneous samples of organizations. Examination of the average standard deviations within these organizations reveals considerable agreement, i.e., low intra-organizational variance. The failure of this evidence to appear in the ANOVA and the ICCs most likely represents a restriction in range (James, 1982b).

Because the "unit of theory" (Roberts et al., 1978) is the organization, and because the empirical evidence for aggregation does not strongly suggest otherwise, individual responses from workshop participants and nominated key informants regarding organizations are aggregated, providing mean responses used in all data analyses reported below. Data analyzed at the individual level of response are reported where meaningful.

Randomization

A one-way analysis of variance was used to examine pretest differences between experimental and control conditions, collapsing across the three different research sites (Lansing, Grand Rapids, Southfield). As expected, experimental and control groups revealed no difference on almost all variables. A single exception (number of years expected to continue working at the service), however, did demonstrate a reliable difference ($F = 4.54$; $df = 1, 36$; $p = .04$).

Also important in the present study was the existence of pretest differences between groups at the different geographic sites. These differences may have been more problematic due to the absence of randomization across research sites. These differences may have represented qualitative distinctions in the environments in which these organizations were located. The only difference evident between the control groups at each site was the number of staff in each organization. The Southfield control group reported the least

number of full-time paid staff and the most full- and part-time volunteers. The Grand Rapids control group reported the most full-time paid staff and the least number of full- and part-time volunteers. The Lansing control group scores were located between these two extremes. Scheffé tests revealed the extreme scores to be different at the .05 level.

Experimental groups were also nested within each geographic site. Two consultation groups were administered in Lansing, and one each in Grand Rapids and Southfield. A one-way analysis of variance examining aggregated responses from programs participating in these conditions revealed pretest differences on two variables: (1) the number of services delivered by each program and (2) agreement with evaluation practices. A post-hoc Scheffé test revealed that the average number of services reported by the Southfield experimental group (mean = 4.0) was significantly different from the number of services reported by the first (mean = 13.6) and second Lansing experimental group (mean = 9.75), and the Grand Rapids experimental group (mean = 10.2). Because agreement with evaluation practices was one of the outcome measures examined in the study, pretest differences at the individual level of analysis are reported in Table 6. A Scheffé test showed the first Lansing experimental group was significantly different from the other groups. Experimental groups were coded separately in multiple regression analyses employing intervention condition as a predictor.

Table 6

Pretest Agreement with Evaluation Practices, Experimental Groups

Source	DF	Mean Squares	F	Prob.	
Between	3	.64	5.70	.002	.24
Within	40	.11			

Lan. Group 1 Mean = 3.61, n = 11
Lan. Group 2 Mean = 3.88, n = 17
G.R. Group Mean = 4.16, n = 14
Sou. Group Mean = 3.93, n = 12

Summary of Randomization

It can be concluded that all groups were equivalent on almost all variables at the beginning of the study. Differences obtained between combined experimental and control groups included the number of years respondents expected to continue working in the present service. Members of the control groups predicted a stay of over twice as many years as members of the experimental groups (9.2 to 4.4). Pretest differences also existed for three variables for the three control groups. These included differences between the numbers of full-time paid staff, part-time volunteers and full-time volunteers. Finally, experimental groups demonstrated differences in the number of services provided and the degree to which respondents agreed with the application of evaluation practices in their program. This last variable represented one of the outcome measures of interest. These pretest differences were considered when analyses were conducted to estimate change in this measure.

Manipulation Checks

As discussed in the previous chapter, participants were randomly assigned at the end of the evaluation workshop to an experimental group that received the consultation intervention or to a control group that received no consultation. Members of the four experimental groups were compared on five different dimensions to ascertain possible differences in the delivery of the intervention. A one-way ANOVA was used to compare the four experimental groups on: (1) number of sessions attended, (2) knowledge of evaluation, (3) number of objectives set, (4) number of objectives achieved, and (5) satisfaction with the consultation. No significant differences were found between these groups. Differences between groups on Evaluation Knowledge approached significance ($F = 3.07$, $df = 3, 20$, $p. = .0516$); members of the first Lansing experimental group scored lowest on the test of evaluation knowledge, although a Scheffé test revealed no differences between group means at the .05 level. It was concluded that all experimental groups received essentially equivalent consultation treatment, as measured on these dimensions. Experimental groups were combined in the analyses reported below. No differences in rating of workshop effectiveness were obtained between groups.

Intervention Outcome Results

The effectiveness of the experimental intervention was determined by analyzing the data with a one-way repeated measures analysis of variance. Experimental and control

groups were compared on scores obtained on questionnaires administered before and after the consultation intervention. Scores on the Evaluation Interview were obtained at the end of the intervention and 4 weeks later. Measures of evaluation knowledge were obtained only at the follow-up measurement period. The outcome measures will be discussed in the following order: (1) Evaluation Interview (repeated measures ANOVA), (2) Evaluation Self-Report (repeated measures ANOVA), (3) Agreement with Evaluation Practices (repeated Measures ANOVA), and (4) Evaluation Knowledge (one-way ANOVA).

1. Evaluation Interview. Analysis of responses to this instrument revealed a highly significant main effect for the group condition; members of the experimental group reported greater adoption and implementation of evaluation practices (Table 7). There was no significant main effect for time or significant time-by-group interaction. The estimation of Omega Squared used the error term for each effect, i.e., MS for subjects to estimate the strength of the group effect, and the MS for subject-by-time interaction for the effects of time and time-by-group interaction (Keppel, 1973, 552-553).

The significant main effect for group membership confirmed one of the experimental hypotheses presented above. Moreover, the Omega Squared shows that a considerable portion of the variance in the interview measure of evaluation adoption and implementation is accounted for by the treatment condition.

Table 7

Repeated Measures ANOVA, Evaluation Interview

Source	DF	Mean Squares	F	Prob.	ω^2
Time	1	.03	.02	.9000	
Time X Group	1	.22	.13	.7160	
Subjects X Time	41	1.64			
Group	1	249.82	18.40	.0005	.21
Subjects	41	13.58			

Exp. Group Time 1 Mean = 4.14, n = 24
Exp. Group Time 2 Mean = 4.27, n = 24
Con. Group Time 1 Mean = .81, n = 19
Con. Group Time 2 Mean = .74, n = 19
Time 1 Combined Mean = 2.67, n = 43
Time 2 Combined Mean = 2.70, n = 43

The failure of the group-by-time interaction to reach significance was probably due to the short time period between the post and follow-up measurement periods. A one-way ANOVA of the difference scores of these two time periods also was not significant. These results provide further evidence that the time-by-group interaction was not significant (Huck & McLean, 1975).

2. Evaluation Self-Report. The analysis of this global measure of evaluation practices revealed no significant effect for the intervention. A significant effect for change over time was discovered. No interaction term reached significance. The aggregate level analysis of this outcome

measure is presented in Table 8. Examination of the measure of strength-of-association reveals that a considerable portion of the variance in this measure was due to the simple passage of time. This increase across both experimental and control groups may have been spurious. Workshop participation may have sensitized participants to evaluation activities conducted in their program that previously were not categorized by them as evaluative.

Table 8

Repeated Measures ANOVA, Evaluation Self-Report

Source	DF	Mean Squares	F	Prob.	ω^2
Time	1	.70	12.89	.001	.29
Time X Group	1	.05	.88	.363	
Subjects X Time	40	.05			
Group	1	.05	.12	.725	
Subjects	40	.44			

Exp. Group Time 1 Mean = 3.21, n = 23
Exp. Group Time 2 Mean = 3.35, n = 23
Con. Group Time 1 Mean = 3.11, n = 19
Con. Group Time 2 Mean = 3.35, n = 19
Time 1 Combined Mean = 3.17, n = 42
Time 2 Combined Mean = 3.35, n = 42

The failure of the group main effect to attain significance disconfirms one of the experimental hypotheses. Moreover, these results seem to contradict those presented above for the evaluation interview. This difference may have been

due to the structure of these instruments. This will be discussed below.

Post-hoc comparisons of mean differences analyzed within control and experimental groups revealed significant differences between sites on this outome measure. Scheffé tests of the contrasts between means showed differences at the .05 level for the intervention between the Lansing experimental groups and the experimental groups in Grand Rapids and Southfield. A repeated measures ANOVA excluding the Lansing groups in the analysis failed to reproduce the difference between experimental sites, thus confirming the existence of the difference between experimental groups. That is, a repeated measures ANOVA excluding the Lansing experimental groups failed to demonstrate a significant group effect. An analysis of covariance using pretest scores on the self-report also failed to reveal a significant main effect for group membership, confirming the results of the Scheffé tests.

Analysis of responses to these two measures of adoption and implementation of evaluation practices provided mixed results. Interview responses confirmed the experimental hypothesis while responses on the evaluation self-report failed to confirm this hypothesis. The failure to find the expected results with the self-report was probably due to its restricted range. The zero order correlation between scores on the interview and the self-report was not significant ($\underline{r}$ = -.10, p = .26), suggesting these scales were not measuring the

same construct. Additionally, the observed effects measured with the interview may have been influenced by interaction with the interviewer, who was not blind to membership in the experimental conditions. More will be said about this below.

3. Agreement with Evaluation Practices. The third relationship examined was the effectiveness of the intervention in producing change in this measure of individuals' acceptance of common program evaluation practices. The "unit of theory" (Roberts, et al., 1978) here is the individual. The level of analysis most appropriate to drawing theoretical conclusions is, of course, also the individual level of analysis.

Examination of the results in Table 9 reveals no significant differences between experimental and control groups on this outcome measure. A one-way ANOVA of difference scores also failed to reveal a significant main effect for group membership, one of the hypothesized relationships. The failure to demonstrate the predicted change in this measure may also have been due to the absence of differences between groups. This will be discussed further in the next chapter.

The reader may recall that pretest differences for Agreement with Evaluation Practices existed between the four experimental groups. A repeated measures ANOVA was used to analyze scores across time for members of these four groups. These results are reported in Table 10. It can be seen that there was no change in this relationship over time. Group differences remained approximately stable, with a slight

Table 9

Repeated Measures ANOVA, Agreement with Evaluation Practices

Source	DF	Mean Squares	F	Prob.
Time	1	.03	.36	.549
Time X Group	1	.02	.24	.626
Subjects X Time	69	.07		
Group	1	.01	.05	.825
Subjects	69	.26		

Exp. Group Time 1 Mean = 3.93, n = 42
Exp. Group Time 2 Mean = 3.93, n = 42
Con. Group Time 1 Mean = 3.88, n = 29
Con. Group Time 2 Mean = 3.94, n = 29
Time 1 Combined Mean = 3.91, n = 71
Time 2 Combined Mean = 3.94, n = 71

decrease in the difference between the first Lansing experimental group and the Grand Rapids experimental group, the two groups demonstrating greatest pretest differences. An analysis of covariance using pretest scores on this measure as the covariate failed to reveal any significant main effect.

4. Evaluation Knowledge. Workshop participants in experimental and control groups were tested at the follow-up measurement period to determine differences in the amount of knowledge acquired concerning evaluation practices. (Only workshop participants were analyzed since only they were instructed in the practice of program evaluation and were

Table 10

Repeated Measures ANOVA, Agreement with Evaluation Practices, Experimental Groups

Source	DF	Mean Squares	F	Prob.	ω^2
Time	1	.00	.01	.896	
Time X Group	1	.09	1.015	.397	
Subjects X Time	38	.09			
Group	3	.86	4.93	.005	.10
Subjects	38	.17			

Lan. Exp. Group 1 Time 1 Mean = 3.58, n = 11
Lan. Exp. Group 1 Time 2 Mean = 3.64, n = 11
Lan. Exp. Group 2 Time 1 Mean = 3.88, n = 7
Lan. Exp. Group 2 Time 2 Mean = 3.99, n = 7
G.R. Exp. Group Time 1 Mean = 4.16, n = 14
G.R. Exp. Group Time 2 Mean = 4.01, n = 14
Sou. Exp. Group Time 1 Mean = 3.94, n = 12
Sou. Exp. Group Time 2 Mean = 4.04, n = 12
Time 1 Combined Mean = 3.92, n = 23
Time 2 Combined Mean = 3.93, n = 23

given this questionnaire.) These differences were measured with a one-way ANOVA. Examination of the results in Table 11 reveals that groups did not differ along this dimension. The consultation intervention was ineffective in producing greater knowledge of evaluation practices among members of the experimental groups, one of the a priori research hypotheses. This failure is believed to have been the result of insufficient time spent during the consultation period for didactic activity. As will be seen below, this failure to produce superior knowledge gains among members of the experimental

groups was unrelated to adoption and implementation of evaluation practices. The relationship between knowledge and other process variables possibly related to the adoption and implementation of evaluation practices will be discussed in the next section.

Table 11

Posttest Differences, Evaluation Knowledge

Source	DF	Mean Squares	F	Prob.
Between Groups	1	1.76	.264	.6109
Within Groups	30	6.67		

Exp. Group Mean = 9.47, n = 17
Con. Group Mean = 9.00, n = 15

Summary of Intervention Outcome Results

The results of repeated measures and one-way analysis of variance revealed that only some of the predicted effects of the experimental consultation were produced. The major outcome predicted, increased adoption and implementation of program evaluation practices, received mixed support. Analysis of responses to the Evaluation Self-Report, a global measure of evaluation practices, showed no significant intervention group main effect or intervention-by-time interaction. Analysis of the Evaluation Interview, a measure of the specific frequency with which evaluation practices were adopted and implemented, revealed a fairly strong main effect for intervention group condition. There was no significant

group-by-time interaction. The failure to discover significant-group-by time interactions in these analyses is believed to have resulted from the short time period (4 weeks) between post and follow-up measurement. The failure to find a significant group effect in the analysis of the self-report measure is believed to have been due to the general nature of the scale. Responses may have represented a perceived general frequency of activity. The generality of the response categories contributed to a reduction in range in the scale responses. The evaluation interview, on the contrary, asked respondents to focus on the specific practice of particular evaluation activities, thus permitting greater variance in responses. This will be discussed in more detail below.

A repeated measures analysis of variance revealed no differences between groups on the Agreement with Evaluation Practices scale. Participation in the intervention did not increase how strongly respondents believed evaluation practices should be conducted in their agency. While the absence of any group or interaction effects suggests the intervention was unsuccessful in changing behavior on this dimension, failure to find these results may also represent a restriction in range in scale responses, specifically a ceiling effect. The average score on this scale was 3.89, and the mode was 4.00 (out of a possible 5.00), suggesting little variation in responses. This lack of variation was also supported by the low standard deviation across groups on this variable (SD = .38).

Finally, participation in the experimental consultation groups did not lead to differences in knowledge of program evaluation techniques. One-way analysis of variance for participants showed no difference between experimental and control groups on this fifteen item scale. This failure to produce change was most likely a result of the limited time spent on didactic instruction in the consultation groups. Approximately thirty to forty-five minutes of each of the six sessions was devoted to review of workshop information. As will be reported below, the influence of program evaluation knowledge on the adoption and implementation of program evaluation was negligible.

Process Variables

Relationships between all process variables and each of the major outcome variables were analyzed with Stepwise Multiple Regression. These analyses followed four procedures. First, variables were entered into equations in conceptually homogenous groups. That is, variables describing aspects of organizational structure, organizational environment, and aspects of individuals working in each organization were entered separately as groups of predictors. Second, significant predictors from each group were entered again without non-significant members of their group. The third step consisted of grouping all significant predictors. Predictors from the organizational structure, organizational environment and individual staff groups were entered as one group. Fourth, membership in the intervention group was dummy coded

0 (control group) or 1 (experimental group) (Cohen & Cohen, 1973), and entered with all other significant predictors.

Multiple regressions used aggregated organizational means except analyses involving agreement with evaluation practices, individual age, job tenure and expected tenure, and sex. Some characteristics like educational level were analyzed at both the individual and aggregate level. This dual analysis was felt to be important because 1) this variable has traditionally been used as an aggregate indicator of professionalization, 2) its superiority at the aggregate level of analysis has not been determined, and 3) it can meaningfully be interpreted at the individual level of analysis.

Tables including correlations between predictors, regression equations with unstandardized regression coefficients, and regression summary information are presented for each outcome measure. Tables displaying regression weights and relevant statistics for each group of variables included in the first pass are also presented. These results are presented in spite of the absence of significant relationships because they have been reported to be significant by other investigators (e.g., Hage & Aiken, 1967b) and they were previously hypthesized to be significant.

Organizational Structure Variables

1. Evaluation Interview. This variable was measured at two points in time after the consultation was administered. These measures are referred to as Post and Follow-Up

Interviews in the following discussion. Tables 12, 13, and 14 present the correlation matrix for predictors, regression equations, and regression summary statistics for the post interview. None of these organizational structural characteristics demonstrated significant relationships with the evaluation interview measured at the post measurement period, although the regression coefficient for degree approached significance ($p = .068$) when entered in the first step. Its reduction in predictive power occurred as a result of the entry of subsequent variables. The F test for the multiple correlation failed to reach significance.

Examination of Tables 15 and 16 reveals that the relationship between organizational structure and scores on the evaluation interview at the follow-up time period did not change. Values on none of these organizational variables were important for predicting scores on the evaluation interview at these two points in time. The regression coefficients and the multiple correlation were not significantly different from zero. The adjusted R squared for the entire equation equaled zero, although the adjusted R squared for degree at step 1 equaled .134.

The obtained results were contrary to those expected. The failure to discover significant multivariate relationships among these variables and this measure of evaluation adoption and implementation is believed to have been due to the homogeneity of the sample. This will be discussed further below.

Table 12

Correlation Matrix of Organizational Structure Predictors: Evaluation Interview and Self-Report

Variable	1	2	3	4	5	6	7	8	9	10
1. Budget										
2. No. of total staff	46**									
3. No. services	-10	-21								
4. Professional-ization	30*	14	22							
5. Part. in deci-sion making	32*	09	26*	29*						
6. Hierarchy of authority	35*	02	-01	12	13					
7. Job codif.	02	19	24	-03	02	-38**				
8. Rule obs.	16	-16	-11	15	-02	-45**	-21			
9. Degree	-03	02	05	23	09	32*	-05	-28		
10. Percent budg. spent on prog. eval.	14	-26	18	15	26	-09	15	27	43*	

Table 12 (continued)

Variable	1	2	3	4	5	6	7	8	9	10
11. Post interview	07	-07	-04	04	-07	-22	10	24	-43**	-24
12. Follow-up interview	27	03	-20	04	-04	-19	03	33*	-39**	-22
13. Self-report	-02	-18	02	06	09	21	04	-24	05	-06

Decimal points have been omitted.

High scores represent greater participation.
Low scores represent greater hierarchy of authority.
High scores represent greater job codification and rule observation.

* $p < .05$, ** $p < .01$

N range: 22-43

Table 13

Variables in Equation: Post Interview, Organizational Structure Predictors

Variable	b	SE	Over-all F	Prob.
Degree	- .296	.762	.151	.707
Professional-ization	.242	.637	.144	.713
Rule Observation	.979	3.060	.102	.756
Percent spent on prog. eval.	- .223	.242	.848	.381
Job Codification	1.648	2.907	.321	.585
No. of total staff	- .044	.052	.703	.423
Budget	1.506	2.541	.351	.568
Hierarchy of authority	-1.187	3.754	.100	.759
No. of Services	- .041	.187	.049	.829
Constant	-5.083	18.605	.075	.791

Participation in decision making did not enter the equation; final F = .003.

Table 14

Regression Summary Table: Post Interview, Organizational Structure Predictors

Variable	F to enter or remove	Prob.	R^2	Over-all F	Prob.
Degree	3.793	.068	.182	3.793	.068
Profession-alization	.409	.532	.203	2.034	.163
Rule observation	.185	.673	.212	1.349	.296
Percent spent on prog. eval.	.288	.600	.228	1.036	.423
Job codification	.475	.503	.256	.893	.514
No. of total staff	.373	.553	.278	.770	.608
Budget	.330	.577	.547	.671	.694
Hierarchy of authority	.117	.739	.307	.554	.793
No. services	.049	.829	.311	.451	.874

Adjusted R^2 = 0; adjusted R^2 at step 1 = .134.

Table 15

Variables in Equation: Follow-Up Interview, Organizational Structure Predictors

Variable	b	SE	Over-all F	prob.
Budget	3.123	2.014	2.404	.152
Hierarchy of authority	-2.379	3.093	.592	.459
Percent spent on prog. eval.	- .269	.156	2.974	.115
No. total staff	- .052	.042	1.492	.250
No. services	- .101	.159	.408	.537
Professional-ization	.119	.519	.053	.822
Job codification	1.074	2.451	.192	.671
Rule observation	.936	2.525	.137	.719
Constant	-7.963	14.839	.289	.603

Participation in decision making and degree were removed from the equation.

Final F for participation = .0003; final F for degree = .0001.

Table 16

Regression Summary Table: Follow-Up Interview, Organizational Structure Predictors

Variable	F to enter or remove	Prob.	R^2	Over-all F	Prob.
Degree	3.024	.100	.151	3.035	.100
Budget	1.391	.255	.219	2.243	.138
Hierarchy of authority	.748	.401	.256	1.721	.205
Percent spent on prog. eval	.713	.413	.292	1.444	.271
No. total staff	1.829	.199	.379	1.589	.231
No. services	.418	.529	.398	1.724	.198
Professional-ization	.083	.778	.403	1.349	.310
Job codification	.091	.769	.408	1.082	.435
Rule observation	.137	.719	.416	.889	.557

Degree was removed from the equation in step 6.

Adjusted R^2 = 0; adjusted R^2 at step 1 = .10.

2. Evaluation Self-Report. The second measure of evaluation adoption was the Evaluation Self-Report. Organizational structural characteristics were also entered as a group to discover relationships with posttest scores on this outcome measure. As can be seen in Tables 17 and 18, these variables failed to demonstrate any reliable relationships with this measure of outcome. The final adjusted R squared for this regression equation also equaled zero. Examination of the ratio of regression weights to their standard errors reveals considerable noise in the equation. These results are contrary to a priori hypotheses and are probably a result of the homogeneity of the sample. This reduction in range, and possible remedies for it, will be further discussed below.

3. Agreement with Evaluation Practices. The same group of organizational structural variables was examined for any multivariate relationship with this measure of whether respondents believed common evaluation practices should be conducted within their organization. Because this scale measures a cognitive construct, it is more meaningfully interpreted at the individual level of analysis. The criterion, therefore, represents individual responses to this scale. Organizational characteristics were represented by mean responses within the respondents' organizations. Organization means were assigned to each respondent within the organization to provide the organizational predictors. The regression equation may be interpreted as representing the

Table 17

Variables in Equation: Evaluation Self-Report, Organizational Structure Predictors

Variable	b	SE	Over-all F	prob.
Rule observation	- .238	.518	.212	.656
Staff	- .008	.008	.870	.375
Budget	- .083	.421	.039	.848
Professional-ization	.044	.105	.176	.685
Percent spent on prog. eval.	- .014	.032	.182	.679
No. services	- .013	.033	.180	.681
Job codification	.203	.499	.165	.694
Participation in decision making	.077	.241	.103	.756
Hierarchy of authority	.112	.628	.032	.863
Constant	2.301	3.103	.549	.477

Degree did not enter the equation; final F = .0007.

Table 18

Regression Summary Table: Evaluation Self-Report, Organizational Structure Predictors

Variable	F to enter or remove	Prob.	R^2	Over-all F	Prob.
Rule observation	1.000	.330	.056	1.004	.330
No. total staff	.865	.366	.104	.930	.415
Budget	.372	.551	.126	.720	.555
Professional-ization	.191	.669	.138	.559	.696
Percent spent on prog. eval.	.146	.708	.147	.448	.807
No. services	.100	.757	.154	.365	.887
Job codification	.144	.712	.165	.311	.934
Participation in decision making	.100	.758	.173	.262	.965
Hierarchy of authority	.032	.863	.176	.214	.984

Adjusted R^2 = 0; adjusted R^2 at step 1 = 0.

influence of organizational characteristics on the level of agreement with evaluation practices demonstrated by individuals working within that organization.

Tables 19, 20, and 21 display the correlation matrix, variables in the equation and the regression summary table. Examination of these tables reveals that agreement with evaluation practices was marginally related to participation in decision making and the number of staff in the organization.

The causal priority of these variables remains to be determined. It is unknown whether organizations with decentralized decision making and large numbers of volunteer staff hire people with greater acceptance of evaluation practices, or whether workers with more positive feelings toward evaluation are attracted to, and continue to work in, organizations that possess more decentralized decision making and employ a large staff. Some investigators have reported results which describe the effect of organizational characteristics on attitudes of staff members within the organization (Rousseau, 1978; Sutton & Rousseau, 1979). Quite possibly both of these processes are at work. This "interactionist" perspective toward organization environments and the hiring and maintenance of staff has been suggested by Schneider (in press), and will be further discussed in the next chapter.

Table 19

Correlation Matrix of Organizational Structure Predictors:
Agreement with Evaluation Practices

Variable	1	2	3	4	5	6	7	8	9	10
1. Budget										
2. No. of tot. staff	51***									
3. No. services	02	02								
4. Professional-ization	27*	13	17							
5. Part. in decision making	10	14	34***	23						
6. Hierarchy of authority	03	03	-12	-03	20*					
7. Job codif.	-05	06	11	11	02	-33**				
8. Rule obs.	18	00	14	23*	11	-44***	-07			
9. Degree	06	06	02	23*	29*	29*	-12	-08		
10. Percent spent on prog. eval.	08	-17	14	20	14	-12	11	37*		
11. Agree. with eval. prac.	35*	25*	05	14	27*	-07	12	03	02	-05

Decimal points have been omitted.

* p <.05; ** p <.01; *** p <.001. N range: 21-78

Table 20

Variables in Equation: Agreement with Evaluation Practices, Organizational Structure Predictors

Variable	b	SE	Over-all F	Prob.
Participation in decision making	.2192	.116	3.585	.069
No. of staff	.0014	.004	.065	.800
Rule observation	.1365	.249	.299	.589
Percent budget spent on prog. eval.	-.0331	.023	2.007	.168
Budget	.1796	.198	.826	.372
Job codification	.1207	.239	.254	.618
Degree	.0411	.062	.432	.517
Hierarchy of authority	-.1599	.301	.282	.600
Professionaliza-tion	.0155	.050	.097	.758
No. of services	-.0016	.016	.010	.921
Constant	1.9610	1.569	1.562	.222

Table 21

Regression Summary Table: Agreement with Evaluation Practices, Organizational Structure Predictors

Variable	F to enter or remove	Prob.	R^2	Over-all F	Prob.
Participation in decision making	5.319	.027	.132	5.319	.027
No. of total staff	3.286	.079	.208	4.476	.019
Rule observation	1.229	.275	.237	3.415	.029
Percent spent on prog. eval.	1.404	.245	.269	2.943	.035
Budget	.468	.499	.279	2.049	.059
Job codification	.535	.470	.292	2.067	.087
Degree	.466	.500	.304	1.806	.124
Hierarchy of authority	.271	.607	.310	1.575	.177
Professionaliza-tion	.091	.765	.313	1.365	.252
No. of services	.010	.921	.313	1.184	.345

Adjusted R^2 for entire equation = .048; adjusted R^2 for first two steps = .162

4. Program Evaluation Knowledge. The final outcome measure to be discussed in this section is knowledge of evaluation practices. It will be recalled that this variable was measured with a fifteen question multiple choice test administered at the follow-up measurement period. This test was administered only to participants in the workshop. Because only 32 participants completed this questionnaire, regression coefficients must be interpreted cautiously. Tables 22, 23, and 24 display the correlation matrix, regression equation and summary statistics, respectively. It can be seen that no measure of organizational structure was related to scores obtained on this scale. This result was not unexpected. It will be recalled from chapter I that no a priori hypotheses were offered. Knowledge of program evaluation was analyzed to discover new and unexpected relationships.

We have seen that indicators of organizational structure demonstrated infrequent multivariate relationships with the four outcome measures. Participation in decision making, one of the indicators of centralization, was moderately related to scores on the Agreement with Evaluation Practices, accounting for about 13% of the variance in this measure. An additional 8% of the criterion variance was explained by including the number of total staff in the regression equation. Interpretation of these weights leads to the tentative conclusion that staff working in organizations with decentralized decision making and a larger number of employees

Table 22

Correlation Matrix of Organizational Structure Predictors:
Knowledge of Program Evaluation

Variable	1	2	3	4	5	6	7	8	9	10
1. Budget										
2. No. of tot. staff	51**									
3. No. of services	-02	-07								
4. Professional-ization	29	31*	31*							
5. Part. in deci-sion making	01	-01	47***	23						
6. Hierarchy of authority	05	-03	03	02	26*					
7. Job codif.	-16	04	24	10	-08	-49***				
8. Rule obs.	29	-09	-15	31*	-17	-50**	04			
9. Degree	21	03	-07	35*	02	03	-08	00		
10. Percent spent on prog. eval.	22	-15	20	18	03	-33	21	26	33	
11. Eval. Knowl.	11	21	30*	13	48**	10	-09	-10	18	-10

Decimal points have been omitted.

* p <.05; ** p <.01; *** p <.001

Table 23

Variables in Equation: Program Evaluation Knowledge, Organizational Structure Predictors

Variable	b	SE	F	Prob.
Participation in decision making	1.1862	1.183	1.005	.362
No. of total staff	.0265	.043	.374	.567
Degree	.5624	.622	.817	.407
Percent spent on prog. eval.	-.9993	.188	.283	.618
No. of services	.1386	.183	.574	.483
Professional-ization	-.3944	.752	.275	.622
Rule observation	.8235	2.593	.101	.764
Job codification	-.8873	2.256	.155	.710
Budget	-.3353	2.145	.244	.882
Hierarchy of authority	-.3798	2.932	.017	.902
Constant	4.9321	16.630	.088	.779

Table 24

Regression Summary Table: Program Evaluation Knowledge, Organizational Structure Predictors

Variable	F to enter or remove	Prob.	R^2	Over-all F	Prob.
Participation in decision making	4.137	.061	.228	4.137	.061
No. total staff	.791	.390	.272	2.433	.127
Degree	.438	.520	.298	1.6298	.220
Percent spent on prog. eval.	.356	.563	.320	1.295	.331
Services	.403	.540	.346	1.060	.436
Professional-ization	.287	.605	.367	.868	.552
Rule observation	.328	.582	.392	.736	.651
Job codification	.138	.722	.403	.591	.761
Budget	.060	.814	.409	.462	.857
Hierarchy of authority	.017	.902	.411	.349	.926

Adjusted R^2 = 0; adjusted R2 at step 1 = .173.

are more likely to agree with currently accepted program evaluation practices.

Indicators of organizational structure were not successful in predicting responses on any other outcome measures, although the regression weight for participation in decision making approached significance ($p = .061$) for predicting scores on the evaluation knowledge scale. The failure of indicators of organizational structure to predict outcome responses was unexpected. Possible explanations for these discrepencies will be discussed below.

As mentioned earlier, another conceptual group of variables analyzed for their multivariate relationship with the outcome measures used in this study included indicators of the participating organizations' environment. These indicators included (1) an index score representing the frequency and importance of interaction and communication with other organizations in each of the research sites (Inter-org. relations), (2) the age of the organization (Org. age) and (3) the percent chance the organization would continue to exist in the next fiscal year (Continue to exist). These final two measures were intended to represent organizational stability. It was believed a priori that organizations coming from less stable environments and engaged in greater interaction with other community organizations would be more likely to adopt and implement the innovation.

Multivariate analyses of organizational environment characteristics were conducted at the aggregate level of

analysis, except for measurement of Agreement with Evaluation Practices and Knowledge of Program Evaluation. These last two criterion measures were measured at the individual level of analysis. Correlations between the predictors, regression equations, and summary tables of regression statistics are included in the tables below. Relationships with the outcome measures are presented in the following order: (1) post interview of evaluation practices, (2) follow-up interview of evaluation practices, (3) self-reported evaluation practices, (4) agreement with evaluation practices, and (5) knowledge of evaluation practices.

1. Evaluation Interview. Analysis of the multivariate relationship between organizational environment variables and the post and follow-up interviews measuring evaluation practices revealed these variables to be unimportant in predicting outcome responses. No zero order correlations were significant (Table 25). The regression coefficients and the multiple correlation also were not significantly different from zero (Tables 26 to 29). The failure of interorganizational relations to predict innovation adoption was contrary to a priori hypotheses and to the findings of other investigators (Becker, 1970a, 1970b; Hage & Aiken, 1968). The failure of the indicators of organizational stability was also contrary to a priori hypotheses and predictions of organizational theorists (Lawrence & Lorsch, 1967; March & Simon, 1958). Possible reasons for these discrepencies will be discussed below.

Table 25

Correlation Matrix of Organizational Environment Predictors: Evaluation Interview and Self-Report

Variable	1	2	3
1. Org. age			
2. Continue to exist	24		
3. Inter-org. relations	-15	10	
4. Post interview	11	03	09
5. Follow-up interview	15	12	-06
6. Self-report	-05	17	11

Decimal points have been omitted.

No zero order correlations were significant

N range: 29 - 30

Table 26

Variables in Equation: Post Interview, Organizational Environment Predictors

Variable	b	SE	F	Prob.
Org. age	.0179	.028	.394	.535
Inter-org. relations	.0251	.046	.301	.588
Constant	1.747	1.447	1.459	.238

Percent chance continue to exist did not enter the equation; final F = .0005.

Table 27

Regression Summary Table: Post Interview, Organizational Environment Predictors

Variable	F to enter or remove	Prob.	R^2	Over-all F	Prob.
Org. age	.310	.582	.011	.310	.582
Inter org.	.301	.588	.023	.302	.742

Adjusted R^2 = 0; adjusted R^2 at step 1 = 0.

Table 28

Variables in Equation: Follow-up Interview, Organizational Environment Predictors

Variable	b	SE	F	Prob.
Org. age	.0167	.029	.330	.571
Continue to exist	.0150	.031	.229	.636
Inter-org. relations	- .0134	.046	.084	.775
Constant	1.4353	2.856	.252	.620

Table 29

Regression Summary Table: Follow-up Interview, Organizational Environment Predictors

Variable	F to enter or remove	Prob.	R^2	Over-all F	Prob.
Org. age	.630	.434	.023	.631	.434
Continue to exist	.201	.658	.030	.406	.670
Inter-org. relations	.084	.775	.034	.289	.833

Adjusted R^2 = 0; adjusted R^2 at step 1 = 0.

2. Evaluation Self-Report. Multivariate analysis of the posttest scores of the self-report scale of evaluation practices disclosed results that were parallel with responses to the evaluation interview, discussed above. None of the organizational environment variables were significant predictors of responses to this scale. The regression coefficients and multiple correlation were not significantly different from zero (Tables 30 and 31). These predictors explained no variance in this outcome measure.

In sum, these indicators of the organization environment were unimportant in predicting adoption of the evaluation innovation. This result was contrary to what was expected. Other investigators have reported a positive relationship between interorganizational interaction and innovation adoption. Organizational theorists have also suggested a positive relationship between turbulant environments and propensity to change, including general levels of innovativeness.

Table 30

Variables in Equation: Evaluation Self-Report, Organizational Environment Predictors

Variable	b	SE	F	Prob.
Continue to exist	.0045	.005	.803	.379
Org. age	-.0012	.005	.161	.691
Inter-org. relations	.0027	.007	.135	.716
Constant	2.9142	.457	40.549	.000

Table 31

Regression Summary Table: Evaluation Self-Report, Organizational Environment Predictors

Variable	F to enter or remove	Prob.	R^2	Over-all F	Prob.
Continue to exist	.810	.376	.029	.810	.376
Org. age	.237	.630	.038	.512	.605
Inter-org. relations	.135	.716	.043	.375	.771

Adjusted R^2 = 0; adjusted R^2 at step 1 = 0.

3. Agreement with Evaluation Practices. The overall multivariate equation including organizational environment variables and responses to the Agreement with Evaluation Practices scale also failed to reach conventional levels of significance (Table 32 to 34). The F test for the regression coefficient for interorganiational relations revealed that its difference from zero was not very likely ($p = .126$). Moreover, the amount of variation in the agreement scale that could be explained by the entire group of predictors was almost entirely accounted for by interorganizational relations (adjusted R squared for this coeffecient equaled .066; adjusted R squared for the whole equation equaled .075). That is, agreement with conducting an innovative practice in one's organization covaries with the frequency and importance of contact with other organizations. This finding confirms one of the a priori hypotheses.

Table 32

Correlation Matrix of Organizational Environment Predictors: Agreement with Evaluation Practices

	Variable	1	2	3
1.	Org. age			
2.	Continue to exist	24		
3.	Inter-org. relations	- 15	10	
4.	Agree with eval. prac.	22*	22*	-29*

Decimal points have been omitted.

* $p < .05$; N range: 59-81

Table 33

Variables in Equation: Agreement with Evaluation Practices, Organizational Environment Predictors

Variable	b	SE	F	Prob.
Inter-org. relations	- .0057	.004	2.423	.126
Continue to exist	.0036	.003	1.288	.262
Org. age	.0024	.002	1.120	.295
Constant	3.723	.329	127.329	.000

Table 34

Regression Summary Table: Agreement with Evaluation, Organizational Environment Predictors

Variable	F to enter or remove	Prob.	R^2	Over-all F	Prob.
Inter-org. relations	4.747	.034	.084	4.747	.034
Continue to exist	1.403	.242	.108	3.094	.054
Org. age	1.120	.295	.128	2.441	.175

Adjusted R^2 = .075; adjusted R^2 at step 1 = .066.

The relationship between interorganizational relations and agreement with evaluation practices might operate in the following way. Contact with other organizations might make one more aware of the innovation and could expose the potential adopter to other professionals who are willing to hold in high esteem adopters of the innovation which they are already using. Unfortunately, the sign obtained on this regression coefficient was negative, suggesting the opposite conclusion--organizations not interacting frequently have staff members more likely to believe program evaluation should be implemented in their organization. Because the standard error of prediction for this coefficient was almost as large as the coefficient itself, this relationship should be interpreted very cautiously. The obtained marginal relationship may be spurious.

4. Program Evaluation Knowledge. The final criterion to be discussed in this section examining the influence of organizational environment variables is knowledge of program evaluation activities. Like the analysis of organizational structure discussed above, this analysis included only workshop participants. It will be recalled that nominated others were not tested for their knowledge of evaluation. No zero order correlations were significant. Neither the regression coefficients nor the multiple correlation was significantly different from zero. Because there were no hypothesized relationships, and in the interest of conserving space, tables of these results are not provided.

The final group of predictor variables entered into multiple regression equations included indicators of individual level constructs. These included education (highest degree), program tenure, expected tenure (number of years expected to stay in the program), age, sex, and agreement with evaluation practices. All of these variables were analyzed as predictors of each of the four outcome measures. The order of discussion will conform to that above, i.e., 1) post and follow-up interview of evaluation practices, 2) self-report of evaluation practices, 3) agreement with evaluation practices, and 4) knowledge of evaluation practices.

1. Evaluation Interview. The degree of multicollinearity among all individual level predictors may be seen in Table 35. While four correlations attained significance at the .05 level or lower, the highest correlation was only .40 (between tenure and age). (The partial regression coefficient for tenure was almost zero when age was entered into the equation, suggesting tenure did not contribute much variation beyond that accounted for by age.) This level of multicollinearity was not considered strong enough to bias estimates of regression coefficients. Consequently, indicators were entered independently into the regression equation.

Three individual level variables successfully predicted responses on the evaluation post interview. These successful predictors included education, expected tenure in the program

Table 35

Correlation Matrix of Individual Level Predictors

Variable	1	2	3	4	5	6
1. Education						
2. Job tenure	-09					
3. Expected tenure	-11	04				
4. Age	-06	40**	11			
5. Sex	-26*	00	18	25*		
6. Agree with eval. prac.--pretest	22*	-06	18	03	-04	
7. Post interview	-37**	-11	-22	-18	00	15
8. Follow-up interview	-31**	-04	-18	-13	-02	12
9. Self-report	05	19	07	33	19	25
10. Agree with eval. prac.--posttest	02	03	28*	-13	-02	58***

Decimal points have been omitted. * p <.05; ** p <.01; *** p <.01.

Sex is coded male = 1, female = 2. N range: 26-79.

and agreement with evaluation practices. Each of these regression coefficients exceeded chance probabilities (Tables 36 and 38). The F value for the multiple correlation resulting from this three predictor equation was also highly significant (Tables 37 and 39). Evidence provided by the F value and the adjusted R squared (.233) leads to the conclusion that slightly over one-fifth of the variance in this measure of innovation adoption and implementation may be predicted by knowledge of individual staff members' education, expected tenure and level of agreement with commonly accepted program evaluation practices. Examination of the sign of the regression coefficients suggests the prediction that organizations with staff who do not have advanced college degrees, who do not expect to remain long in the program, and who agree strongly with the practice of program evaluation will be likely to report higher rates of adoption. This profile of individuals is somewhat contrary with the results reported by Hage and Aiken (1970). This difference may have been related to the nature of program evaluation. Possibly, less educated staff who were less invested in the program were more idealistic regarding program evaluation. These staff may not have had negative experiences with the use of program evaluation results, hence, have had no reason to feel negatively toward its practice.

The ability of these variables to predict scores on this scale diminished at the follow-up measurement period. While the predictors entered the equation in the same order, only

Table 36

Variables in Equation: Post Interview, Individual Level Predictors

Variable	b	SE	F	Prob.
Education	- .8082	.240	11.329	.002
Expected tenure	- .1222	.056	4.757	.036
Agree with eval. prac.-pretest	2.7312	1.244	4.821	.035
Age	- .0376	.038	.982	.328
Tenure	- .0387	.105	.136	.714
Sex	- .1502	1.334	.013	.911
Constant	-1.4740	5.408	.074	.787

Table 37

Regression Summary Table: Post Interview, Individual Level Predictors

Variable	F to enter or remove	Prob.	R^2	over-all F	Prob.
Education	6.462	.015	.139	6.462	.015
Expected tenure	3.525	.068	.210	5.197	.010
Agree with eval. prac.-pretest	4.961	.032	.302	5.471	.003
Age	1.814	.186	.334	4.644	.004
Tenure	.131	.719	.337	3.655	.009
Sex	.013	.911	.337	2.964	.019

Adjusted R^2 = .223; adjusted R^2 at step 1 = .246.

Table 38

Variables in Equation: Follow-up Individual Level Predictors

Variable	b	SE	F	Prob.
Education	- .6492	.250	6.761	.013
Expected tenure	- .0965	.058	2.726	.107
Agree with eval. prac.-pretest	2.1781	1.295	2.827	.101
Age	- .0300	.036	.715	.403
Sex	- .3002	1.379	.047	.829
Constant	- .345	5.612	.004	.951

Job tenure did not enter the equation; final F = .0007

Table 39

Regression Summary Table: Follow-up Interview, Individual Level Predictors

Variable	F to enter or remove	Prob.	R^2	Over-all F	Prob.
Education	4.150	.048	.094	4.150	.048
Expected tenure	2.149	.151	.141	3.209	.051
Agree with eval. prac.-pretest	2.847	.100	.201	3.190	.034
Age	.872	.356	.219	2.603	.052
Sex	.047	.829	.221	2.038	.097

Adjusted R^2 = .112; adjusted R^2 at step 1 = .071.

the coefficient for education remained different from zero at the .05 level. The F test for the multiple correlation of these three variables continued to be significant, although the adjusted R squared was reduced in half.

2. Evaluation Self-Report. Predictor variables entering significantly into the multiple regression equation for this outcome measure included age, agreement with evaluation practices, and sex. The regression coefficient for age was significant only when entered in the first step. No other regression coefficient deviated significantly from zero. The overall pattern of results suggests only a weak relationship between position on these predictors and the number of evaluation practices reported with this instrument. Unit increases in age, agreement with evaluation practices, and being female (70 percent of the sample was female) predicted slight increases in reported, global evaluation practices. The resulting regression equation and regression summary statistics are given below in Tables 40 and 41.

3. Agreement with evaluation practices. Not surprisingly, scores from the pretest administration of this instrument were the strongest predictor of scores on this scale at the post measurement period. In fact, no other predictor was significantly different from zero. The F test for the multiple correlation was highly significant, as would be expected, given that most of the variance in the multiple correlation was explained by pretest scores. The adjusted R squared was .33, barely higher than the adjusted R squared (.31)

Table 40

Variables in Equation: Evaluation Self-Report, Individual Level Predictors

Variable	b	SE	F	Prob.
Age	.0093	.006	2.087	.157
Agree with eval. prac.-pretest	.3271	.212	2.384	.132
Sex	.2103	.227	.856	.361
Tenure	.0121	.018	.457	.503
Education	.0147	.041	.130	.720
Expected tenure	-.0014	.009	.023	.880
Constant	1.229	.921	1.781	.191

Table 41

Regression Summary Table: Evaluation Self-Report, Individual Level Predictors

Variable	F to enter or remove	Prob.	R^2	Over-all F	Prob.
Age	5.075	.030	.113	5.076	.030
Agree with eval. prac.-pretest	2.689	.109	.170	3.989	.027
Sex	.640	.429	.184	2.849	.050
Tenure	.433	.515	.193	2.212	.086
Education	.149	.702	.196	1.759	.146
Expected tenure authority	.023	.880	.197	1.430	.231

Adjusted R^2 = .059; .127 at step 2.

accounted for by only pretest scores on the agreement with evaluation questionnaire. The regression equation employing all predictors, and appropriate summary statistics, are included in Tables 42 and 43.

4. Program Evaluation Knowledge. This is the final outcome measure to be discussed in this section. None of the regression coefficients were reliably different from zero, nor was the F test for the multiple correlation significant. Finally, the adjusted R squared equaled zero. Values of individual level predictors were unsuccessful in predicting knowledge of evaluation practices. Because none of the indicators were successful, no hypotheses were offered concerning possible multivariate relationships between individual level characteristics and scores on the evaluation knowledge scale, and to conserve space, no summary statistics are presented.

Summary of Initial Regression Analyses

Initial regression analyses included those variables believed to moderate scores on each of the outcome measures. Variables were clustered into three conceptual groups, i.e., organizational structure, organizational environment, and individual staff. The ability of these three groups to predict outcome scores successfully was weak and inconsistent. Aggregated organizational structure characteristics were successful only in predicting post scores on the agreement with evaluation practices questionnaire. While these multivariate associations were not unexpected, the failure of

Table 42

Variables in Equation: Agreement with Evaluation Practices, Individual Level Predictors

Variable	b	SE	F	Prob.
Agree with eval. prac.-pretest	.6568	.153	18.512	.000
Expected tenure	.0096	.007	1.976	.168
Age	- .0072	.004	2.570	.118
Tenure	.0122	.013	.927	.342
Education	- .0182	.028	.404	.529
Constant	1.640	.591	7.686	.009

Sex did not enter in the equation; final F = .0001.

Table 43

Regression Summary Table: Agreement with Evaluation Practices, Individual Level Predictors

Variable	F to enter or remove	Prob.	R^2	Over-all F	Prob.
Agree with eval. prac.-pretest	19.836	.000	.331	19.836	.000
Expected tenure	1.974	.168	.363	11.146	.000
Age	1.700	.200	.391	8.131	.000
Tenure	1.016	.320	.407	6.355	.001
Education	.404	.529	.414	5.083	.001

Adjusted R^2 = .332; adjusted R^2 at step 1 = .315.

these variables to predict scores on each of the measures of adoption and implementation of evaluation practices was contrary to earlier hypotheses. Indicators of organizational environment were also related to agreement with evaluation practices. There was no relationship between scores on these predictors and adoption and implementation of evaluation practices, or evaluation knowledge. Finally, individual differences were examined. These characteristics (education, agreement with evaluation practices, and expected tenure) were successful in predicting adoption and implementation of evaluation practices as measured with either the interview or the self-report questionnaire. Only pretest scores on the agreement with evaluation practices questionnaire significantly predicted scores on the posttest measure of agreement with evaluation practices.

Most surprising among these results was the failure of organizational structural characteristics to be related to adoption and implementation of evaluation practices, contrary to a priori hypotheses. The failure of these variables to provide significant predictors was most likely the result of the homogeneity of the organizations in the sample, and a consequent reduction in range of scale scores. Explanations for this failure will be discussed in the next chapter.

As discussed in the introduction to this section, the next step of the regression analyses entered only variables providing significant predictors from all three conceptual groups. Following Przeworski and Teune (1970), analyses

involving variables at more than one level of aggregation will be referred to as "comparative analysis", as contrasted with analyses that are restricted to only the individual or organizational level. It should be noted that comparative analysis presumes comparative theory. To borrow from Roberts et al. (1978), the unit of theory is comparative, rather than being restricted to either level of aggregation.

Significant Process Predictors

Multivariate relationships for outcome measures will be presented in the same order as above, viz., 1) post and follow-up interviews of adoption and implementation of evaluation practices, 2) self-reported evaluation practices, 3) agreement with evaluation practices and 4) knowledge of evaluation practices.

1. Evaluation Interview. Posttest interview scores were significantly predicted by staff education, expected tenure and agreement with evaluation practices. All three predictors are psychological characteristics. Regression coefficients were significantly different from zero. The F test for the multiple correlation for all three variables exceeded chance probabilities ($p < .003$). The adjusted R squared reveals that 25 percent of the variance in the criterion was explained by these predictors.

These relationships were also obtained at the follow-up administration of this interview. At this point in time, however, only the effect of the regression coefficient for education was not due to chance, although the coefficient for

expected tenure approached significance (p = .077). The F ratio for the multiple correlation continued to be significant but diminished (F = 3.19, df = 3, 38, p = .034). The adjusted R squared was reduced in half (.138). The correlation matrices, regression equations and regression summary statistics are reported in Tables 44 to 48.

2. Evaluation Self-Report. Like the interview measure of evaluation adoption and implementation, only psychological level variables produced significant regression coefficients for this outcome measure. Staff members' age and level of agreement with evaluation practices were successful predictors. Regression coefficients were only about 2.5 times the size of their standard errors, providing a loose-fitting regression equation. The F test for the multiple correlation departed considerably from chance levels (F = 7.058; df = 2, 69; p = .002). Almost 15 percent of the adjusted variance in the criterion was explained by these two variables. The correlation matrix, regression equation and summary statistics are provided below in Tables 49 to 51.

3. Agreement with Evaluation Practices. Posttest scores on the Agreement with Evaluation Practices questionnaire were regressed first on aggregate level organizational level variables found previously to be significant. Structural and environmental variables were entered simultaneously to provide a comprehensive interpretation at the organizational level of analysis. These results are presented in Tables 52, 53, and 54. It may be seen that participation in

Table 44

Correlation Matrix of Significant Predictors: Evaluation Interview and Self-Report

Variable	1	2	3	4	5
1. Education					
2. Expected tenure	- 11				
3. Agree with eval. prac.	22*	18			
4. Post interview	- 37**	- 22	15		
5. Follow-up interview	- 31*	- 18	12	85***	

Decimal points have been omitted.

*p < .05; ** p < .01; *** p < .001

N range: 42 - 81

Table 45

Variables in Equation: Post Interview, Significant Predictors

Variable	b	SE	F	Prob.
Education	- .7808	.229	11.612	.002
Expected tenure	- .1300	.054	5.713	.022
Agree with eval. prac.	2.7211	1.216	4.961	.032
Constant	-3.4510	4.583	.567	.456

Table 46

Regression Summary Table: Post Interview, Significant Predictors

Variable	F to enter or remove	Prob.	R^2	Over-all F	Prob.
Education	6.462	.015	.139	6.462	.015
Expected tenure	3.525	.068	.210	5.198	.010
Agree with eval. prac.	4.961	.032	.302	5.471	.003

Adjusted R^2 = .246; adjusted R^2 at step 1 = .117.

Table 47

Variables in Equation: Follow-up Interview, Significant Predictors

Variable	b	SE	F	Prob.
Education	- .6249	.239	6.822	.013
Expected tenure	- .1033	.057	3.306	.077
Agree with eval. prac.	2.1527	1.276	2.847	.100
Constant	-2.0729	4.786	.188	.667

Table 48

Regression Summary Table: Follow-up Interview, Significant Predictors

Variable	F to enter or remove	Prob.	R^2	Over-all F	Prob.
Education	4.150	.048	.094	4.150	.048
Expected tenure	2.149	.151	.141	3.209	.051
Agree with eval. prac.	2.847	.100	.201	3.190	.034

Adjusted R^2 = .138; adjusted R^2 at step 1 = .071.

Table 49

Correlation Matrix of Significant Predictors: Evaluation Self-Report

Variable	1	2	3
1. Age			
2. Agree with eval. prac.	03		
3. Self-report	33**	25**	

Decimal points have been omitted.

** $p < .01$

N range: 72 - 74

Table 50

Variables in Equation: Evaluation Self-Report, Significant Predictors

Variable	b	SE	F	Prob.
Age	.0111	.004	6.874	.011
Agree with eval. prac.	.3261	.146	4.977	.029
Constant	1.3520	.648	4.353	.041

Table 51

Regression Summary Table: Evaluation Self-Report, Significant Predictors

Variable	F to enter or remove	Prob.	R^2	Over-all F	Prob.
Age	8.883	.004	.113	8.883	.004
Agree with eval. prac.	4.758	.033	.170	7.059	.002

Adjusted R^2 = .148; adjusted R^2 at step 1 = .100.

Table 52

Correlation Matrix of Significant Organizational Predictors: Agreement with Evaluation Practices

Variable	1	2	3	4
1. Participation in decision making				
2. No. of total staff	08			
3. Inter-org relations	- 23*	- 21		
4. Agree with eval. prac.-- posttest	36***	31**	-29*	

Decimal points have been omitted.

* p < .05; ** p < .01; *** p < .001

N range: 54 - 81

Table 53

Variables in Equation: Agreement with Evaluation Practices, Significant Organizational Predictors

Variable	b	SE	F	Prob.
Participation in decision making	.1825	.077	5.392	.024
No. of total staff	.0041	.002	3.825	.056
Inter-org. relations	-.0044	.003	1.721	.195
Constant	3.2766	.339	92.933	.000

Table 54

Regression Summary Table: Agreement with Evaluation Practices, Significant Organizational Predictors

Variable	F to enter or remove	Prob.	R^2	Over-all F	Prob.
Participation in decision making	7.553	.008	.127	7.553	.008
No. of total staff	4.986	.030	.205	6.559	.003
Inter-org relations	1.722	.195	.231	5.009	.004

Adjusted R^2 = .185; adjusted R^2 at step 1 = .110.

decision making, number of full- and part-time paid and volunteer staff, and extent of interorganizational relations contributed to a regression equation providing a multiple correlation divergent from chance levels (F = 5.009; df = 3, 50; p = .004). Only the regression coefficients for participation and number of staff were different from zero. Slightly more than 18 percent of the variance in the criterion was explained by these three variables (adjusted R squared = .185). The overall pattern of results suggests that these three organizational characteristics adequately predicted the level at which staff members in organizations agree with evaluation practices. Of the three, participation in decision making clearly provided a superior predictor (adjusted R squared = .110), although its standard error was slightly higher than preferred.

These three organizational variables were next combined with psychological variables shown in previous analyses to be successful predictors, i.e., pretest scores on the agreement with evaluation practices questionnaire. The correlation matrix of these predictors is included in Table 55. As would be expected, pretest scores provided the best estimate of posttest scores. In addition, the number of total staff continued to be a relatively strong predictor (see Table 56 and 57). Other organizational characteristics diminished in their predictive strengh. The greater decline in predictive efficacy demonstrated by participation in decision making was due to its moderate correlation with pretest scores on the agreement with evaluation practices. Its partial beta weight, after entering pretest scores in step 1, was .154, although its zero order correlation with the criterion was .36.

The predictive superiority of pretest scores was not surprising. Noteworthy, instead, was the continued ability for indicators of organizational structure and environment in this comparative analysis to predict how strongly individuals demonstrated psychological characteristics like agreement with evaluation practices. While no causal ordering is suggested here, such possibilities will be discussed below.

4. Program Evaluation Knowledge. No variables significantly predicted scores on the scale measuring evaluation knowledge. Consequently, no tables of final predictors are provided.

Table 55

Correlation Matrix of Final Predictors: Agreement with Evaluation Practices

Variable	1	2	3	4	5
1. Participation in decision making					
2. No. of total staff	08				
3. Inter-org relations	-23*	-21			
4. Agree with eval. prac.--pretest	42***	15	- 27*		
5. Agree with eval. prac.--posttest	36***	31**	-29*	58***	

Decimal points have been omitted.

* p < .05; ** p < .01; *** p < .001; N range: 54 - 81

Table 56

Variables in Equation: Agreement with Evaluation Practices, Final Predictors

Variable	b	SE	F	Prob.
Agree with eval. prac.--pretest	.5350	.142	14.251	.000
No. of total staff	.0034	.002	3.412	.071
Participation in decision making	.0737	.075	.952	.334
Inter-org. relations	- .0023	.003	.633	.430
Constant	1.5714	.543	8.359	.006

Table 57

Regression Summary Table: Agreement with Evaluation Practices, Final Predictors

Variable	F to enter or remove	Prob.	R^2	Over-all F	Prob.
Agree with eval. prac.-- pretest	25.786	.000	.331	25.786	.000
No. of total staff	4.183	.046	.382	15.774	.000
Participation in decision making	1.197	.279	.397	10.956	.000
Inter-org relations	.633	.430	.404	8.315	.000

Adjusted R^2 = .356; adjusted R^2 at Step 1 = .318.

Omitted from the discussion of the multivariate analyses thus far has been a presentation of the predictive impact of the intervention condition. That is, does participation in the experimental condition predict outcome scores better than organizational and individual level constructs? To answer this question, intervention group membership was dummy coded (Cohen & Cohen, 1973); organizations in the control groups were coded 0 and members of the experimental groups were coded 1 on this dummy variable. This dummy variable was then entered into each of the regression equations including final predictors. Thus, the proportion of variance due to the intervention may be compared to the amount of variance due to other significant predictors. Inclusion of both significant

predictors and the dummy variable representing intervention group membership maximizes the amount of information in the obtained data that can be used to produce the best fitting regression equation.

Discussion of 1) post and follow-up interviews of evaluation practices is followed by presentation of 2) self-reported evaluation practices, 3) agreement with evaluation practices, and 4) knowledge of evaluation practices. Finally, the chapter will conclude with a presentation of the relationship between components of the intervention and those outcome measures demonstrating differences as a result of the intervention.

Final Regression Equations

1. Evaluation Interview. Posttest scores on the interview measuring adoption and implementation of evaluation practices were more reliably predicted by addition of group membership in the regression equation. The adjusted R squared for the multiple correlation was increased approximately 50% (from .246 to .361). As would be expected, the regression coefficient for education continued to be significant, while the predictive power of agreement with evaluation practices diminished to slightly greater than chance levels of significance ($p = .078$). The regression coefficient for expected tenure was no longer signicant due to its significant negative correlation ($r = -.29$; $p = .019$) with intervention group membership, resulting in a negative partial correlation not much greater than zero (partial $r = -.09$) when group membership entered the equation.

The influence of intervention group membership increased at the follow-up administration of this instrument. This additional influence was due to the diminished predictive capability of the other variables. This waning trend was discussed above. The adjusted R squared for the regression equation remained approximately equal to the adjusted R squared for the post administration of the evaluation interview. The relative ranking of the predictors remained unchanged.

The correlation matrix of predictors is provided in Table 58. Tables 59 and 60 provide the regression equation and summary statistics for the post interview; Tables 61 and 62 provide the same data for the follow-up interview.

2. Evaluation Self-Report. The addition of the dummy coded intervention group variable explained no significant additional variance in this outcome measure. The individual level characteristics of age and agreement with evaluation practices continued to be sufficient to explain approximately 15% of the variation in this criterion. The failure of intervention group membership to contribute to the regression equation was not surprising given the repeated measures analysis of variance results involving this measure reported above. Because no additional information was provided by the addition of dummy coded intervention group membership, regression coefficients and summary statistics remained the same. This information was presented above in Tables 50 and 51.

Table 58

Correlation Matrix of Final Predictors and Intervention: Evaluation Interview

Variable	1	2	3	4	5	6
1. Education						
2. Expected tenure	- 11					
3. Agree with eval. prac.	28*	17				
4. Intervention	- 14	- 29*	09			
5. Post interview	- 37**	- 22	15	51***		
6. Follow-up interview	- 31**	- 18	12	58***	85***	

Decimal points have been omitted.

* p < .05; ** p < .01; *** p < .001

N range: 42 - 81

Table 59

Variables in Equation: Post Interview, Final Predictors and Intervention

Variable	b	SE	F	Prob.
Intervention	2.4941	.891	7.832	.008
Education	- .6464	.216	8.928	.005
Agree with eval. prac.	2.0832	1.148	3.295	.078
Expected tenure	- .0792	.053	2.208	.146
Constant	- 3.3168	4.219	.619	.437

Table 60

Regression Summary Table: Post Interview, Final Predictors and Intervention

Variable	F to enter or remove	Prob.	R^2	Over-all F	Prob.
Intervention	14.165	.001	.261	14.165	.001
Education	5.658	.022	.355	10.736	.000
Agree with prog. eval.	2.125	.153	.389	8.072	.000
Expected tenure	2.208	.146	.425	6.798	.000

Adjusted R^2 = .361; adjusted R^2 at step 1 = .243.

Table 61

Variables in Equation: Follow-up Interview, Final Predictors and Intervention

Variable	b	SE	F	Prob.
Intervention	3.2210	.877	13.491	.001
Education	- .4514	.213	4.496	.041
Agree with eval. prac.	1.3288	1.129	1.385	.247
Expected tenure	- .0376	.052	.515	.478
Constant	- 1.8987	4.152	.209	.650

Table 62

Regression Summary Table: Follow-up Interview, Final Predictors and Intervention

Variable	F to enter or remove	Prob.	R^2	Over-all F	Prob.
Intervention	20.353	.000	.337	20.353	.000
Education	3.362	.074	.390	12.458	.000
Agree with prog. eval.	1.066	.308	.406	8.675	.000
Expected tenure	.514	.478	.416	6.552	.000

Adjusted R^2 = .351; adjusted R^2 at step 1 = .323.

3. Agreement with Evaluation Practices. Variables previously demonstrating significant relations with this outcome measure included participation in decision making and number of full-time and part-time paid and volunteer staff. The addition of group membership did not increase the predictive power of the regression equation. In fact, the adjusted R squared was somewhat reduced when group membership was included in the equation. The F test for the multiple correlation continued to be significant. The overall pattern of results suggests only knowledge of pretest scores on this scale and number of staff were necessary to explain approximately 36 percent of the variation in this scale. Because knowledge of intervention group membership did not increase the amount of explained variance, regression summary information is not provided. The significant regression equation

presented above in Table 56 continued to provide the best estimate of scores on this outcome measure.

4. Program Evaluation Knowledge. It will be recalled that no variables examined in the multiple regression analysis successfully predicted scores on this criterion. Moreover, as reported above, a one-way ANOVA revealed that intervention group membership was unrelated to scores on this instrument.

It can be seen after examining the tables above that membership in the intervention condition contributed significantly only to the regression equations for the post and follow-up interview measure of adoption and implementation of evaluation practices. This result will be interpreted further in the next chapter.

The small number of respondents participating in the intervention precluded the use of multivariate techniques to determine the contribution of components of the intervention to innovation adoption. Consequently, only zero order correlations were used to estimate the relationship between intervention components and outcome measures. The correlation matrix of these variables is displayed in Table 63.

Intervention components included the number of goals achieved during the intervention, satisfaction with the intervention, and evaluation knowledge. Post measurement of evaluation knowledge was not treated as an outcome measure in

this analysis. It can easily be seen that goal-setting contributed the major explanation for the success of the intervention. Participants rated equally high their satisfaction with the workshop and consultation intervention.

Table 63

Correlation Matrix of Intervention Components and Evaluation Interview Scores

Variable	1	2	3	4	5	6
1. Number of goals achieved						
2. Consultation satisfaction	20					
3. Workshop satisfaction	08	62***				
4. Evaluation knowledge	12	-08	-11			
5. Post Interview	62***	-10	20	09		
6. Follow-up interview	66***	-30	03	16	85***	

Decimal points have been omitted.

* p<.05; ** p<.01; *** p<.001

N range: 12-81

Summary of Results

Directors and nominated others in organizations participating in the evaluation workshops were randomly assigned to either an experimental condition, where they received six weeks of consultation using written goal-setting, or to a control group, where they received no further treatment. A one-way ANOVA, intraclass correlation coefficients, and percent exact agreement were used to estimate the extent of intraorganizational agreement. Those variables that did not show agreement may have failed to do so because of a restriction in range of scale responses. It was decided to aggregate organizational characteristics because they were more meaningfully interpreted at the aggregate level, and because the evidence for disagreement was not especially strong.

Analysis of pretest scores revealed differences between members of the control and experimental groups only in respondents' expected tenure in the organization. Differences between control groups existed for the number of full-time paid and volunteer staff and number of part-time volunteer staff. Experimental group organizations demonstrated differences in the number of services provided and level of agreement with the practice of evaluation activities in their respective organizations. Evidence documenting the effectiveness of the experimental intervention was equivocal. Interview measures of adoption revealed a highly significant main effect for the experimental treatment, explaining about 21 percent of the outcome variance. This effect was not

found in the self-report measure of evaluation adoption. The intervention also failed to produce differences between experimental and control groups in the level of agreement with evaluation practices or knowledge of program evaluation methods. These results were contrary to a priori hypotheses. Intervention condition membership explained additional variation only in the interview instrument, contributing to twice the amount of explained variation in the criterion measure. Final significant multiple regression equations are displayed in Table 64.

Table 64

Final Significant Multiple Regression Equations

Criterion		Predictors
Post Interview	= (-3.32) +	(2.49) intervention group + (-.65) education + (2.08) agreement with evaluation practices + (-.08) expected tenure R^2 = .43; Adjusted R^2 = .24
Follow-up Interview	= (-1.90) +	(3.22) intervention group + (-.45) education + (1.33) agreement with evaluation practices + (-.04) expected tenure R^2 = .42; Adjusted R^2 = .35
Agreement with Evaluation Practices--Posttest	= (1.57) +	(.53) agreement with evaluation practices--pretest + (.003) no. of staff + (.07) participation in decision making + (-.002) interorganizational relations R^2 = .40; Adjusted R^2 = .36

CHAPTER IV

Discussion

The presentation and discussion of a study having the magnitude of the present one is always difficult. One always risks becoming detailed to the point of tedium or maintaining a level of explanation that possibly forsakes important detail and suffers from superficiality. Every attempt has been made to maintain a balance between these two extreme possibilities.

A restatement of the a priori hypotheses, and their confirmation or disconfirmation, will begin the chapter. Following this presentation, major flaws in the reported research will be bared. Finally, implications of the findings and suggestions for future research will be discussed.

Confirmation of Hypotheses

It should be recalled that both experimental and correlational hypotheses were suggested in chapter one. The experimental hypotheses referred to changes likely to occur as a consequence of participation in the consultation intervention. Specifically, it was argued that participants in the experimental intervention would demonstrate: 1) greater adoption and implementation of evaluation practices, 2) more favorable agreement with evaluation practices, and 3) greater knowledge of evaluation practices. Discussion of the confirmation of these hypotheses will proceed in the same order.

Experimental Hypotheses

1. Greater adoption and implementation. The results concerning this hypothesis were equivocal. With one measure of evaluation practices (Evaluation Self-Report) no change was found. Examining pretest and posttest scores on this measure, members of experimental and control groups did equally well. Posttest means were identical for members of experimental and control groups. With the other measure of evaluation practices (Evaluation Interview), a significant main effect for participation in the consultation intervention was revealed, with a substantial amount of the variance in this measure accounted for by group membership (ω^2 = .21). With neither measure was a significant time-by-intervention-condition interaction discovered. Several possible explanations for these contradictory results immediately suggest themselves. First, one might argue that innovation adoption reported in the interview really represented expectancy or experimenter demand effects. Second, one might argue that these measures were not measuring the same construct, hence disagreement between them should not necessarily be surprising.

Experimenter expectancy and demand characteristics refer to the shaping of results by the transmission of the experimenter's expectations of the results to the participants in the study. Rosenthal (1966; Rosenthal and Jacobson, 1968) has documented the effect of expectancies on performance. This effect has consistently found support in different

settings and among varied age groups (Crano & Mellon, 1978; Eden & Shani, 1982; Rubovitz & Maehr, 1971). Participants in the study become aware of the researcher's hypothesis regarding outcome and behave in a manner consistent with this hypothesis. Expectancy is confounded with treatment. It might be argued that significant effects demonstrated with the use of the interview instrument may have been due to expectancies rather than the treatment itself. Moreover, the use of the interview format might have exacerbated this effect (Crano & Brewer, 1973, pp. 168-169).

It should be recalled that participants in the experimental consultation were instructed to document all goals set and achieved. Thus, written records existed to document all goals. These goals, in fact, represented increments of adoption. For example, if a participant decided to create and administer a needs assessment questionnaire, he or she might set as weekly goals item-writing and questionnaire construction, questionnaire pretesting, and, possibly, actual administration. In all cases, participants were asked to provide a copy of the questionnaire and its administration schedule, as well as document the achievement of any other goals. Copies of all questionnaires, written plans, and other accomplishments were provided by 16 of the 24 members of the experimental group. Thus, reported outcomes were validly documented for two thirds of all experimental members, those participants most susceptible to expectancy effects.

The level of agreement between participants and nominated others also argues against the influence of expectancy effects. The average zero order correlation between participants and nominated others for both the post and follow-up interviews was .59 ($p < .001$). Thus, nominated others would also have to have been affected by the researcher's expectancies, an unlikely event.

A second plausible alternative explanation for the treatment effect, as measured, is that the effect was real, but the self-report and interview measured different aspects of its success. This explanation seems to be in greatest agreement with the obtained data.

Support for this suggestion comes from the correlation between the responses to the two scales. The zero order correlation between aggregated means of both measures was .10 ($p. = .26$), suggesting these instruments were measuring different constructs. The self-report may have elicited responses representing a global level of intermittent evaluation practice, while the interview drew forth responses representing specific practices accomplished since attending the workshop. Responses scored as successful adoption with the interview included only those evaluation practices adopted since participation in the workshop. Responses on the self-report, however, asked respondents to reply how frequently their organization engaged in the same evaluation activities listed in the interview. The mean response on the self-report measure (mean = 3.35 at posttest) fell almost

midway between the response categories "sometimes" and "often". This pattern of responding implies that respondents felt they performed these practices at least once, although, perhaps, not recently. This temporal specificity may have distinguished responses on the two instruments, partially accounting for their limited convergence.

Another very real possibility concerning the observed data was the existence of a treatment-by-testing interaction (Campbell & Stanley, 1966, p. 18). The significant main effect for the intervention was revealed only with the interview instrument. Generalizability of the observed effect may be limited as a consequence. This limited generalizability also may explain the failure to discover any effect using the self-report instrument. The observed effect may be limited to measurement conditions similar in format to the administered interview intrument.

In sum, the intervention seems to have had an immediate, but limited, effect on participants in the consultation group. Only the very specific activities set as goals during these sessions were adopted. There was no generalized, expanded implementation at the follow-up measurement period. This point will be discussed again below.

2. More favorable agreement with evaluation practices. Participation in the experimental consultation intervention had no impact on participants' level of agreement with evaluation practices. A repeated measures ANOVA revealed that neither the experimental nor the control group demonstrated a

change in their level of agreement over time. The time-by-intervention-condition interaction also failed to reach significance.

An explanation for these results may rest in the variance in the Agreement with Evaluation Practices Scale. Average responses on this five-point Likert type scale for both groups suffered from a ceiling effect. Examination of the sample distribution of responses on this scale shows very high levels of agreement with evaluation practices at both measurement periods, resulting in very small standard deviations (pretest sample mean = 3.89, SD = .38; posttest sample mean = 3.94, SD = .44). The remaining amount of variance capable of being explained as a consequence of participation in the intervention was negligible. Participants could increase their level of agreement very little. Therefore, if the intervention was sufficiently powerful to induce change in this dimension, the restriction in range of the instrument prevented detection of such an effect.

A corollary issue is the potential existence of a social desirability effect. Because participants were involved in a project that clearly placed a high value on program evaluation methods, and nominated others were most likely also aware of this value, some portion of this agreement might have stemmed from an attempt to present a socially desirable set of responses. Although item responses were reverse worded to limit such a response set, the underlying attitude

valences were probably transparent to respondents, particularly given the nature and content of the workshops and intervention. If this response tendency was pervasive, it may have contributed to the observed restriction in range, confounding interpretation of the results.

3. Greater knowledge of evaluation practices. Measurement of knowledge of evaluation practices, using a 15 item multiple choice test administered at the follow-up measurement period, revealed no differences between experimental and control group members. Although the mean response for control group participants was lower, and the degree of variation was larger than among experimental group members, these differences were not significant. The failure to find differences on this dimension was contrary to the hypothesized effect of the intervention.

The most plausible explanation for the failure of the consultation intervention to produce greater knowledge of evaluation practices among members of the experimental group is an insufficient amount of time was spent on didactic activities. During each weekly consultation session approximately 30 to 45 minutes was devoted to review of evaluation related material presented during the workshop (see Appendix B). In addition, all participants had a fairly comprehensive written manual given to them during the workshop. While members of the experimental group were told to review the appropriate section in the manual before each consultation session, and questioning by each member was encouraged,

anecdotal evidence suggests this reading was not done. The experimental members seldom read the program evaluation manual. Although all members of the control group also possessed written manuals, thus equalizing the availability of evaluation information to participants in both conditions, it is unlikely they read the material any more frequently than experimental group members. Thus, the absence of any main effect for participation in the consultation intervention was probably due to the weakness of the treatment.

Formal instruction in evaluation methods was unrelated to successful adoption and implementation of evaluation practices (average $\underline{r}$ = .085, n.s.). The most potent component of the intervention was the use of written goal-setting and public review of accomplishment (average $\underline{r}$ = .64, $p < .001$). It is believed further that exclusive use of goal-setting in the intervention groups may have been sufficient to elicit adoption of the innovation. That is, the didactic based evaluation workshop may have been irrelevant beyond sensitizing participants to evaluation issues and instilling in them a belief in the importance and usefulness of evaluation methods. Any evaluation knowledge necessary for implementation was provided by the consultant during the intervention. Quite possibly this may have been all that was necessary for adoption and implementation of evaluation methods. This possibility will be discussed again below.

The intervention demonstrated limited effectiveness in moving organizations toward the adoption and implementation

of program evaluation methods. The most successful component of the intervention was the number of written goals achieved. The success of this component provides a unique example of the efficacy of goal-setting. Prior to this study, most research testing goal-setting effectiveness employed dependent measures representing concrete task performance like logging (Latham & Kinne, 1974), card sorting (White, Mitchell, & Bell, 1977), or dieting (Bandura & Simon, 1977), although some exceptions exist (Kolb & Boyatzis, 1970). The results of this study extend the goal-setting literature by showing that this type of structured motivation can also be effective in changing performance on more sophisticated tasks like the adoption and implementation of innovations, specifically, program evaluation methods.

The effectiveness of the goal-setting intervention also extends previous research examining the success of change agents in fostering the adoption of innovations in organizations. Previous empirical work using outside change agents relied on small groups internal to the target organization (Fairweather et al., 1974; Stevens & Tornatzky, 1980). As a consequence, previously measured small group characteristics, especially superior--subordinate relations, were confounded with the effectivenss of the change agent. In the present study, small groups were composed of participants from different organizations, eliminating this confound. Moreover, the extended period of time required to induce change in these previous studies was not necessary in the present

study. The present intervention accomplished in six weeks what previous researchers took months to achieve. Yet to be determined is the impact of group process variables like cohesion and leadership. Isolating these effects will require future reasearch.

The next topic of discussion focuses on the correlational hypotheses presented in chapter one. It was proposed above that adoption of the innovation would be moderated by several variables. These included 1) organizational structure, 2) organizational environment, and 3) individual attitudes and characteristics. The results from the multivariate analyses involving these variables were also mixed.

Correlational Hypotheses

1. Organizational structure. Variables in this domain included size, centralization, formalization, and complexity. Indicators for these variables included budget, percent budget spent on program evaluation, number of staff (size); participation in decision making and hierarchy of authority (centralization); job codification and rule observation (formalization); professionalization, number of services provided, and professional training (complexity). Multicollinearity among these indicators was sufficiently small to allow their independent entry into multiple regression equations.

Although organization size is considered by some (Pugh, Hickson, Hinings, MacDonald, Turner, & Lupton, 1963) to be a contextual variable, like organization history, it may also

be considered a structural characteristic (Kimberly, 1976). Two of the three indicators used for size (budget, number of staff) were significantly correlated (r = .46, p = .003), while the third (percent budget spent on program evaluation) was not.

The relationship between size and innovation adoption is unclear (Hage & Aiken, 1970, pp. 130-132). Stevens (1977) found a positive, but nonsignificant, zero order correlation (r = .15, N = 37) between number of staff and adoption of evaluation methods, using his open-ended, self-report questionnaire. Fairweather et al. (1974) reported mixed results. Fairweather et al. (1974, p. 86) reported a negative relationship (r = -.12) in their brochure condition but a positive relationship (r = .12) in their workshop condition (p.93), although neither of these correlations were significant. Heydebrand & Noell (1973) reported a moderate positive correlation (r = .32). The inconclusiveness of the relationship between size and innovation adoption is most likely associated with the fact that size represents several different dimensions, each of which may have a different relationship with the outcome of interest (cf. Kimberly, 1976).

Since it was reasoned that increased size could increase complexity or the availability of slack resources, conditions associated with innovation (March & Simon, 1958, pp. 186-187; Hage, 1980, pp. 165-184) and innovation adoption (Hage & Aiken, 1970, pp. 130-131), size should have demonstrated a

positive relationship with innovation adoption. The obtained results failed to confirm this relationship. Not only were regression coefficients nonsignificant, but the sign of the obtained relationships was negative in several cases. There were negative zero order correlations and regression coefficients between percent budget spent on evaluation and total number of staff and both measures of adoption of evaluation practices. Only annual budget demonstrated the predicted positive relationship. An explanation for these results is not obvious. The size of the coefficients in relationship to their standard errors suggests they may have been reflecting sampling error. This explanation is more likely given the number of observations in relation to the number of variables in the regression equation, a ratio ranging from 2:1 to 4:1. In all likelihood, size bore no real relationship to adoption of evaluation practices. That is, small and large organizations providing services to the elderly were equally likely to implement program evaluation practices. Whether this is true in the population of gerontological programs, or in other public or private sector organizations, is unknown.

The second measure of organizational structure examined is centralization. The relationship of this variable with innovation adoption has received more empirical support than any other characteristic of organizational structure. Centralization has consistently been shown to covary negatively with innovation and innovation adoption. Starting with the case study observations of Burns and Stalker (1961), this

relationship has been documented by Hage and Aiken (1967b), Hage and Dewar (1973), Fairweather et al. (1974) and Tornatzky et al. (1980). Tornatzky et al. (1980) provided experimental evidence for the success of participative decision making in facilitating innovation adoption.

Formalization provides the third structural variable measured. The two indicators of this variable included job codification and rule observation. Burns and Stalker (1961) also argue for the importance of this variable in organization change. They provide case study evidence for a negative relationship between formalization, innovation, and innovation adoption. Correlational evidence for this is provided by Hage & Aiken (1967b).

Complexity is the final measure of organization structure examined. Indicators for this variable included professional training of staff, degree of involvement in professional activities like conventions and workshops, and the number of different services provided by the organization. Hage and Aiken (1967b), and Heydebrand and Noell (1973), are among those who have provided empirical support for a positive relationship between organizational complexity and innovation adoption.

Results from the multivariate data analyses presented above showed the two indicators of centralization to be unrelated to the adoption and implementation of program evaluation methods, although the signs of the obtained relationships were in the right direction. (An exception was

hierarchy of authority and self-reported adoption. This difference could easily have been due to sampling error as the standard error was 6 times the size of the regression coefficient.)

The results including formalization also failed to confirm the hypothesized negative relationship. In fact, only for the self-report measure of evaluation adoption did the obtained relationship have the predicted sign. Because the standard errors were larger than each of the regression coefficients, these relationships must be interpreted very cautiously.

The data reflecting the relationship between complexity and adoption of evaluation practices were equally nonsupportive. Only the regression coefficient for degree and the post-interview measure of evaluation adoption approached significance ($p = .068$). No other indicator of complexity confirmed the predicted positive relationship with adoption of program evaluation methods.

The failure to discover the predicted relationships between centralization, formalization, complexity and adoption and implementation of program evaluation methods is believed to have been due to restriction in range in the scales used to measure these factors. This restriction was most probably due to the homogeneity of the organizations included in the sample. Examination of the sample characteristics for the 43 aggregated organizational means revealed little variation. Such limited variation in scale scores may

have placed a powerful restriction on the range of correlations. This restriction was made more severe for those scales possessing only moderate internal consistency.

Increasing the variation and reliability in the measurement of these variables could possibly lead to a confirmation of previous findings. It should be recalled, however, that these measures of organizational structure included the instruments used in the earlier research of Hage and Aiken (1967b), who reported significant findings. Consequently, the restriction in range associated with the homogeneity of the sample is believed to be the most serious problem. This problem could be eliminated with the study of a more diverse group of organizations. Such a sample might include private sector organizations and other human service agencies, in addition to organizations providing services to the elderly. With the added variation on these structural dimensions, a more valid test of these correlational hypotheses should become possible.

Another possible reason for the failure to discover significant relationships between measures of organizational structure and innovation adoption might lay in their different degrees of specificity. The measures of organizational strucure used in the present study may have represented a "macro" level of abstraction, while the measures of innovation adoption may have represented a more "micro" level of abstraction. In discussing organizational climate as a variable, Schneider (1975) has suggested that as one moves

closer to molar, or "macro", levels of perception, each person's perception may be more affectively colored, resulting in greater individual differences. He suggests elsewhere (Schneider, 1981) that the more comprehensive a measure attempts to be in measuring organizational features, the less useful it will be in understanding a specific issue or criterion. The lack of congruence between levels of abstraction may limit the obtained correlations. Differences in the degree of abstraction measured with the administered instruments may also explain the failure to discover the predicted correlations.

In the present study, the measure of innovation adoption, particularly as measured with the Evaluation Interview, was very specific. Respondents reported whether their organization adopted any of over two dozen program evaluation activities. While this level of specifity allowed a more comprehensive portrayal of innovation adoption and implementation, it may have reduced correlations with the more molar measures of organizational structure. Future research, to rectify this problem, must attempt to equate the levels of measurement abstraction. A measure of " program evaluation adoption climate" might beneficially address this weakness.

Also examined in the present study was the relationship between organizational structural characteristics, agreement with evaluation practices, and knowledge of evaluation practices. No hypotheses were proposed for these relationships.

Instead, multivariate analyses were conducted in an exploratory fashion. Several interesting findings emerged. Most revealing was the significant regression equation for predicting agreement with evaluation practices. Four structural characteristics, while not providing individual regression coefficients significantly different from zero, contributed to a regression equation whose multiple correlation was significant. These predictors included participation in decision making, number of total staff, rule observation, and percent of budget spent on program evaluation. Interpretation of this significant regression equation leads to the conclusion that organizations with greater participation in decision making, larger staff size, greater rule observation and less percent of their budget spent on program evaluation were likely to demonstrate a higher level of agreement with program evaluation practices. The size of the standard errors, however, indicated considerable imprecision in the equation. And given the small sample size upon which the equation was based, conclusions should be cautious.

The regression coefficient for participation in decision making was the most stable, being twice the size of its standard error. Moreover, this variable accounted for about 13% of the variance in this measure of agreement with evaluation practices. Organizations with more dececentralized decision making were staffed with individuals more likely to agree with the use of evaluation practices in their organizations. While only conjecture, it is possible that in these

organizations program evaluation is perceived in a less threatening manner. If staff members participate in the decisions in their program they may be subject to fewer negative sanctions as a consequence of evaluation results. They participate in the decision to adopt program evaluation methods, as well as other policies and practices, and feel less threatened as a consequence of excercising this control. All sanctions associated with adoption of the innovation are partially under their control.

Whether the relationship obtained between this individual level characteristic and organizational structural variables is spurious can only be determined with future research. Longitudinal research will be required to determine causality. This line of inquiry will contribute to organizational theory examining the role of organizational structure in shaping individual attitudes and behavior (James & Jones, 1976; Schneider, 1982; Sutton & Rousseau, 1979).

2. Organization environment. March and Simon (1958) first suggested that organizations located in turbulant and unstable environments should demonstrate greater innovation and be more susceptible to change. Moreover, information about innovations should be associated with communication with other organizations in the focal organizations' environment. Indicators used in the present study to represent these aspects of the environment included an index formed by multiplying the frequency of interactions times their importance, the age of the organization, and the percent chance

the program was predicted to exist in the coming fiscal year. A stable environment should be characterized by older age and a greater chance of continued existence. The relationship between interorganizational relations (IOR) and this stability was not predicted.

Interaction with other organizations may introduce new information into the organization, as well as allow the innovative organization to demonstrate its innovativeness and professionalism to peers in other organizations in the community. In some respects this process may resemble the role opinion leaders play in innovation diffusion (Rogers & Shoemaker, 1971).

Previous empirical support for a positive relationship between IOR and innovation adoption has been provided by Aiken and Hage (1968; $\underline{r} = .74$, $p < .001$). This relationship continued to be significant after these investigators controlled for complexity, size, organizational age, and technology.

Stability is another feature of the environment that should affect innovation adoption. Organizations in more turbulant environments would be expected to be more prone to change; those in stabler environments, less prone to change (Burns & Stalker, 1961; Lawrence & Lorsch, 1967). While not specifically predicted, one would expect these same relationships to obtain in the presently reported research. Unfortunately, this did not happen.

None of the regression coefficients for indicators of organizational environment significantly predicted scores on any of the outcome measures. The multiple correlation for IOR was marginally significant, explaining about 8% of the variance, in predicting scores on the Agreement with Evaluation Practices scale. Although not predicted, the regression coefficient was negative, suggesting that high IOR was associated with greater levels of agreement with evaluation practices. Because the standard error was as large as the regression coefficient, the stability of this finding is questionable. It is probably most accurate to say that environmental characteristics were unimportant in predicting adoption and implementation of evaluation practices, resulting in no confirmation of the hypothesis that change would be related to IOR.

Most organizations (70%) in the sample felt 100% sure their program would continue to exist in the next fiscal year. Another 10% felt 90% sure. The average perceived probability was 92.25%, suggesting most of the organizations in the sample were not concerned about their immediate future. This stability was complemented by the average age of the organizations, i.e., 16.7 years (median = 7.1 years). Most organizations were rather stable because of their average age and because only 5% rated the chances for their continued existence to be 50% or less. This relative stability for most organizations in the sample may have prevented a real test of the hypothesis.

The absence of the predicted relationship between IOR and adoption and implementation of evaluation methods is not readily explicable. This failure might have been due to the nature of the study itself. Adoption of the innovation was best predicted by knowledge of intervention condition membership. Because of the contrived and specific nature of the adoption process, IOR may have been irrelevant. Communication with other organizations may be important only in naturally occurring diffusion, that is, circumstances in which diffusion of the innovation is allowed to run its normal course over several months or years, thus, emphasizing centrality in communication networks. In this way, sociometric stars can more readily benefit from their location, demonstrating the predicted relationship between innovation adoption and frequency and importance of interorganizational interaction.

3. Individual characteristics. The final group of hypothesized relationships to be discussed includes individual difference variables. These variables were agreement with evaluation practices, knowledge of evaluation, education, job tenure, expected job tenure, age and sex. These variables were entered as predictors in multiple regression equations to discover the importance of staff characteristics in the innovation adoption process. It will be recalled that agreement with evaluation practices and knowledge of evaluation methods were also used as criterion variables. In the presently discussed analyses, however, pretest scores of

agreement with evaluation practices were used as predictors. Because evaluation knowledge was measured only once, the same scores were used as a predictor.

Scores on the evaluation interview were successfully predicted by knowledge of staff education, their expected tenure, and their level of agreement with evaluation practices. Organizations with staff members having greater levels of agreement with evaluation practices, having less professional education and expecting to remain in the organization less time were more likely to adopt the use of program evaluation methods. While the first relationship was predicted, the last two were surprising. Previous researchers have reported a positive relationship between professional education and innovation adoption (Counte & Kimberly, 1974; Hage & Aiken, 1967b; Heydebrand & Noell, 1973; Kimberly, 1978). This finding may be idiosyncratic to the present sample of organizations, which was characterized by a large number of part-time volunteer staff. Reliance on part-time volunteers is very common among gerontological organizations. The obtained relationship between professionalism and innovation adoption may not hold true in organizations providing services to other client groups. The obtained negative relationship may be true only in organizations staffed primarily with volunteers.

Agreement with evaluation practices also provided a significant regression coefficient for predicting scores on the evaluation self-report. The age of individual staff

members provided a slightly stronger predictor. The combination of these two variables explained about 17 percent of the variance in this measure. Organizations with older staff members reporting greater levels of agreement with evaluation practices were more likely to implement evaluation practices. This might be related to the above finding regarding education because many volunteers working in gerontological agencies are themselves seniors.

Both measures of the adoption and implementation of evaluation practices were successfully predicted with individual level variables. The superiority of individual level predictors in predicting organizational level responses contradicts the findings of Baldridge and Burnham (1975). These investigators found individual characteristics to be unimportant in predicting organizational adoption of innovations. The findings in the present study find some support from Hage and Dewar (1973), who found that positive values toward change held by elite organizational memebers were better predictors of organizational innovation adoption than complexity, centralization, or formalization. The respondents in the present study could easily be considered elite organization members given that they were most often the director and his or her nominated staff member. The importance of psychological characteristics in predicting innovation adoption may be amplified in smaller organizations, like those in the present sample. Thus, the present findings introduce further complexity into the innovation adoption

literature by demonstrating that psychological characteristics of organizational staff may be better predictors of innovation adoption in organizations than structural characteristics of these organizations.

The combination of pretest scores and organizational structural characteristics provided a highly significant multiple regression equation for predicting responses on the Agreement with Evaluation Practices scale. As might be expected, pretest scores provided the most powerful predictor. Number of total staff provided a regression coefficient that was significantly different from zero. Participation in decision making no longer provided a significant coefficient because of its strong correlation with pretest scores on this scale. Taken as a whole, this combination of psychological and organizational characteristics explained about one-third of the variation in posttest scores on the Agreement with Evaluation Practices scale.

This finding is important because it documents the combined impact of both individual and organizational characteristics on the behavior (in this case, cognitive behavior) of individuals working in organizations. This finding provides empirical support for interactionist approaches to organizational study which attribute equal importance to the influence of situational and personological determinants of individual and organizational behavior (Schneider, 1982, in press), although it provides no evidence regarding causal priority for these variables.

Organizational and individual level variables varied in their ability to predict adoption and implementation of evaluation methods and agreement with evaluation practices. None of these variables were related to knowledge of evaluation. The power to predict innovation adoption increased when membership in the intervention condition was added to the above regression equation. The ability to predict interview measures of adoption and implementation of evaluation methods doubled when experimental group membership was added to the equation. Knowledge of experimental group membership did not improve the predictive power for any of the other outcome scores.

Flaws in the Reported Research

The major flaws in the reported research can be divided into the categories of measurement, sampling, and design.

The foremost measurement problem was the restriction of range in the measures of centralization, complexity, and formalization, although this drawback is also related to the sampling problem discussed below. As already noted, the scales used to measure these variables were based on scales used in the original series of studies reported by Hage and Aiken. These scales may have been suitable for these investigators because their sample was composed of diverse human service agencies. The ceiling effects and reduction in range obtained in the present study may not have been problematic for these other researchers. If these scales are to be used again, some attempt must be made to increase the variation in

their scores. This might be done by changing the response format to include more categories. Another method to increase variation in the measure might be to employ instead some type of paired comparison method. Forcing the choice of pairs of different statements shown to represent the dimension of interest should "spread" the variation existing in the sample.

A method that should be used concomitantly with revision of the measurement instruments is diversification of the sample of organizations. Most preferable would be the inclusion of similarly sized private sector and other public sector organizations. While the major focus might still be on gerontological organizations, this diversification would contribute to increasing the variation in the organizational structure measures. Moreover, the efficacy of the intervention could also be compared across different classes of organizations.

Finally, to increase variation and improve the validity of the organizational measures, the number of respondents within each organization should be increased. While no optimal number probably exists, James (1982b) suggests that his measure of agreement would be stable only with at least 10 respondents per organization. This value provides a convenient lower limit for all but the smallest organizations. In the event that more than 10 staff work in an organization, some method of systematic sampling (Cochran, 1977) could be used.

Another beneficial change in the design of the reported study would include the administration of the interview measure of evaluation adoption at the pretest measurement period. This addition would allow more definitive interpretation of the longitudinal impact of the intervention. This impact could be examined even more fruitfully with the use of a longer-term, follow-up measurement period. The ideal measurement sequence would be sufficiently spaced to allow also the measurement of real change in the organizational attributes. This period of time would have to be quite long since structural characteristics, by definition, are the most enduring aspects of organizations. Such a set of longitudinal sequences would also be necessary to determine the causal ordering of the organizational and psychological characteristics. Organizational and community researchers evaluating their attempts to change organizations should direct their efforts to long-term, follow-up measurement of their intervention outcomes.

Implications and Future Directions

The results of the reported research suggest at least five different areas for future inquiry. These include 1) determination of the correct unit of analysis for theory and intervention; 2) experimental validation of organizational change strategies and the use of organizational theory to predict their success; 3) facilitation of innovation adoption and implementation in organizations; 4) need for the use of sequential, longitudinal designs to discover the

causal ordering among organizational and psychological variables, organization change, and innovation adoption; and 5) the need for systematic, data-based planning and change in public policy, especially in gerontology.

Robinson (1950) first alerted social scientists to the possible errors associated with any attempt to predict individual level characteristics from aggregated data. Labeling this phenomenon the "ecological fallacy", he demonstrated the erroneous conclusions possible when the behavior of individuals is predicted from data aggregated by areal unit. It was Roberts et al. (1978), however, who first sensitized organizational researchers to the implications of theorizing and conducting research at multiple levels of aggregation.

While analytic and interpretive pitfalls exist for the unwary when aggregating and disaggregating social data (Hannan, 1971), focus on multiple levels of analysis is critical to the success of organizational and community theory and change. Research and theory encompassing several, and ideally all, levels of pertinent aggregation are necessary to understand to the fullest extent the processes responsible for organizational and community functioning and change. Multiple levels of analysis are important because interventions at different levels of aggregation may result in differential change success (Davis, 1981b; Rappaport, 1975, 1977). Moreover, the ratio of change-impact to effort expended may depend on the level of aggregation at which the

intervention occurs (Davis 1981b). This success may also be a function of the type of intervention method chosen (Davis & Markman, 1980). The present study offers a primitive example of how a multiple-level approach to intervention and change analysis might be accomplished. The comparative effectiveness of intervention at different levels remains to be determined empirically.

Related to aggregation is the necessity for determining accurate levels of agreement among multiple respondents in organizations. Implicit in the decision to aggregate is the assumption of the existence of agreement between respondents in organizations. While the correct conceptual unit might be the small group, department, organization, or city, one would not desire to remove the natural variation existing in individual differences unless something is gained by computing average responses.

Current methods used to provide an empirical rationale for agreement are clearly inadequate. Analysis of variance and intraclass coefficients are too conservative (James, 1982a, 1982b). The sampling distributions of new measures created to address these shortcomings are unknown (James, 1982b). Preliminary application of these new measures of agreement in the current study has shown them to be very unstable with only two raters per organization. Clearly, more work is needed in this area.

The second implication of the reported research is the demonstration that it is possible to validate organizational

change strategies experimentally, and that these change strategies can be rooted in organizational theory. Ideally, organizational theory should provide the rationale for the experimental conditions used to examine the effectiveness of organizational change techniques. The national experiment reported by Tornatzky et al. (1980) is exemplary for this reason. In this study, participation in decision making was experimentally manipulated to examine its relationship with adoption of an innovative mental health program. A significant main effect for the paticipation manipulation was found. Furthermore, these investigators provided support for their ability to induce participation in organizations providing the focus for change. Thus, a variable occupying a prominant place in the innovation literature, and shown previously to be correlated with innovation adoption, has received tentative support as a causal influence.

The scientific quality and rigor of the organizational development (OD) and change literature demands the empirical sophistication that is so possible, and yet, so lacking. Porras (1979; Porras & Berg, 1978a, 1979b), after a comprehensive review of the OD literature, underscored the methodological weakness of most attempts to evaluate the impact of *OD* interventions. In a review of 35 OD interventions, stressing human-process aspects (Friendlander & Brown, 1974), and reported between 1959 and 1975, he failed to discover a single experimental evaluation of effects. This result is more dramatic given that he carefully screened the reports for

their methods; he selected only those studies using quantitative techniques. Finally, only six of these same studies used the organization as the unit of analysis; most interventions used the Laboratory Training (T-Group) approach to change individuals or small groups.

A chasm exists between current practice in OD and organizational change and the methodological rigor required to produce a viable theory of organizational intervention and change. This breach is only slightly narrowed in the area of community research, as reviews of recent literature reveal (Lounsbury, Cook, Leader, Rubeiz, & Meares, 1979; Lounsbury, Leader, Meares, & Cook, 1980; Novaco & Monahan, 1980). Less than 10 percent of the research cited in these reviews employed experimental evaluation, or even the most rudimentary psychometric analysis. The chagrin brought on by a review of the current state of organizational and community change research can only partly be allayed by the results of the attempts of some to create an experimental basis for the study of this change (e.g., Tornatzky et al., 1980; York, 1979).

The inadequacies in the just cited literature mirror those found in innovation research. The original case study findings of Burns and Stalker (1961), demonstrating a relationship between innovation adoption and organic-structured organizations, have unjustly almost acquired the status of truisms. The empirical support often provided to document this relationship comes from the work of Hage and Aiken

(1970), results based on a sample size of 16 organizations. Other empirical findings are equivocal. Authors reviewing the literature examining innovation in organizations cite few other empirical studies for the justification of this relationship (cf. Tornatzky et al., 1979; Zaltman et al., 1973). It is quite possible, for example, that participation in decision making is related to innovation adoption in only some organizations, at only certain periods of time, in only some eras, or in only certain countries or cultures. In any case, if we assume the positive relationship between innovation adoption and participation in decision making in organizations to be true, an assumption supported by only one experimental study, this relationship may be very limited.

An example may clarify this. W. J. Reddin, a professional change agent with considerable international experience, suggests English organizations require an authoritarian role for outside change agents because of their rigid status systems (Pfeiffer, 1977). He cites this as evidence for the popularity in Britain or Brazil of the sociotechnical approaches to change (like the Tavistock model), which provide such a role for the change agent. Innovation adoption in organizations may occur differently in such an environment, changing the role of participation. The scarcity of sociotechnical approaches to organizational change reported in the literature in the United States, where the autonomy of the individual is paramount, offers indirect support for this

conclusion. Delineation of the organizational characteristics related to innovation adoption in different settings is required.

Related to the implications above is the need for longitudinal research designs. The temporal dimension must be incorporated into organizational and community research if causal ordering among the variables of interest is to be discovered. While some organizational investigators have begun to move in this direction (Kimberly & Miles, 1980), cross-sectional, recursive designs continue to dominate reported empirical work. Future investigation should use sequential-longitudinal, experimental designs (Schaie, 1965; Friedrich & Van Horn, 1976; Baltes, Reese & Nesselroade, 1977) to separate the confounded effects of organizational or system age, time of measurement, and organizational cohort effects. Such designs will allow more unequivocal conclusions regarding developmental change and the causal priority of organizational characteristics. Development of models of change patterned after the work of Buss (1973, 1974) would contribute substantially to the accurate delineation of causal relationships. Nonrecursive dynamic models (Duncan, 1975; Heise, 1975; Kenny, 1979) should be used to attempt to describe and predict interorganizational differences, intraorganizational differences, and intraorganizational changes.

In other types of community research, such models might examine intercourt differences, intracourt differences, and intracourt changes; interfamily differences, intrafamily

differences, and intrafamily changes; or internetwork differences, intranetwork differences, and intranetwork changes. Structural equations should be created to test the ability of these nonrecursive, dynamic models to reproduce the obtained covariance structures (Kessler & Greenberg, 1981). The effect of experimental manipulations could also be easily entered in these structural models (Bagozzi, 1977; Costner, 1971). Pursuance of this line of research would finally provide organizational and community psychologists with empirical results that would be suitable for the theory and practice necessary to accomplish their stated goals.

Finally, the reported research bears substantially on public policy, most particularly in gerontology. The obtained results provide preliminary documentation for the effectiveness of a systematic, and easily applied, change technique. More importantly, however, it demonstrates that a rather extensive workshop is not as effective as a more structured, but equally simple, consultation technique. This comparison becomes more meaningful when it is realized that workshops and manuals provide the method most commonly used to change human service organizations, and the workshop and manual provided to participants in the present research were more extensive than most others. Contrary to the normal method policy makers use to create change in human service organizations, i.e., pass legislation and provide workshops demonstrating how to implement the new legislation, the reported research shows that simple change techniques can be

systematically and experimentally tested and practiced. Organizational differences in change can also be measured. Early organizational adopters could be used as change agents to facilitative policy implementation among nonadopters. A systematic process of innovation adoption and organization change such as this should be implemented by policy makers, especially in gerontology (Davis, 1981b, in press).

The power and validity of this approach in policy implementation would be amplified if those affected by the policy participated in its design. This is especially true for specific interventions where individuals and organizations experiencing the problem of interest and providing the target for change can contribute to the design of the intervention. Davis, O'Quin, Sivacek, Messé, and James (1981) used an iterative survey procedure to include the population of directors of home-care programs in Michigan in the design of several medication-monitoring interventions for the elderly. Participants contributed to the design and rated the effectiveness of seven interventions. This type of participatory practice may result in more powerful community and organizational interventions leading to more appropriate change (Davis, 1982). Participation in intervention design may increase in importance to the extent the elderly suffer multiple problems (Davis & James, in press) or demonstrate greater variation in cognitive ability (Davis & Friedrich, in press). In this fashion, the cultural diversity and values of those affected by change will be maintained and, possibly, enhanced.

Policy makers in gerontology must foster the systematic practice of rigorous program evaluation methods. Increasing scarcity of resources and burgeoning needs among the elderly demand that publicly funded programs document their effectiveness and efficiency. The present research demonstrates that service providers can be taught to evaluate their programs, and, given short-term, inexpensive consultation, are likely to do so. Policy makers in gerontology must make a concerted effort to deliver this technology to those who may benefit from it.

APPENDICES

APPENDIX A

WORKSHOP OUTLINE

First Day

8:15 - 8:45	Registration
8:45 - 9:30	Overview of the project and questionnaire administration
9:30 - 10:00	Planning and the use of objectives and goals
10:00 - 10:30	Measurement and data-gathering
10:30 - 10:45	Break
10:45 - 11:00	Measurement, goals and decision-rules
11:00 - 11:45	Small group excercise
11:45 - 12:45	Lunch
12:45 - 1:30	Overview of different types of evaluation
1:30 - 2:00	Efficiency evaluation and client satisfaction
2:00 - 2:30	Effort evaluation and data management
2:30 - 2:45	Break
2:45 - 3:30	Small group exercise
3:30 - 4:15	Questionnaire administration
4:15 - 5:00	Question and answer

WORKSHOP OUTLINE (continued)

Second Day

8:15 - 8:45	Question and answer, discussion
8:45 - 9:30	Basic evaluation designs
9:30 - 10:00	Impact evaluation and needs assessment
10:00 - 10:45	Small group excercise
10:45 - 11:00	Break
11:00 - 11:45	Integration of previous evaluation methods and introduction to process and effectiveness evaluation
11:45 - 12:45	Lunch
12:45 - 1:30	Process and effectiveness evaluation
1:30 - 2:00	Introduction to experimentation
2:00 - 2:30	Small group exercise
2:30 - 2:45	Break
2:45 - 3:30	Evaluation planning and management
3:30 - 4:00	Integration and summary
4:00 - 4:30	Questionnaire administration
4:30 - 5:00	Question, answer and discussion

APPENDIX B

CONSULTATION OUTLINE

Week	Topic
1	A. Introduction of group members and explanation of the purpose of the consulting group 1. Provide technical support 2. Provide mutual support 3. Exchange resources 4. Develop evaluation plan for their service using their funding proposal as a tool B. Explanation of goal-setting and measureable objectives C. Role of evaluation in administration and planning D. Each person sets goals to be achieved before the next meeting E. Each person brings an outline of their service
2	A. Review previous material: 1. Evaluation planning and administration 2. Goal-setting and measurable objectives 3. Goal Attainment Scaling B. Establish individual evaluation objectives to be achieved by the end of the consultation

CONSULTATION OUTLINE (continued)

1. The development of an evaluation plan for their organization and incorporation of this plan into their funding proposal

C. Review accomplishment of previously set goals and discuss problems encountered

D. Each person sets new goals to be achieved before the next meeting

3 A. Review previous material:

1. Goal-setting and measureable objectives
2. Measurement and standardized instruments, reliability and validity
3. Accurate data collection

B. Review accomplishment of previously set goals and discuss problems encountered

C. Each person sets new goals to be achieved before the next meeting

4 A. Review previous material:

1. Instruments and data collection
2. Cost/unit of service and measuring efficiency
3. Accurate data collection

B. Review accomplishment of previously set goals and discuss problems encountered

C. Each person sets new goals to be achieved before the next meeting

CONSULTATION OUTLINE (continued)

5 A. Review previous material:

1. Measures of efficiency and client satisfaction
2. Integration of previous material to demonstrate the rudiments of a comprehensive evaluation system

B. Discuss how they might each develop a comprehensive evaluation plan

C. Review accomplishment of previously set goals and discuss problems encountered

D. Each person sets new goals to be achieved before the next meeting

6 A. Discuss end of intervention, posttest and follow-up

B. Review accomplishments of previously set goals and discuss problems encountered

C. Each person sets new goals to be achieved before the follow-up measurement

D. Administer questionnaires

APPENDIX C

EVALUATION SELF-REPORT

We are going to ask you some questions about the program evaluation activities that service providers often conduct. Please circle the word that best represents the extent to which these activities are ACTUALLY PERFORMED in your project/service.

1. My project/service currently uses client data in its planning.

   Never Seldom Sometimes Often Always

2. My project/service records each time it delivers a service.

   Never Seldom Sometimes Often Always

3. My project/service compares client information collected before and after services are provided in order to measure program effectiveness.

   Never Seldom Sometimes Often Always

4. The satisfaction of each client with the services he or she receives is recorded by my project/service.

   Never Seldom Sometimes Often Always

5. Information is collected from each client after services are provided to measure service effectiveness.

   Never Seldom Sometimes Often Always

6. Assessments of client needs are made regularly by my project/service.

   Never Seldom Sometimes Often Always

7. My project/service records each client contact.

   Never Seldom Sometimes Often Always

8. My project/service measures the extent to which each of its programs is reaching its intended group of clients.

   Never Seldom Sometimes Often Always

EVALUATION SELF-REPORT (continued)

9. My project/service gathers follow-up information on all clients after they have stopped receiving services.

   Never Seldom Sometimes Often Always

10. My agency uses experimental designs (with clients randomly chosen not to receive services) to test program effectiveness.

    Never Seldom Sometimes Often Always

11. My project/service records the program cost for each unit of service.

    Never Seldom Sometimes Often Always

12. My project/service computes a benefit-to-cost ratio for each unit of service.

    Never Seldom Sometimes Often Always

13. Specific objectives are established for every program by my project/service.

    Never Seldom Sometimes Often Always

14. My project/service records each client referral made to other agencies.

    Never Seldom Sometimes Often Always

15. My project/service currently monitors the implementation of all its programs.

    Never Seldom Sometimes Often Always

16. My project/service records the action taken on each client referral.

    Never Seldom Sometimes Often Always

17. My project/service compares clients who receive services with clients who do not receive services in order to measure service effectiveness.

    Never Seldom Sometimes Often Always

18. The source of each client referral is recorded by my project/service (i.e., how the client heard about the project).

    Never Seldom Sometimes Often Always

EVALUATION SELF-REPORT (continued)

19. My project/service uses systematic case studies to measure program effectiveness.

    Never Seldom Sometimes Often Always

20. My project/service measures the extent to which each program achieves its objectives.

    Never Seldom Sometimes Often Always

21. The impact of its programs on the surrounding community is measured by my project/service.

    Never Seldom Sometimes Often Always

22. My project/service constructs its own measurement tools to measure client change.

    Never Seldom Sometimes Often Always

APPENDIX D

Date Name
Interviewer Agency

Evaluation Interview

I'd like to ask you some questions about the evaluation practices you've done in your agency since the evaluation workshop. What I'll do is give you a list of evaluation activities and you tell me if you have done any of them in your project/service.

1. Planning--Have you developed a written plan for your project/service?
   Written goals and objectives?
   Specific objectives set for each service?
   Staff participated in objective-setting?
   Clients participated in objective-setting?

2. Have you developed a written evaluation plan?
   Have you completed the Planning for Evaluation Checklist in the back of the manual?
   (If no evaluation plan, have you held staff meetings to create an evaluation plan?)
   Formal approval of agency obtained if necessary?
   Consultants selected if necessary?

3. Created/selected questionnaires?
   Measured Reliabilities?
   Measured Validities?
   Pilot-tested questionnaires on seniors?

4. Are you measuring the implementation of services?
   (E.G. number of staff/client contacts; staff giving to clients the services as planned; how they spend time with clients?)
   Recording client referrals?

5. Are you measuring the cost/effectiveness or cost/benefits for delivering services?
   Cost per-unit-of-service?

6. Are you systematically measuring how clients feel about your services? (E.G. questionnaires, satisfaction ratings)

7. Have you conducted any needs assessments in your project/service? (If in the process of conducting a needs assessment)
   Have you sampled staff and/or clients regarding potential needs?
   Have you selected a sample to receive questionnaire?
   Have you created or selected a questionnaire?
   Have you pilot-tested questionnaire?
   Have you hired/trained interviewers/callers?
   Have you actually implemented needs assessment?

8. Have you implemented goal attainment scaling (GAS)?

9. Have you measured the effectiveness of services in your project/service?
   Any kind of follow-up of clients, excluding satisfaction?
   Any pretest-posttest comparisons?
   Comparison of any groups (e.g., service vs. no-service; one type of service with another type of service)?
   Experimental design with random assignment?

10. Have you measured if your service is effective with different kinds of clients (e.g., service affects people differently depending on race, sex, age, education)

APPENDIX E

AGREEMENT WITH CURRENT EVALUATION PRACTICES

Several statements describing current evaluation practices are presented. Please circle the response which best represents how much you agree with each statement. Please answer each one. If you have any comments about any of the items simply write them in the margin.

(R)* 1. A benefit-to-cost ratio for each unit of service should not be computed by my project/service?

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

2. My project/service should use client data in its planning.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

(R) 3. My project/service should not record the source of each client referral (i.e., how the client found out about the program).

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

4. Systematic case studies should be used by my project/service to measure program effectiveness.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

5. Clients should be contacted by my project/service several months after they have stopped receiving a service to see if it still has had a positive or negative effect on them.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

6. My project/service should attempt to make the most rigorous possible effort to measure whether clients have improved after receiving the service.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

AGREEMENT WITH CURRENT EVALUATION PRACTICES (continued)

7. My project/service should measure the efficiency of each of its programs.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

8. My project/service should work with community groups in establishing objectives.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

(R) 9. My project/service should not establish specific objectives for every program.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

(R) 10. The staff of my project/service should not be willing to change their work routine to measure the efficiency of each of its programs.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

11. Clients in my project/service should be asked how satisfied they are with each service they receive.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

(R) 12. I do not believe that program evaluation will allow my project service to compete more successfully for funding.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

13. My project/service should measure the effectivenss of each of its programs.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

14. A record of how a service has affected a client should be gotten once the client no longer receives the service.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

AGREEMENT WITH CURRENT EVALUATION PRACTICES (continued)

15. My project/service should measure the extent to which each of its programs is reaching its intended group of clients.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

16. My project/service should measure the impact of its programs on the surrounding community.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

(R) 17. My project/service should not use program evaluation findings to help make budget decisions.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

(R) 18. The staff of my project/service should not be willing to change their work routine to measure the impact of its programs on the surrounding community.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

(R) 19. My project/service should not measure the economic benefit of each unit of service.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

(R) 20. My project/service should not have a specific individualized written evaluation plan.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

(R) 21. My project/service should not record the program cost for each unit of service.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

(R) 22. My project/service should not record each client contact.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

*Denotes items reflected before analyzed

APPENDIX F

PROJECT/SERVICE INFORMATION

Name_____

Project/Service Name_____

1. What is your job title? (Briefly describe your job.)
_____

2. What is the job title and organization of your immediate supervisor?

Job Title_____

Organization

3. How many full-time paid (30+ hours/week) staff work in your project/service? (Exclude clerical and maintenance staff.)_____

4. How many part-time paid (less than 30 hours/week) staff work in your project/service? (Exclude clerical and maintenance staff.)_____

5. How many full-time volunteers work in your project/-service? (Exclude clerical and maintenance staff).
_____

6. How many part-time volunteers work in your project/-service? (Exclude clerical and maintenance staff.)
_____

7. Please estimate your budget for the current fiscal year (FY 1980 - 1981)._____

8. Please estimate the percentage of your annual budget spent on program evaluation._____

9. What was the highest grade you completed in school.
_____(1) Lower than 8th
_____(2) 8th
_____(3) 9th
_____(4) 10th
_____(5) 11th
_____(6) 12th
_____(7) College or advanced degree

PROJECT SERVICE INFORMATION (continued)

10. Which of the following degrees do you hold?
_____(1) No degrees
_____(2) BS, BA
_____(3) NP/LPN
_____(4) RN
_____(5) MS, MA
_____(6) MSW
_____(7) MD
_____(8) Ph.D
_____(9) JD
_____(10) other (Please specify)
_____

11. Do you have a certificate in Gerontology?
_____Yes _____No

12. Which of the following services do you provide?
_____Administration of Programs
_____Program Development
_____Referral to Other Agencies or Programs
_____Advocacy/nursing home ombudsman
_____Casework
_____Chore
_____Clerical Service
_____Complaint Resolution
_____Congregate Meals
_____Coordination
_____Counseling
_____Crime Prevention
_____Day-Care
_____Education
_____Employment
_____Energy
_____Escort
_____Financial Management
_____Health Screening
_____Home Delivered Meals
_____Homemaker Services
_____Home Health Services
_____Home Repair
_____Individual Assessment and Monitoring
_____In-home Visits
_____Information and Referral
_____Legal Services
_____Library Services
_____Mental Health
_____Nutritional Education
_____Outreach
_____Physical Fitness
_____Protective Services
_____Recreational Services

PROJECT SERVICE INFORMATION (continued)

_____Senior Discount
_____Substance Abuse
_____Telephone Reassurance
_____Transportation
_____Other_____
_____

13. About how many professional conferences (e.g., The Gerontological Society) do you usually attend per year?

_____

14. About how many workshops do you usually attend per year?

_____

15. About how many papers do you present each year at professional conferences?

_____

16. In how many professional associations, e.g., Gerontological Society, are you a member?

_____

17. How many professional journals do you read regularly?

_____

18. About how many years has your project/service been in existence?

_____

19. What percent chance is there that your project/service will be in existence in FY 1981 - 1982? (e.g., mark 100% if you are sure it will be around next year; mark 0% if you are sure it will not be here next year.)

_____

20. About how many years have you been employed in this organization?

_____

21. About how many years do you expect to stay with this organization?

_____

Age:

22. What was your age on your last birthday?_____

Sex:

23. _____Male _____Female

PROJECT SERVICE INFORMATION (continued)

For the next series of questions, answer each question by circling the answer which you feel most accurately represents how your project/service operates.

24. How frequently do you participate in the decisions on the adoption of new policies in your project/service?

Never Seldom Sometimes Often Always

25. How frequently do you participate in decisions on the adoption of new programs in your project/service?

Never Seldom Sometimes Often Always

26. How frequently do you usually participate in the decision to hire new staff in your organization?

Never Seldom Sometimes Often Always

27. How frequently do you usually participate in the promotion of any of the staff in your project/service?

Never Seldom Sometimes Often Always

For the next series of questions, please circle the NUMBER which best describes your opinion. As you can see, the numbers "1" and "4" are "stronger" answers than "2" and "3".

28. People who want to make their own decisions would be quickly discouraged in this project/service.

definitely false			definitely true
1	2	3	4

29. People have to ask the boss before they do almost anything in this project/service.

definitely false			definitely true
1	2	3	4

30. There can be little action taken in this project/service until a supervisor approves a decision.

definitely false			definitely true
1	2	3	4

PROJECT SERVICE INFORMATION (continued)

31. In this project/service, even small matters have to be referred to someone higher up for a final answer.

definitely false			definitely true
1	2	3	4

32. In this project/service, any decision has to have the boss' approval.

definitely false			definitely true
1	2	3	4

33. In this project/service, most people feel like they are their own boss in most matters.

definitely false			definitely true
1	2	3	4

34. In this project/service, people can pretty much make their own decisions without checking with anyone else.

definitely false			definitely true
1	2	3	4

35. Most people in this project/service make up their own rules on the job.

definitely false			definitely true
1	2	3	4

36. People in this project/service are allowed to do almost as they please.

definitely false			definitely true
1	2	3	4

37. In this project/service, how things are done here is left up to the person doing the work.

definitely false			definitely true
1	2	3	4

38. Employees in this project/service are constantly being checked on for rule violations.

definitely false			definitely true
1	2	3	4

39. People in this project/service feel as though they are constantly being watched, to see that they obey all the rules.

definitely false			definitely true
1	2	3	4

The following questions ask about some characteristics of the staff in your project/service. If your project/service is located within a larger organization, e.g., YMCA, Department of Parks and Recreation, Tri-County Office on Aging, circle only those characteristics that are relevant to the staff in your project/service.
For example,

1. If written contracts of employment are used only for the director of your project/service, you would circle the number 4. If a writen contract of employment were used for every staff member, you should circle every number on the same line as that question.

The second question refers to who has the authority to make decisions in your project/service.
For example,

1. If the director of the project/service has the final say in who gets hired, you would circle the number 4. This would be true even if the Board of Directors had to confirm it later. If the director only makes suggestions and the Board of Directors makes the final decision, then you would circle number 5.

If you don't know the answer to any of the questions simply leave it blank.

Project/Service Information (Continued)

Name_____

STAFF CHARACTERISTICS

Place a circle around each number for which the following characteristics are appropriate. If a characteristic fits each type of staff, place a circle around each. Please check all that apply.

	Clerical	other staff (non-clerical)	Supervisors	Director	Board of Directors
These records and documents apply to staff in each of these positions					
1. Written contracts employment	1	2	3	4	5
2. Written manual of procedures	1	2	3	4	5
3. Written job descriptions	1	2	3	4	5
4. Fits into organizational chart	1	2	3	4	5
5. Record of work kept	1	2	3	4	5
6. Record of time kept	1	2	3	4	5

Project/Service Information (Continued)

Name_____

STAFF CHARACTERISTICS

	Clerical	Other staff (non-clerical)	Super-visors	Directors	Board of Directors
Who is the last person whose agreement must be obtained before legitimate action can be taken, even if others have to confirm the decision later?					
1. Hiring workers	1	2	3	4	5
2. Promotion of workers	1	2	3	4	5
3. Adoption of new programs	1	2	3	4	5
4. Changing the service	1	2	3	4	5
5. Training methods	1	2	3	4	5
6. How the job is done	1	2	3	4	5
7. Deciding responsibilities for work	1	2	3	4	5

APPENDIX G

PROJECT INTERACTION

Name_____

Directions: On this question, we would like to determine the degree of interaction that goes on between your project/service and other organizations in the community. On the left is a list of organizations. On the top we have listed a number of ways that your project/service could be interacting with these other organizations. For each of the organizations in the column on the left, please place the numbers in the boxes that apply to the type(s) of contact your project/service has with that organization. Please mark all that apply.

Mark the frequency of your contact (freq.):
1 = once/month
2 = once/week
3 = once/day
4 = once/several times a day

Mark the importance of your contact (imp.):
1 = slightly important
2 = moderately important
3 = very important
4 = crucial to survival

WAYS OF INTERACTING

Organization	No Contact	We know staff members from this other pro/serv. and may run into them at conferences, etc.		We exchange information with staff from this other proj/serv. by phone, memo or letter.		We meet with staff from this other proj/serv. on clients or problems		We consult with staff from this other proj.serv. on clients or problems		We plan programs together with staff from this other proj/serv.		We operate programs together with staff from this other project/service.	
		freq.	imp.	freq.	imp.	freq.	imp.	freq.	imp.	freq.	imp.	freq.	imp.
1.													
2.													
3.													
.													
n.													

APPENDIX H

NAME:_____

AGENCY/SERVICE:_____

_____

EVALUATION KNOWLEDGE

You will find below several questions regarding the program evaluation information given to you during the workshop conducted by me this past Spring. Feel free to use your workshop manual or notes. Please fill in with pencil the appropriate answer on the enclosed answer sheet.

For example, if the following question was asked: The major funding source for programs for the elderly is

A) U.S. Department of Labor
B) U.S. Department of Defense
C) U.S. Department of Commerce
D) National Association for the Elderly
E) Administration on Aging

You would fill in the letter "E" on the answer sheet -

Please answer every question. Smile! This is the last questionnaire you will get from me.

1. Which of the following types of program evaluation focuses primarily on the political power that an agency can get to support their programs?
   *A) Pork Barrel model of evaluation
   B) Charity model of evaluation
   C) Scientific model of evaluation
   D) Influence model of evaluation

EVALUATION KNOWLEDGE (continued)

2. The nature or content of a planning objective refers to
   A) The person receiving a service.
   B) How long the effect of a service lasts.
   *C) Whether a service is trying to change information, attitudes or behavior.
   D) Whether the objective is measureable.

3. The most foolproof way to know if a service is effective is to
   A) Give clients a pre-test when they start the service and a posttest when they are done.
   B) Conduct a follow-up of clients when they have finished receiving the service.
   C) Compare clients currently receiving the service with clients who used to receive the service.
   *D) Compare clients who were selected with a flip of the coin to receive the service with clients who were selected in the same way not to receive the service.

4. Resistance of staff members to doing program evaluation may be reduced most by
   *A) Assuring them that they will not lose their job as a result of doing the evaluation.
   B) Including them in the planning of the evaluation after all of the details have been worked out by the director.
   C) Telling them the evaluation is not really very important.
   D) Telling them the information provided by the evaluation will not be used anyway.

5. An effort evaluation measures
   A) How hard clients tried to succeed in a service.
   B) How hard staff members tried to improve the client.
   *C) Whether a service was implemented in the way it was planned to be implemented.
   D) The number of units of service provided for a fixed amount of money.

6. Goal Attainment Scaling (GAS) is
   A) A measure of the impact of service goals on the surrounding community.
   *B) An outcome measure used for describing and evaluating client goals.
   C) A measure of the effectiveness of a program.
   D) A self-esteem questionnaire.

EVALUATION KNOWLEDGE (continued)

7. Keeping a record of what staff members do when delivering a service to seniors is an example of
   A) Effectiveness evaluation.
   B) Impact evaluation.
   C) Process evaluation.
   *D) Effort evaluation.

8. Measuring which components of a service are responsible for its success is an example of
   A) Impact evaluation
   *B) Process evaluation
   C) Efficiency evaluation.
   D) Effort evaluation.

9. Measuring whether a service works better for seniors of different incomes or ages is an example of
   A) Impact evaluation.
   B) Effectiveness evaluation.
   C) Effort evaluation.
   *D) Process evaluation.

10. Opportunity costs refer to
   A) How expensive providing services can be.
   *B) What an individual gives up in order to receive a service.
   C) Direct costs of providing a service.
   D) What an individual has to pay to receive a service.

11. Measuring the effectiveness of a service means asking the question.
   A) Is the service having an impact on the people you want to have an impact on?
   B) Was the service implemented as planned?
   *C) Did the clients who received the service do better than clients who did not?
   D) Which part of the service works best for different types of clients?

12. The economic efficiency of a service as measured by the ratio of monetary outcomes and costs is an example of
   *A) Cost/benefit analysis.
   B) Cost/unit of service analysis.
   C) Cost/effectiveness analysis.
   D) Cost/input analysis.

EVALUATION KNOWLEDGE (continued)

13. Which method for conducting a needs assessment provides the most accurate information?
    A) Talking to seniors who know the community well.
    B) Talking to seniors who use your service often.
    C) Talking to a selection of seniors who have used your service in the past.
    *D) Talking to a selection of seniors who have used your service and seniors who don't know about your service.

14. Whether a questionnaire consistently represents how a client really feels about an issue is a measure of its
    *A) Reliability.
    B) Validity.
    C) General ability.
    D) Predictability.

15. The sex of a person is an example of
    A) Ordinal measurement.
    B) Interval measurement.
    C) Ratio measurement
    *D) Nominal measurement.

* Correct answer

APPENDIX I

NAME_____

Workshop Effectiveness

Please place a check next to the statement that best represents the way you feel about the following aspects of the evaluation workshops.

(R)* 1. The information provided in the workshops was not very practical.
Strongly Agree _____
Agree _____
Neutral _____
Disagree _____
Strongly Disagree _____

2. The information provided was well-organized.
Strongly Agree _____
Agree _____
Neutral _____
Disagree _____
Strongly Disagree _____

(R) 3. The material presented in the workshop did not accurately represent the activities of service providers.
Strongly Agree _____
Agree _____
Neutral _____
Disagree _____
Strongly Disagree _____

4. My ability to conduct program evaluation has improved as a result of my participation in the evaluation workshops.
Strongly Agree _____
Agree _____
Neutral _____
Disagree _____
Strongly Disagree _____

(R) 5. Program evaluation in my project/service is not likely to improve as a result of my participation in the evaluation workshops.
Strongly Agree _____
Agree _____
Neutral _____
Disagree _____
Strongly Disagree _____

6. I intend to do more program evaluation in my project/service.
   Strongly Agree _____
   Agree _____
   Neutral _____
   Disagree _____
   Strongly Disagree _____

*Denotes items reflected before analyzed.

APPENDIX J

Name_____

Agency_____

CONSULTATION EFFECTIVENESS

I'd like you to give your opinion regarding various aspects of the consultation sessions. When asked about implementing evaluation, I mean that to include everything we spoke of in the workshop, e.g., setting goals and objectives, needs assessment, cost/benefit or cost/effectiveness analysis. Even though you have not implemented all of the evaluation methods in your project/service, state how much the consultations have helped you to implement whatever you have tried so far.

Following are several statements regarding the consultation sessions. Please circle the response which best represents how much you agree with each statement. Please answer each one. If you have any comments about any of the items simply write them in the margin. If you do not know the meaning of an item, circle "DK" (Don't Know).

1. Setting goals and objectives in the consultation sessions helped me to implement program evaluation in my project/service.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	DK

CONSULTATION EFFECTIVENESS (continued)

2. The knowledge provided in the consultation sessions helped me to implement program evaluation in my project/service.

Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree | DK

(R)* 3. Participants in the consultation sessions did not share their resources with me in my effort to implement program evaluation in my project/service.

Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree | DK

(R) 4. The consultation sessions did not provide a good understanding of program evaluation.

Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree | DK

5. I think I could ask other participants in the consultation sessions to help me implement program evaluation methods in the future.

Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree | DK

6. I know more about doing program evaluation as a result of my participation in the consultation sessions.

Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree | DK

(R) 7. I could have implemented program evaluation in my project/service without the knowledge provided in the consultation sessions.

Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree | DK

(R) 8. The consultation sessions were too structured to help me implement program evaluation in my project/service.

Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree | DK

(R) 9. The consultation sessions were a waste of time.

Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree | DK

CONSULTATION EFFECTIVENESS (continued)

(R) 10. It was not very helpful to share my experiences from implementing program evaluation with other participants in the consultation sessions.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	DK

(R) 11. The consultation sessions have been no better than other consultations I have received.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	DK

12. The consultation sessions helped to provide a structure for implementing program evaluation in my project/service.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	DK

13. The other participants in the consultation sessions helped me to implement program evaluation in my project/service.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	DK

14. I could not have implemented program evaluation in my project/service without the contributions of other participants in the consultation session.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	DK

15. It would have been very difficult to implement program evaluation in my project/service without the support provided by other participants in the consultation sessions.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	DK

16. The consultation sessions provided enough knowledge for me to implement program evaluation in my project/service.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	DK

CONSULTATION EFFECTIVENESS (continued)

(R) 17. Other participants in the consultation sessions did not support my efforts to implement program evaluation in my project/service.

Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree | DK

(R) 18. The consultation sessions did not provide a sufficient focus for helping me implement program evaluation in my project/service.

Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree | DK

19. The time spent in the consultation sessions has been worthwhile.

Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree | DK

(R) 20. The resources of other participants in the consultation sessions were not necessary to help me implement program evaluation in my project/service.

Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree | DK

21. I gained new contacts with other agencies from other participants in the consultation sessions.

Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree | DK

(R) 22. The other participants in the consultation sessions did not offer very many useful suggestions for implementing program evaluation in my project/-service.

Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree | DK

23. I would recommend the consultation sessions to other service providers.

Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree | DK

(R) 24. Measuring the weekly achievement of objectives was not very useful in helping me to implement program evaluation in my project/service.

Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree | DK

APPENDIX K

Partial Correlations: Organizational Scales*

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1.	Pro. conf. (13)**	100																			
2.	No. workshops (14)	-7	100																		
3.	No. pro. assoc. (16)	27	-7	100																	
4.	No. pro. journ. (17)	-3	14	0	100																
5.	Part. in dec. to adopt policies (24)					100															
6.	Part. in dec. to adopt prog. (25)					52	100														
7.	Part. in dec. to hire (26)					-26	5	100													
8.	Part. in promote of staff (27)					-10	-8	28	100												
9.	Own dec. discour. (28)									100											
10.	Ask boss before (29)									-29	100										
11.	Little action taken (30)									79	42	100									
12.	Refer to someone higher up (31)									21	19	-43	100								
13.	Have boss approv. (32)									18	37	-70	12	100							
14.	Feel they are own boss (33)														100						

APPENDIX K

Partial Correlations: Organizational Scales (cont.)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
15. Make own dec. (34)														24	100					
16. Make own rules (35)														-5	22	100				
17. Do as they please (36)														-29	-3	47	100			
18. Left up to pers. (37)														17	-27	-10	28	100		
19. Check for rule violations (38)																			100	
20. Watched to obey (39)																			36	100

*Decimal points have been omitted

**Numbers in parenthases refer to item number on Project/Service Information Questionnaire

APPENDIX L

Similarity Coefficients: Organizational Scales*

	Pro.	Part in Dec. Mak.	Hier of Auth.	Job Code	Rule Obs.
1. Pro. conf. (13)**	74	-38	17	3	49
2. No. workshops (14)	86	-47	- 5	-10	34
3. No. pro. assoc. (16)	95	-65	-43	-25	6
4. No. pro. journ. (17)	92	-76	-36	-33	22
5. Part. in dec. to adopt pol. (24)	-55	96	31	-11	25
6. Part. in dec. to adopt prog. (25)	-52	87	23	2	12
7. Part. in dec. to hire (26)	-66	93	56	9	28
8. Part. in prom. of staff (27)	-73	87	28	13	-13
9. Own dec. discour. (28)	0	20	62	27	61
10. Ask boss before (29)	-17	37	94	43	70
11. Little action taken (30)	-29	34	96	70	39
12. Refer to some-one higher up (31)	-19	34	96	43	58
13. Have boss approv. (32)	-36	51	92	50	43
14. Own boss (33)	-30	27	78	87	13

Similarity Coefficients: Organizational Scales* (continued)

15. Make own dec. (34)	-12	12	72	90	12
16. Make own rules (35)	-33	-12	11	82	-59
17. Do as they please (36)	- 4	-19	13	88	-49
18. Left up to pers. (37)	-11	3	53	89	-13
19. Check for rule violations (38)	29	19	58	-16	98
20. Watched for rules (39)	29	12	57	-26	

*Decimal points have been omitted.

**Numbers in parentheses refer to item numbers on Project/Service Information Questionnaire.

APPENDIX M

Partial Correlations: Agreement with Evaluation Practices*

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1.	Use benefit/cost ratio	100																					
2.	Use client data	5	100																				
3.	Record source of referral	7	27	100																			
4.	Use systematic case studies	-28	22	19	100																		
5.	Contact clients after service is stopped	4	19	10	1	100																	
6.	Measure whether client improved as result of getting service	9	-4	3	24	4	100																
7.	Measure efficiency of programs	-5	5	-13	-7	-19	-1	100															
8.	Work with community groups to establish objectives	-4	20	-7	-9	-6	-12	13	100														
9.	Establish specific objectives for every program	8	-3	10	-5	-19	0	-12	-5	100													
10.	Change work routine to measure efficiency	-15	1	7	5	3	15	23	11	-3	100												
11.	Ask clients how satisfied they are	-12	-11	-1	4	-3	-14	-11	4	8	-15	100											

Partial Correlations: Agreement with Evaluation Practices (cont.)

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
12.	Will allow program to compete more successfully for funding	-6	5	-17	-4	-20	-18	10	18	-1	9	-15	100										
13.	Measure effectiveness of each program	4	-21	-15	-2	-10	4	11	-11	-23	3	26	6	100									
14.	Record how service has affected client once they no longer receive service	6	-7	-1	0	34	-2	-6	-2	-18	-19	10	13	3	100								
15.	Measure extent each program is reaching its intended group of clients	-9	-11	-11	28	-11	14	13	6	-9	-29	20	-16	6	-7	100							
16.	Measure impact of programs on surrounding community	17	-2	15	-41	-3	-8	-13	24	15	7	-8	-6	-14	-4	4	100						
17.	Use program evaluation findings to make budget decisions	31	-18	-14	2	-8	35	-12	-15	9	2	-19	23	18	0	-14	21	100					
18.	Change work routine to measure impact of programs on surrounding community	-20	-7	-13	-5	8	10	6	18	-21	20	-14	20	8	-9	8	18	1	100				
19.	Should measure economic benefit for each unit of service	22	7	-7	1	-6	14	16	-9	14	-26	-10	-12	-3	-1	-2	-18	-1	-1	100			

Partial Correlations: Agreement with Evaluation Practices*(cont.)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
20. Should have specific individualized evaluation plan	-6	-13	-5	1	16	-19	5	-35	19	-5	32	-12	4	-2	21	-10	-31	-5	15	100		
21. Should record program cost for each unit of service	9	-5	-8	3	-12	-14	13	-9	32	-10	22	18	-2	-10	-12	-17	7	-20	25	18	100	
22. Should record each client contact	-15	-12	6	-3	6	-31	-8	12	-5	14	9	9	8	22	1	17	-9	3	-16	11	-21	100

*Decimal points have been omitted

APPENDIX N

Similarity Coefficients:
Agreement with Evaluation Practices*

	Agree with Evaluation Practices
1. Use benefit/cost ratio	77
2. Use client data	88
3. Record source of referral	80
4. Use systematic case studies	87
5. Contact clients after service is stopped	90
6. Measure whether client improved as result of getting service	85
7. Measure efficiency of programs	93
8. Work with community groups to establish objectives	70
9. Establish specific objectives for every program	92
10. Change work routine to measure efficiency	89
11. Ask clients how satisfied they are	58
12. Will allow program to compete more successfully for funding	96
13. Measure effectiveness of each program	95
14. Record how service has affected client once they no longer receive service	89
15. Measure extent each program is reaching its intended group of clients	93
16. Measure impact of programs on surrounding community	61
17. Use program evaluation findings to make budget decisions	91
18. Change work routine to measure impact of programs on surrounding community	88

Similarity Coefficients:
Agreement with Evaluation Practices (continued)

19. Should measure economic benefit for each unit of service	87
20. Should have specific individualized evaluation plan	74
21. Should record program cost for each unit of service	90
22. Should record each client contact	71

*Decimal points have been omitted.

APPENDIX O

Partial Correlations: Evaluation Self-Report*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	21
1. Uses client data in its planning	100																					
2. Records each time it delivers a service	39	100																				
3. Compares client information collected before and after services are provided to measure effectiveness	15	-19	100																			
4. Records client satisfaction	-20	-2	-9	100																		
5. Information is collected from each client after services are provided to measure effectiveness	4	-18	8	4	100																	
6. Regularly assess client needs	-2	-6	-20	21	21	100																
7. Records each client contact	-16	23	-5	-30	-20	-6	100															
8. Measures extent to which each program reaches its clients	-33	8	-18	36	3	9	-5	100														

Partial Correlations: Evaluation Self-Report (cont.)

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
9.	Gathers follow-up information	13	2	20	-15	24	-6	19	-19	100													
10.	Use experimental designs to measure effectiveness	-2	-17	14	-8	-12	-30	5	1	-10	100												
11.	Records program cost for each unit of service	19	1	-22	-10	3	5	-16	-16	-30	25	100											
12.	Computes a benefit/cost ratio for each service	-8	-12	-5	14	19	-13	-14	21	-7	22	46	100										
13.	Specific written objectives are for each program	13	-4	-12	11	-24	15	-15	6	-35	17	34	16	100									
14.	Records each client referral made	-6	-12	12	-4	3	5	-10	-19	14	-22	12	-14	-10	100								
15.	Monitors the implementation of programs	-12	-9	-18	20	13	15	8	8	-3	-18	11	5	-1	-12	100							
16.	Records action taken on each referral	-20	1	30	-9	-5	0	42	-17	27	-17	-31	-32	-17	57	-21	100						
17.	Compare clients who receive services with clients who don't to measure effect	-8	-11	24	-4	-28	-35	9	1	-20	55	20	3	-4	5	-11	8	100					

Partial Correlations: Evaluation Self-Report (cont.)

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
18.	Records source of each referral	9	-1	5	5	9	21	-15	-20	10	-13	4	-12	-20	47	-5	49	-6	100				
19.	Uses systematic case studies to measure effectiveness	1	17	16	-20	-26	-12	35	6	14	-1	-39	-41	1	17	-16	25	25	-17	100			
20.	Measures extent objectives are achieved	-19	4	-27	21	-4	17	-11	27	4	4	-22	-22	21	1	27	3	-10	-2	17	100		
21.	Measures the impact of programs on surrounding community	15	16	4	7	-4	7	1	4	18	-13	-1	14	-18	-14	9	-19	-24	0	-11	-10	100	
22.	Constructs its own measurement tools to measure client change	15	-5	11	-7	35	8	6	17	-12	8	0	30	6	-49	20	-42	-12	-39	6	-10	21	100

*Decimal points have been omitted

APPENDIX P

Similarity Coefficients: Evaluation Self-Report*

	Evaluation Self-Report
1. Uses client data in its planning	79
2. Records each time it delivers a service	76
3. Compares client information collected before and after services are provided to measure effectiveness	78
4. Records client satisfaction	93
5. Information is collected from each client after services are provided to measure effectiveness	98
6. Regularly assess client needs	77
7. Records each client contact	80
8. Measures extent to which each program reaches its clients	86
9. Gathers follow-up information	91
10. Use experimental designs to measure effectiveness	26
11. Records program cost for each unit of service	44
12. Computes a benefit/cost ratio for each service	35
13. Specific written objectives are established for each program	77
14. Records each client referral made	80
15. Monitors the implementation of programs	82
16. Records action taken on each referral	64
17. Compare clients who receive services with clients who don't to measure effect	76

Similarity Coefficients:
Evaluation Self-Report (continued)

18.	Records source of each referral	74
19.	Uses systematic case studies to measure effectiveness	46
20.	Measures extent objectives are achieved	69
21.	Measures the impact of programs on surrounding community	65
22.	Constructs its own measurement tools to measure client change	73

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*Decimal points have been omitted

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