The Organizational Context of Children's Mental Health Services

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This paper reviews what is known about the organizational context of children's mental health services and describes organizational constructs, conceptual models, research methods, and intervention strategies that can be used to link organizational context to service quality and outcomes. Using evidence from studies of business and industrial organizations as well as studies of children's service organizations, the paper presents a model of organizational effectiveness that depends on several contextual characteristics that include organizational culture, structure, climate, and work attitudes. These characteristics are believed to affect the adoption of efficacious treatments (EBPs [evidence-based practices]), adherence to treatment protocols, therapeutic alliance, and the availability, responsiveness, and continuity of services. Finally, 10 components of the ARC (Availability Responsiveness and Continuity) organizational intervention are described as examples of strategies that can be used to develop organizational contexts with the prescribed characteristics. Mental health researchers are encouraged to consider including these constructs, conceptual models, research methods, and intervention strategies in dissemination, effectiveness, and implementation studies that address the gap between research-based knowledge about mental health treatment and what is actually offered in the community.

KEY WORDS: children; mental health services; organizational context; treatment effectiveness.

INTRODUCTION

Efficacious mental health treatments for children are not widely disseminated in actual service systems and current knowledge about effective mental health treatment is not reflected consistently in the care offered in the community (Burns, Hoagwood, & Mrazek, 1999; National Institutes of Health [NIH], 1999, 2000). Available evidence-based practices (EBPs) have not been adopted by most children's mental health service systems and treatments found to be efficacious in controlled random trials are not always effective when implemented in actual community settings (Hoagwood, Burns, Kiser, Ringeisen, & Schoenwold, 2001). The limited diffusion of efficacious mental health treatments and their inconsis-

tent effectiveness when implemented in real-world settings are, in part, a function of the social context in which the treatments are provided (Hohmann & Shear, in press; Schoenwald & Hoagwood, 2001).

Efforts to "bridge science and service," and "translate behavioral science into action" have identified the social context of mental health services as a priority area for dissemination and implementation research (NIH, 1999, 2000; National Institutes of Mental Health [NIMH], 2002). As a result, the social context of children's mental health services has become an increasingly important issue in national efforts to bring EBPs to the community. This paper describes the potential contribution that models of organizational-based social context and development offer to the dissemination and implementation of efficacious practices and the creation of effective community-based services.

The social context of children's mental health services is composed of multiple social networks which

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encourage or constrain certain behavior, affect perceptions, and establish expectations for the individuals who function within them. These social networks include the organizations that fund, regulate, or provide the services, the communities in which the services are provided, and the families of the individuals who receive the services (Burns et al., 1999; Hohmann & Shear, in press). Although it is accepted generally that these social networks are important to the quality and outcomes of mental health treatment, we need to learn more about how specific social context characteristics contribute to the success or failure of mental health service systems. Mental health services research on service outcomes has not thoroughly examined social context variables and almost none actually manipulates social context as an active factor. This paper focuses on one dimension of social context, the organization that provides the service.

The organizational context of mental health services is believed to affect whether new treatments and service protocols are adopted, how they are implemented, and whether they are sustained and effective (Hohmann & Shear, in press; Schoenwald & Hoagwood, 2001). The existing evidence that the service organization creates a critical social context for children's mental health services has linked specific organizational characteristics such as culture and climate to the quality and outcomes of children's services (Glisson & Hemmelgarn, 1998; Glisson & James, 2002; Hemmelgarn, Glisson, & Dukes, 2001). And organizational research conducted over several decades in business and industrial organizations provides evidence that organizational context such as culture and climate shapes work attitudes and behavior that contribute to an organization's success or failure (Ashkanasy, Wilderom, & Peterson, 2000).

Although these organizational studies are important to the efforts of mental health services researchers who wish to examine the dissemination and implementation of EBPs and service effectiveness, many mental health services researchers are not familiar with this organizational research literature. To encourage more services researchers to include organizational context in their studies, this paper reviews relevant research from the organizational literature, presents a conceptual model of the linkages between organizational context and mental health service effectiveness, and describes methods for incorporating organizational-level characteristics and interventions in mental health services research. The review includes definitions of organizational constructs, descriptions of organizational theory, and organiza-

tional development strategies that may be especially helpful to mental health services researchers who are interested in dissemination, implementation, and effectiveness.

THE ORGANIZATION AS A SOCIAL CONTEXT FOR MENTAL HEALTH SERVICES

The business and industrial world's enthusiasm about organizational social context originated with Peters and Waterman's *In Search of Excellence*(Peter & Waterman, 1982). Using America's most successful businesses as case studies, Peters and Waterman inspired a nationwide infatuation with culture and climate among business and industrial leaders. Osborne and Gaebler's *Reinventing Government* (Osborne & Gaebler, 1992) provided a popular extension of Peters and Waterman's work to government agencies by demonstrating the importance of organizational context to the performance of public agencies. And more recently, Schorr's *Common Purpose* (Schorr, 1997) used Osborne and Gaebler's work to explain the role that organizational context plays in child welfare and family service systems.

The social context created by an organization includes interpersonal relationships, social norms, behavioral expectations, individual perceptions, attitudes, and other psychosocial factors that govern how organizational members approach their work, interact with others in their organization, interpret their work environment, collaborate with members of "referent" organizations, and feel about their jobs. For many decades, scholars of business and industrial organizations recognized the importance of psychosocial factors that comprise what was called the "human side of enterprise" (McGregor, 1960). And over the last half-century, a number of studies examined the adoption and implementation of new technologies and organizational effectiveness as a function of organizational context. Several studies concluded that the dimensions of organizational context that are particularly important to innovation and effectiveness are its culture, climate, structure, and domain (See reviews in Glisson, 1992, 2000; Gray, 1985, 1990; Michela & Burke, 2000; Rogers, 1995; Sorensen, 2002).

An organization's culture, climate, structure, and domain are important because they create a social context that invites or rejects innovation, complements or inhibits the activities required for success, and sustains or alters adherence to the protocols that compose the organization's core technology.
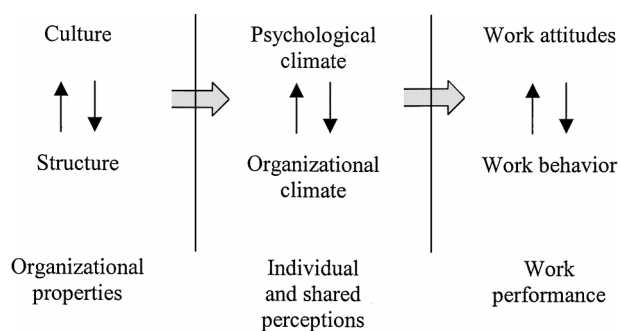
Culture		Psychological climate		Work attitudes
Structure		Organizational climate		Work behavior
Organizational properties		Individual and shared perceptions		Work performance

Fig. 1. Conceptual model of organizational social context

Research on these constructs can be used by mental health services researchers to understand and study the dissemination and implementation of efficacious mental health treatments, adherence to treatment protocols, and service effectiveness. To date, this work has been useful in several studies that examined how organizational context affects the quality and outcomes of children's services (Glisson, 2000; Glisson & Hemmelgarn, 1998; Glisson & James, 2002; Hemmelgarn et al., 2001). Several key characteristics of organizational context are reviewed here and included in a conceptual model (shown in Fig. 1) that is used to discuss the importance of organizational context for the outcomes of children's mental health services.

Organizational Culture and Climate

The organizational research literature has included the concepts of organizational culture and climate for several decades, but until the last decade, the research literature on each construct developed independently (Glisson, 2000; Reichers & Schneider, 1990). Moreover, as their popularity increased, multiple definitions evolved for each construct. But a recent content analysis of the organizational literatures on culture and climate identified a core concept for each construct (Verbeke, Volgering, & Hessels, 1998). The core concepts described "climate" as the way people perceive their work environment and "culture" as the way things are done in an organization (Verbeke et al., 1998). Using this distinction, climate is defined as a property of the individual and culture is defined as a property of the organization. This difference has been suggested for over a decade and characterizes the definitions of the two constructs presented here (James, James, & Ashe, 1990).

Climate

The distinction between *psychological* climate and *organizational* climate, shown in Fig. 1, provides a basis for understanding climate and the role it plays in linking organizational properties to mental health service provider attitudes and behavior (Glisson & James, 2002; James et al., 1990; James & James, 1989; James & Jones, 1974). Psychological climate is the individual's perception of the psychological impact of the work environment on his or her own well-being (James & James, 1989). When workers in the same organizational unit agree on their perceptions, their shared perceptions can be aggregated to describe their organizational climate (Jones & James, 1979; Joyce & Slocum, 1984).

The psychological climate of a work environment is measured as multiple dimensions (e.g., emotional exhaustion, depersonalization, role conflict), but a single, higher-order, general psychological climate factor (PCg) is believed to underlie these dimensions. This general PCg factor represents the worker's overall perception of the positive or negative psychological impact of the work environment on the worker (James et al., 1990; James & James, 1989). Several studies identified a single psychological climate factor that represents the overall psychological "safety" of the work environment for the individual worker (Brown & Leigh, 1996; Glisson & Hemmelgarn, 1998; Glisson & James, 2002).

Culture

Culture is defined as the normative beliefs and shared behavioral expectations in an organization or work unit (Cooke & Szumal, 1993). These beliefs and expectations guide the way work is approached and socialize new employees in the priorities of the organization (e.g., conformity, consensus, motivation). Organizational culture is often described in "layers," with behavioral expectations and norms representing an outer layer and values and assumptions representing an inner layer (Rousseau, 1990). Stated in another way, Hofstede (1998) described behavior as the visible part of culture and values as the invisible part. For this reason, culture is sometimes described as a "deep" construct. Although Stackman, Pinder, and Connor (2000) pointed out that it is not clear what "deep" means in an organization, the description of the "deep" aspects of culture parallel the "inner layer" described by Rousseau (1990) and

the "invisible" part of culture described by Hofstede (1998).

Culture appears to be transmitted among employees more through behavioral expectations and normative beliefs than through "deeper" values or assumptions (Ashkanasy, Broadfoot, & Falcus, 2000; Hofstede, 1998; Hofstede, Neuijen, Ohayv, & Sanders, 1990). This is because individuals in an organization can comply with behavioral expectations without necessarily internalizing the values and assumptions that lie at the core of those expectations. Expectations and norms may reflect the values and assumptions of organizational leaders, but not other members of the organization. Or expectations and norms may be determined by the job demands and realities that workers face on a daily basis, regardless of the values and assumptions of top management (Hemmelgarn et al., 2001). But it is the expectations and norms that are most visible and shared, and not necessarily the deeper assumptions and values espoused by management or reflected in the behavior of the workplace (Glisson & James, 2002).

Unlike the perceptions that form a single general climate factor (PCg), the normative beliefs and behavioral expectations that comprise an organization's culture form more than one culture factor. Principal components analyses of the scales comprising the well-known Organizational Culture Inventory (OCI) identified three dimensions of culture (Cooke & Rousseau, 1988; Cooke & Szumal, 1993; Xenikou & Furnham, 1996). And a factor analysis of another well-known collection of scales, the Organizational Culture Profile (OCP), identified two higher-order factors (Ashkanasy, Broadfoot, et al., 2000). More recently, an analysis of the organizational context of child welfare and juvenile justice case management teams confirmed a single climate factor and two culture factors (Glisson & James, 2002).

Organizational Structure

Structure has long been synonymous with formal organization and has been studied empirically for a half century (March & Simon, 1958). Organizational structure describes the centralization of power and formalization of roles in an organization. Structure includes participation in decision-making, hierarchy of authority, the division of labor and the procedural specifications that guide work-related interactions among the members of an organizational unit. For example, structure in a mental health service system determines the amount of discretion exercised by service providers, their contribution to the development of organizational policies, and the flexibility they have in addressing the needs of their clients.

In the earliest literature on structure, a disproportionate amount of emphasis was placed on identifying the optimal way for all organizations to structure the power and work roles among their employees. Scholars later abandoned the search for the "one best way" to structure all organizations and directed their attention to understanding the contingencies upon which the optimal structuring of particular work activities depended. For example, Woodward (1958, 1965) identified the core technology of an organization as the most important contingency and spawned several decades of research into the relationship between structure and technology. Some of this research focused on human service and mental health organizations (Glisson, 1978, 1992). These and other efforts viewed the nature of the core technology of an organization (e.g., mental health treatment) as critical to understanding how the organization should be structured. Moreover, it was determined that the more an organization's structure complemented and supported the work conducted in the organization's core technology, the more effective the organization. However, as described in subsequent sections, this relationship was found not to be as straightforward as it first seemed.

Work Attitudes

Work attitudes in organizational research most frequently include job satisfaction and organizational commitment (Glisson & Durick, 1988). Both have been studied extensively for many years. Locke (1976) defined job satisfaction as the positive appraisal of one's job or job experiences. Mowday, Porter, and Steers (1982) described organizational commitment as a willingness to exert considerable effort on behalf of the organization and a strong desire to remain a member of the organization. So commitment was viewed as an employee's attachment to the organization, whereas satisfaction focused on the employee's specific tasks and duties (Mowday et al., 1982; Williams & Hazer, 1986). Although the two variables would be expected to be correlated, an employee who is attached to a specific organization might be unhappy with certain aspects of a specific job within that organization, and vice versa. A half-century ago, Viteles (1953) suggested that employee morale was a

function of both satisfaction and commitment. That is, employees with high morale have an attachment to their organization and a positive reaction to their specific job within the organization.

Core Technology

The core technology of an organization includes the raw materials, knowledge, skills, and equipment that are used to create the product or provide the service for which the organization is funded or remunerated (Glisson, 1992). An organization's core technology is distinguished from its social context, but the two are inextricably linked in a way that is important to understanding the effectiveness of the organization. In organizations that provide children's mental health services, the mental health or behavioral problems and needs addressed by the service, the clients who receive the service, the specific treatment interventions that are applied, and the skills, knowledge and equipment used in the interventions compose the core technology. Human service technologies generally and mental health technologies in particular are "soft" technologies (Glisson, 1978). Soft technologies include fewer invariant, concrete processes and materials that can be clearly specified in advance and have less predictable and determinant outcomes than "hard" technologies. Also, the softer the technology, the less workers can rely on their knowledge, the predictable qualities of the raw materials, and their skill in processing those materials to consistently and successfully create the product or service in an efficient and effective manner.

The implementation and outcomes of harder technologies are less vulnerable to social context than those of softer technologies. For example, the quality of stainless steel, the performance of a personal computer, and the beauty and durability of a house-painting project are predictable and determinate functions of the quality of the materials and the skill of those who use the materials to create the steel, build the computer, and paint the house. In contrast, even highly knowledgeable and skilled workers are not always successful in the use of soft technologies. Moreover, there is much more variability in the way experienced workers implement soft technologies than hard technologies. For example, skilled mental health professionals in well-equipped facilities treat similar drug addiction problems in distinctly varied ways and all experience a relatively high proportion of failures compared to the variance in

procedures and outcomes produced by hard technologies (such as those used in the manufacture of stainless steel).

The fact that soft technologies are more vulnerable to the social contexts in which they are embedded is important to understanding how the adoption, implementation, and effectiveness of mental health technologies can vary from organization to organization. Soft technologies are molded and adapted much more easily than hard technologies, despite the fact that the adaptation can diminish the quality and outcomes of the service or product. A softer technology is more vulnerable to an organization's social context because there is disagreement on the best way to implement the technology, there is greater variation in outcomes, and as a result, it is more difficult to determine whether an organization or individual is implementing a soft technology in the most effective way possible.

Although the certainty and predictability of hard technologies are attractive to an organization, the state-of-the-art of a given technology limits its certainty and predictability. But since organizations "abhor uncertainty" (Thompson, 1967, p. 99), organizations that implement soft technologies such as mental health treatments often create social contexts that emphasize conformity, consensus, and subservience in a misguided effort to inject certainty into what is an inherently uncertain technology (Glisson, 1992; Glisson & James, 2002). These organizational efforts focus on process rather than results and use rules, red tape, and bureaucratic procedures to create "certainty" in the nature and sequence of work tasks, despite the actual contribution of those processes to positive outcomes (Osborne & Gaebler, 1992).

Interorganizational Domains

Interorganizational domains comprise an important part of the external environments of children's mental health service organizations. Some of the most important elements of organizations' external environments are other organizations, and scholars focused on the organizational elements of these external environments for many decades (Emery & Trist, 1965). A significant portion of this work studied interrelationships among human service organizations, including those providing mental health services (Aldrich, 1976; Alter and Hage, 1993; Provan, Beyer, & Kruytbosch, 1980; Provan & Milward, 1995; Whetten & Leung, 1979). And much of the work was

concerned with prescribed patterns of coordination and the development of formal networks among organizations, although several early writers questioned the benefits of formal coordination efforts among mental health and other types of service organizations (Bendor, 1985; Landau, 1969; Scott, 1985).

The concept of interorganizational "domains" in external environments defines groups of organizations on a much looser and broader basis than defined in much of the literature on interorganizational relationships (Trist, 1983, 1985). For example, the concept of domains is distinct from groups defined by interorganizational coordination or formal networks because it describes informal, unregulated and "underorganized" collections of organizations that are grouped only on the basis of a shared concern, such as a common societal problem (Brown, 1980). Many of these groups of organizations address complex and unstructured social problems that have been described as "messes" by Ackoff (1974). And Scott (1985) and others suggested that "loosely-coupled," uncoordinated groups of organizations concerned with the same social problem may actually have advantages associated with their redundancy, competitiveness and variety that would be eliminated in formally coordinated groups (Bendor, 1985; Landau, 1969).

An interorganizational domain is defined here as the organizations in a given geographical location that are engaged with a particular societal problem or set of problems (Gray, 1985, 1990). The unregulated, underorganized qualities of interorganizational domains seem especially relevant to the external environments of children's mental health service organizations. For example, organizational domains engaged with the problem of adolescent antisocial behavior include juvenile courts, schools, mental health service agencies, juvenile correctional institutions, community centers, and behavioral health organizations that fund services. However, the degree of collaboration or cooperation varies greatly both within and between these domains. But as will be described later, these domains are important to the development of organizational social contexts that contribute to effective services that target the common problem.

INCLUDING ORGANIZATIONAL CONTEXT IN SERVICES RESEARCH

Intervention and services research that studies organizational context variables must use research methods designed for that purpose. These research methods include measures of culture, climate, structure, and work attitudes, the use of composition models for aggregating data within organizational units, and data analyses designed to link organizational-level characteristics to individual-level attitudes, behaviors and outcomes. Each of these are described in more detail in the sections that follow.

Measures of Organizational Social Context

Measures of organizational culture, climate, structure, and work attitudes were developed and tested over several decades. Many of these studies and measures are referenced in the earlier sections that define the constructs. In addition, preliminary studies established the validity and reliability of a number of organizational measures in children's service systems and used the scales to link these constructs to turnover rates, service quality, and treatment outcomes (Glisson & Durick, 1988; Glisson & Hemmelgarn, 1998; Glisson & James, 2002; Hemmelgarn et al., 2001). Scales tested by the Children's Mental Health Services Research Center include measures of organizational culture to assess constructive norms and expectations such as motivation, support and individualistic orientation, and defensive norms and expectations such as conformity, subservience, and consensus (Glisson & James, 2002). The scales also include measures of structure that assess centralization (e.g., hierarchy of authority) and formalization (e.g., the amount of red tape and regulations) in children's service systems (Glisson & James, 2002; Glisson & Martin, 1980; Martin, & Glisson, 1989). Measures of climate tested for children's service systems assess service providers' perceptions of the psychological impact of their work environment on their own well-being (e.g., role conflict, depersonalization, emotional exhaustion; Glisson & Hemmelgarn, 1998; Glisson & James, 2002). And measures of work attitudes in children's service systems were developed to assess job satisfaction and organizational commitment (Glisson & Durick, 1988; Glisson & James, 2002).

The scales illustrated here are designed to be administered to all service providers in the participating organizational units. For measures of organizational context such as organizational culture and organizational climate, the responses of organizational members must be composed by work unit and included in multilevel analyses that link organizational

characteristics to individual level attitudes, behaviors, and outcomes. Examples of appropriate composition and multilevel analytic models are described below.

Composition Models for Organizational-Level Constructs

Composition models are important to organizational research because many measures of organizational characteristics rely on individual respondents. Composition models describe the way in which constructs that reference the same content at different levels (e.g., individual and organizational) are functionally related (Chan, 1998; Rousseau, 1985). Composition models are used to aggregate data from individuals within work units and in cross-level inferences that link organizational context to treatment outcome variables (Glisson & James, 2002). Elemental composition describes the measure of a higher-level construct as an aggregate of a lower level measure. As an example, the typology of elemental composition presented by Chan (1998) provides a framework for understanding how organizational culture and organizational climate are measured using different models of elemental composition.

One model of elemental composition, the direct consensus model, is the appropriate composition model for climate (Chan, 1998). As explained earlier, psychological climate is the individual worker's perception of the psychological impact of their work environment on their own well-being. The direct consensus model requires within-group consensus at the lower-level (e.g., among individuals in a treatment unit) as a precondition for operationalizing the higher-level construct (e.g., organizational climate of the treatment unit) as an aggregate of the individual-level measures. A shared psychological climate at the individual level (e.g., agreement among the individuals in the unit) is a prerequisite for calculating the unit's *organizational* climate as an aggregate (e.g., the mean) of the individual responses to a *psychological* climate measure (Glisson & James, 2002; James, Demaree, & Wolf, 1984). If the individuals in a work unit do not agree in their perceptions, the measure of climate characterizes only the individuals in the work unit. When there is consensus and the psychological climate is shared by members of a work unit, the aggregated responses of those members compose a construct at the work unit level (e.g., organizational climate). But the perceptions remain a property of the individuals in the work unit although in the first case, the perceptions are not shared and in the second, they are.

Glisson and James (2002) identified the appropriate composition model for organizational culture as the referent-shift consensus model. In contrast to climate, culture is a property of the work unit, and this is reflected in the shift in referent from the individual to the collective. The model is less familiar than the direct consensus model used to compose climate because the use of the referent-shift model is more often implicit than explicit (Chan, 1998). Unlike direct consensus composition, referent-shift consensus composition requires a shift in the referent (Chan, 1998). For example, in assessing culture using the referent-shift consensus model, the respondent is asked to describe the behavioral expectations and normative beliefs of the members of the respondent's organizational work unit. The focus is on what the individual believes are the expectations and norms for the members of the individual's work unit, so all the members of the work unit are the referent rather than the individual respondent (hence, the term "referent-shift"). As in the direct consensus model, within-group consensus is required to justify the aggregation of the individuals' beliefs about the behavioral expectations and norms within the work unit (Glisson & James, 2002). But without within-group consensus, the individual responses cannot be "composed" to assess culture because a lack of consensus suggests that common expectations and norms were not identified.

Both the direct consensus (for climate) and referent-shift consensus (for culture) models require within-group consensus to compose a higher-level (e.g., work unit) construct (organizational climate or organizational culture) from individual responses. In referent-shift consensus composition, there is a shift in the referent from the self to the collective prior to consensus assessment. When culture is defined as the normative beliefs and behavioral expectations in the work unit, the shift in referent from the individual to the members of the work unit reflects the collective nature of the construct. There is evidence that the wording of items to make this shift explicit for respondents contributes to greater within-group consistency in the individuals' descriptions of organizational properties such as culture (Klein, Conn, Smith, & Sorra, 2001).

In summary, the two composition models underscore important differences between constructs that have implications for measurement in organizational research. For example, the scale items designed to measure climate represent the individual's perception

of the impact of the respondent's work environment on his or her own well-being and are expected to use the respondent as the referent. In contrast, the scale items designed to measure culture represent the behavioral expectations and normative beliefs for all members of a work unit and are expected to use the members of the collective work unit as the referent.

Analyzing Relationships Across Levels of Organizational Context

The analyses of relationships among culture, climate, structure, work attitudes, and other measures of organizational context must account for the multilevel nature of the variables and the composition models that link measures and constructs across levels of analysis (Klein & Kozlowski, 2000a, 2000b). Variables are sometimes defined at work unit levels (e.g., organizational culture) but individual responses are analyzed without aggregating the individual measures to work unit levels. Also, the relationships among variables are sometimes examined at a single level although some variables are work unit-level (e.g., organizational structure) and some are individual-level variables (e.g., work attitudes). These approaches provide biased estimates of multilevel relationships between individual and organizational constructs.

Statistical analyses of relationships between individual-level variables such as work attitudes and organizational variables such as culture require models that estimate effects between variables operationalized at different levels (James & Williams, 2000; Rousseau, 1985). Cross-level inferences can be made using a variety of approaches. One approach, hierarchical linear models analysis (HLM), was designed specifically for the types of cross-level inferences that link the characteristics of individuals to the characteristics of the organizations in which they are nested as service providers or service recipients (Bryk & Raudenbush, 1992).

There are advantages of applying HLM to organizational research. First, questions about cross-level relationships in multilevel studies can be formulated as two-level random intercept and random regression slope models (Bryk & Raudenbush, 1992, pp. 84–86; Hedeker & Gibbons, 1996). The models can be applied when key predictors include variables measured at both the individual and work unit levels and the outcome variable is measured at the individual level (Glisson & James, 2002). If these types of organizational research data are analyzed at the individual level only and the clustering of individuals by work unit is ignored, standard errors are underestimated and the risk of type I errors inflated. If data are aggregated and analyzed at the work unit level only (e.g., using unit means as outcomes), individual-level predictors are excluded and inefficient and biased estimates of organizational effects can result (Bryk & Raudenbush, 1992, p. 86). HLM analyses allow these problems to be avoided, and outcomes at the individual level (e.g., treatment outcomes) can be assessed as a function of the characteristics of both the individual (e.g., gender, age) and the organization (e.g., culture, structure).

MODELS OF ORGANIZATIONAL EFFECTIVENESS

Models of organizational effectiveness that attempt to explain why some organizations are more successful than others are important to dissemination, implementation, and effectiveness research. Of particular interest here are those models that describe how social context affects the adoption, implementation, and effectiveness of a core technology. Two models are described below that include social context and core technology in their explanation of organizational success. Both models argue that social context determines how work is approached, the priorities placed on certain activities, the commitment and level of effort of organizational members, and the way members interact with each other, members of other organizations, and with clients.

Sociotechnical Model

The sociotechnical model emphasizes that the successful implementation of any type of technology depends on the social context that supports the activities and strategies that surround an organization's use of the technology (Rousseau, 1977). Organizational effectiveness from this model's point of view is a function of the "fit" between the organization's core technology and its social context (Nadler & Tushman, 1977). That is, the culture, structure, climate, and work attitudes that characterize the social context must complement and support the work that is required to implement the core technology in the most effective way possible.

The earliest sociotechnical models emphasized the structure of the organization (e.g., formalization,

centralization) and suggested that the structure developed by an organization was simply a function of its core technology (Woodward, 1958, 1965). Several early studies were conducted to examine the function and assess how social structures "fit" core technologies. It was shown that more routinized, assembly-line technologies (e.g., those used in mass-produced automobiles) had more centralized and formalized structures, and that nonroutinized technologies (e.g., those required to research and develop new chemical compounds) had less centralized and formalized structures. The rationale underlying these models focused on the amount of discretion exercised by the worker and the extent to which all technological activities were preprogrammed.

But later research pointed out that similar technologies were often implemented in different structural contexts (Scott, 1990). And Glisson (1978, 1992) revised the model to explain how the same human service technologies could be implemented by organizations that varied significantly in structure, that is the extent to which they were centralized or formalized. He argued that soft technologies are "vulnerable" to social context and that what appeared to be a sociotechnical "fit" is achieved by many organizations actually revising the core technology to adapt it to the organization's existing social context. So instead of the social context being designed or modified to support and complement the requirements of a human service technology, the human service technology is altered to "fit" the organization's existing social context. This is a very different view of the balance of power between technology and social context. From this view, vulnerable soft technologies (e.g., mental health treatments) *can be altered* to fit the organization's existing social context in a way that eliminates the features that made the technology (e.g., EBP) attractive to the organization in the first place.

The Adopter-Based Innovation Model

The adopter-based theory of innovation diffusion also explains that the adoption, implementation, and *adaptation* of a new, innovative technology is a function of the organization's social context (Rogers, 1995, pp. 371–402). The model explains why some organizations and communities promote innovation and others resist it. It explains why some organizations may be more likely to alter structural and contextual features to support a new technology

and why other organizations are more likely to alter the new technology to fit the existing organizational context. For example, constructive cultures that emphasize achievement motivation, safe climates that minimize conflict, and flexible structures that share authority are more likely to seek innovation and implement improved technologies (Cooke & Szumal, 2000; Michela & Burke, 2000; Rogers, 1995).

Similar to the more recent sociotechnical models, the adopter-based innovation model also depicts an organization's core technology as "vulnerable" to its social context. First, innovation theory explains that whether new technologies are adopted in the first place is a function of social context. For example, constructive cultures promote innovation and are more likely to adopt state of the art technologies (e.g., evidence-based practices) and defensive cultures are more likely to resist innovation (Cooke & Szumal, 2000). And once adopted, the model argues that new technologies are as likely to be modified and re-invented to fit the organization's social context as is it is likely that the organization's social context will be altered to fit the new technology (Rogers, 1995, p. 392). For example, the centralized and formalized structures typical of large state bureaucracies can transform individualized child case management into a routinized, assembly-line technology that ignores individual differences in children and families to "fit" the highly centralized and formalized structures typical of many large state child welfare agencies (Glisson, 1992).

Similarities in the Two Models of Organizational Effectiveness

The sociotechnical and innovation diffusion models share a number of characteristics. Their shared characteristics are related to the notion that the successful adoption and implementation of any technology (whether an innovative or standard procedure) is as much a *social* as a *technical* process. Both models (1) emphasize the impact of the social context, (2) describe the lack of rationality in the adoption and implementation of a technology (e.g., an organization selects a new technology to be more effective and then alters it to the point it is ineffective), (3) focus on both macro (e.g., organization and community) and micro (e.g., individual, family) social factors as critical to implementation, and (4) argue that organizational interventions designed to change or develop an organization's social context can be used to support and

facilitate the successful adoption and implementation of a new core technology.

It is important to emphasize that both the sociotechnical and innovation diffusion models focus on *social* context to understand how core *technologies* are adopted and implemented. The idea that the technology at the core of an organization's work is inextricably tied to the social context that is created by that organization is the basis for the effects of culture, climate, structure, and work attitudes on organizational effectiveness. Complex social structures and processes surround and saturate an organization's core technology, link the work of different members of the organization, affect essential inputs of experience and resources, and route the service or product through the organization and on to markets or consumers. The models emphasize that core technologies are implemented within social contexts that determine how work is approached, the priorities that are emphasized by individuals who do the work, the way key decisions are made, and how difficult problems are solved among organizational members. And most importantly, these priorities, decisions, and problem-solving methods can impact the technology in a way that maximizes or minimizes its effectiveness.

The later sociotechnical and innovation diffusion models share another characteristic that helps explain the way a core technology is affected by organizational context. Both models identify two phases in the introduction of a new technology. Labeled the design and implementation phase in the sociotechnical literature (Glisson, 1992) and the initiation and implementation phase in the innovation diffusion literature (Rogers, 1995), the two phases are used to distinguish between the available, innovative technology that is selected by the organization to improve effectiveness in the organization's performance and the version of that technology that is actually implemented by the organization. The difference between the "design" and the "implementation" phase and between the available and implemented technology hinges on the social processes that occur as a new technology (e.g., an evidence-based practice) is adopted and implemented. These social processes affect such things as the workers' commitment to making the technology successful, their adherence to protocols that compose the technology, and the alterations in these protocols that are made in the technology as it is implemented.

The processes that link organizational social context to the adoption and implementation of a new technology are cross-level effects that include organizational properties (e.g. culture and structure),

individual-level properties (e.g., work attitudes, behaviors), and a psychological process (e.g., perceptions that comprise psychological climate) that mediates the relationships between organizational properties and work-related attitudes and behaviors (Kopelman, Brief, & Guzzo, 1990). Figure 1 was developed to depict this process and shows how climate mediates the cross-level relationship between organizational properties on the one hand and work-related attitudes and behavior on the other.

Levels in the Model of Organizational Social Context

The original model shown in Fig. 1 includes both organizational- and individual-level constructs that are linked in a sequence of relationships that are supported by previous research and complementary models. Viewing the model in terms of these levels is helpful in interpreting the social processes that comprise the model. As is the case with most models of social process, the relationships are affected by multiple factors and are more complex than can be represented in a succinct, two-dimensional model. At the same time, the levels are connected by a series of cross-level effects shown in the model that are supported by empirical studies and used to explain the mechanisms that link an organization's social context to service quality and outcomes.

The model depicts work attitudes (e.g., job satisfaction, commitment) and behaviors (e.g., adherence, availability, responsiveness) at the individual level as a function of culture and structure at the work unit level, mediated by climate. Although a series of sequential relationships link culture, structure, climate, attitudes, and behavior in Fig. 1, these relationships are undoubtedly reciprocal and likely contain feedback loops and alternative paths of effects. However, the cross-level effects of culture and structure on work attitudes and behavior, and the mediating role of climate shown in Fig. 1, have been established in several studies of children's service systems (Glisson & Durick, 1988; Glisson & Hemmelgarn, 1998; Glisson & James, 2002).

In the first stage of the model representing the organizational level, the norms and values that drive behavioral expectations in a work environment (e.g., conformity vs. innovation) and the way the organization is structured and managed (e.g., centralized authority vs. participatory decision-making) determine how work is approached and the priorities

that are emphasized (e.g., routinized vs. individualized care). Within that work environment, Kopelman, et al. (1990) and others describe culture as a determinant of structure, reflecting the idea that culture is the "deeper" construct as described earlier. Although values and assumptions are part of the deeper, inner, or invisible layer of culture, there are normative beliefs and behavioral expectations associated with the visible aspects of culture that complement the organization's structural characteristics. For example, organizations with more passive–defensive cultures (i.e., norms emphasizing consensus, conformity, and subservience among workers) have more rigid structures (i.e., more formalized divisions of labor and centralized decision-making Glisson; & James, 2002).

In the second stage of the model, workers' perceptions of the impact of their work environment on their own well-being (e.g., depersonalization, emotional exhaustion, role conflict) create a psychological climate for each worker (James & James, 1989). The psychological climate reflects the "psychological safety" of the work environment for the worker. If the effects of the work environment create similar perceptions among most of the workers in the organization, then an *organizational* climate is formed from the workers' shared perceptions (Jones & James, 1979). This has been documented in several studies, including a study of child welfare and juvenile justice systems that found climate to be a function of culture in case management teams (Glisson & James, 2002). More constructive (e.g., high support, high motivation), less defensive cultures (e.g., low subservience, low conformity) and less centralized and formalized structures create more positive, "psychologically safe" climates (e.g., low depersonalization, low role conflict). This and other evidence suggest that climate mediates the impact of the work environment on the attitudes and behaviors that are represented in the third stage of the model (Kopelman, et al.,1990).

In the third stage, individual-level work attitudes (i.e., job satisfaction, organizational commitment) and behavior (e.g., availability, adherence) are a function of the workers' perceptions of their work environment (climate), the organization's structure (centralization and formalization), and the norms and values driving behavior in the work environment (culture). Our preliminary research found direct and indirect effects (through climate) of culture and structure on work attitudes and behaviors in children's service systems (Glisson & Durick, 1988; Glisson & Hemmelgarn, 1998; Glisson & James, 2002; Hemmelgarn et al., 2001). That is, positive work

attitudes, higher quality service, and lower turnover rates among service providers were associated with more positive cultures and climates.

Over an extended period of time, a number of studies of human service and other types of organizations linked both structure and climate to work attitudes and behavior (Glisson & Durick, 1988; Hackman & Oldham, 1975; Herman, Dunham, & Hulin, 1975; Herman & Hulin, 1972; Morris & Sherman, 1981). It is well known that work attitudes are a function of psychological climate at the individual level and a more recent study linked work attitudes and behavior to organizational climate (Glisson & James, 2002). Studies in mental health service organizations show that work attitudes such as job satisfaction and organizational commitment, and service provider behavior such as service quality and employee turnover, are linked to culture, structure, and climate (Glisson & Durick, 1988; Glisson & Hemmelgarn, 1998; Glisson & James, 2002).

In summary, the model of organizational context shown in Fig. 1 depicts relationships between organizational properties and individual work performance, mediated by perceptions of the work environment, that have been supported in a number of studies in a variety of different types of organizations. In addition, studies of children's service organizations found that more constructive, less defensive cultures and less centralized and less formalized structures in the work environment are associated with more positive "safer" climates, which in turn are associated with higher job satisfaction and commitment, higher service quality, less turnover, and better service outcomes (Glisson & Durick, 1988; Glisson & Hemmelgarn, 1998; Glisson & James, 2002; Hemmelgarn et al., 2001). Although there is much work yet to be done to disentangle the sequence and nature of these relationships, a growing body of evidence supports the links between the organizational properties and individual attitudes and behavior shown in Fig. 1.

The three stages of the model are important to children's mental health services because they represent the cross-level effects of organizational context on the attitudes and behaviors of individual workers. Thus, the model provides an explanation of how an organization's social context affects the attitudes and behaviors of the individuals who are responsible for providing mental health services. The attitudes and behaviors which are most important to service quality and outcomes are those that are closely associated with treatment decisions, intervention activities, level of effort, and the relationships that develop between

service providers and clients. These characteristics are discussed in the next section.

DEVELOPING AN ORGANIZATIONAL CONTEXT FOR EFFECTIVE MENTAL HEALTH SERVICES

Effective children's mental health services require that several things occur in the organization. First, the organization must implement mental health assessments and treatment interventions that are appropriate, valid, and effective with the problems and populations targeted by the service system. Ideally, this should include evidence-based practices (EBPs) that are known to be efficacious and effective on the basis of random controlled trials and field studies in similar settings (Burns et al., 1999; Hoagwood et al., 2001). For example, an EBP like Multisystemic Therapy (MST) should be selected by an organization that provides services to antisocial adolescents referred to juvenile courts (Henggeler, Schoenwald, Borduin, Rowland, & Cunningham, 1998).

Second, once the appropriate assessment and treatment approaches have been selected, individual service providers must adhere to the established protocols that comprise those approaches if the approaches selected by the organization are to work as intended in an actual service system. But we know that even when appropriate protocols are selected and implemented, poor adherence frequently undermines the intended outcomes (Glisson, 1996; Henggeler & Schoenwald, 1999; Martin, Peters, & Glisson, 1998). Service providers deviate from the required protocols in response to a variety of factors that include the organizational context in which they work (Schoenwald & Hoagwood, 2001).

Third, success is affected by the quality of the therapeutic alliances that develop between mental health service providers and the children they serve (Blanz & Schmidt, 2000; Eltz, Shirk, & Sarlin, 1995; Florsheim, Shotorbani, Guest-Warnick, Barratt, & Hwang, 2000). The quality of the alliance is a product of the affective attachment between therapist and client and the warmth, empathy, and genuineness of the service provider (Horvath & Greenberg, 1994). A positive therapeutic alliance requires that a client experience a therapist as safe, involved, and helpful. Therapeutic alliance contributes to the success of a variety of different types of mental health interventions and reflects the unique role that human relationships play in treatment technologies (Blanz

& Schmidt, 2000; Eltz, Shirk, & Sarlin, 1995; Martin, Garske, & Davis, 2000).

Last, services must be available, responsive, and characterized by continuity if the services are to be effective (Dozier, Cue, & Barnett, 1994; Wahler, 1994). In children's service systems, for example, the child and family being served must be able to contact an appropriate service provider when needed, the services must address the concerns and issues that are paramount to the child and family, and key institutions (e.g., courts, schools) must work in concert with the service provider to help the family overcome the barriers to success that confront children and families with mental health problems. For some treatment approaches, therapists must be available on a 24/7 basis and directly address service-related issues in schools, courts, and communities that arise when working with children and their families (Henggeler & Schoenwald, 1999). Many other treatment approaches make less stringent demands on therapists, but successful children's mental health treatments require a significant level of service availability, responsiveness, and continuity regardless of the intervention model. For example, previous research has documented that some service systems are more reactive than responsive to the mental health needs of children, and that service providers in more reactive systems avoid providing services to children with the most serious needs (Nugent & Glisson, 1999).

The components of effective service represented by (1) the adoption of the most appropriate and valid assessment and intervention strategies, (2) adherence to the protocols required by those strategies, (3) the development of therapeutic alliance, and (4) service availability, responsiveness, and continuity provide the basis for understanding the role played by organizational context in service effectiveness. Although only limited research has been conducted on the links between organizational context and children's mental health service outcomes, the proposed model provides a promising avenue for future studies of dissemination, implementation, and effectiveness.

No research has been completed on the relationship between organizational context and the adoption of innovative mental health technologies, but research supports the relationship with other types of core technologies. Innovation has been linked to cultures that value quality improvement, climates where employees are not afraid to try new approaches, and structures that promote participation in decision-making and flexibility (Michela & Burke, 2000; Rogers, 1995).

Limited research has been conducted on the relationship between organizational context and the adherence to treatment protocols, but mental health services researchers have identified organizational culture, climate, and structure as important factors in understanding the implementation of efficacious treatments (Henggeler & Schoenwald, 1999; Hoagwood et al., 2001; Hohmann & Shear, in press; Schoenwald & Hoagwood, 2001). Constructive cultures characterized by support and motivation, climates that are low in emotional exhaustion and role conflict, and structures that are less centralized and formalized support the efforts of service providers to adhere to rigorous protocols that demand a high level of energy, commitment, and initiative.

Surprisingly, almost no attention has been given by mental health services researchers to the role played by organizational context in the development of therapeutic alliance. The literature on therapeutic alliance suggests that a work environment characterized by a safe psychological climate would be expected to promote the development of the therapeutic alliance (Watson & Greenberg, 1994). And organizational research in service industries such as banking have established the importance of a positive organizational climate in creating positive relationships between employees and clients (Schneider, White, & Paul, 1998). But to date no research has examined the link between these organizational characteristics and the development of the therapeutic alliance in mental health services.

There is research in children's service systems that supports the relationship between organizational context and service availability, responsiveness, and continuity. Evidence suggests that positive climates (low levels of emotional exhaustion, depersonalization and role conflict) and constructive cultures (expectations of achievement motivation, individual development and support) contribute to the availability, responsiveness, and continuity of services to children (Glisson & Hemmelgarn, 1998; Glisson & James, 2002). These types of contexts appear to promote the level of effort and tenacity required to overcome barriers to care and increase service provider attentiveness to the needs of the children they serve (Henggeler & Schoenwald, 1999).

The normative beliefs and behavioral expectations that characterize the organization's culture, the decision-making power, discretion and collaboration supported by the organization's structure, the psychological impact of the work environment on the service provider, and the job satisfaction and commitment of the service provider affect the way service providers approach their work, the nature of their interactions with their clients, and the level of effort they expend to ensure success. Constructive and nondefensive organizational cultures, less centralized and formalized organizational structures, safe organizational climates, and positive work attitudes are believed to promote (1) the adoption of new, efficacious treatments, (2) adherence to treatment protocols, (3) positive treatment relationships (e.g., therapeutic alliance), and (4) service availability, responsiveness, and continuity. Culture, structure, climate, and work attitudes are therefore among the most important targets for organizational interventions that are designed to create a social context for effective mental health services.

The ARC Organizational Intervention

The ARC (for Availability Responsiveness and Continuity) organizational intervention was designed to develop an organizational-based social context that supports the components of effective child and family mental health services described above. The ARC model incorporates four guiding principles and includes 10 organizational change components adapted from the organizational development literature. The four guiding principles are (1) be mission-driven – all administrative and clinical decisions must contribute to the well-being of children, (2) be results-oriented – measure success by how much the service improves children's well-being, (3) be improvement-directed – continually seek to improve services, and (4) be relationship-centered – focus on the network of relationships (e.g., families, schools, courts, community) that are most important to children's well-being. The intervention is multi modal and focuses on work units within larger service systems (e.g., case management teams, treatment teams), administrators, community opinion leaders, and community advisory groups.

Because the ARC intervention includes the development of work units (e.g., treatment teams), it is important to note that there is evidence that the work environments (e.g., cultures, structures, and climates) of work units can vary within larger organizational systems and are appropriate targets for change efforts (Glisson & Hemmelgarn, 1998; Wilderom, Glunk, Glisson & James, 2002; & Maslowski, 2000). Organizational research confirms that interventions with work teams can improve performance over other work teams that function within the same organizational context (Porras & Robertson, 1992).

The ARC intervention relies on change agents or "boundary spanners" who are trained to work with the treatment teams, the organization's administrators, community opinion leaders, and advisory groups as described below. The sociotechnical and diffusion of innovation literatures both emphasize the importance of change agents who facilitate the development of a desired organizational-based social context and function as boundary spanners between the organization and community (Aldrich & Herker, 1977; Bartel, 2001; Beer, 1980; Bennis, 1966; Callister & Wall, 2001; French & Bell, 1984; Porras & Robertson, 1992; Robey & Altman, 1982; Rogers, 1995). Organizational change agents influence perceptions, attitudes, and decisions at individual, organizational, and community levels by providing technical information, feedback on outcomes, conflict resolution, and facilitating communication concerning the nature, progress, and success of the organization's core technology. Much of the change agent's work is aimed at bridging the social and technical gaps between those seeking to implement the technology or innovation (e.g., an evidence-based practice) and those who are expected to benefit from it (e.g., schools, courts, families, community members). In addition to working with teams, change agents and boundary spanners work with the organization's administrators, community leaders, and community advisory groups to develop the types of norms, expectations, perceptions, and attitudes that will lead to success.

Change agents diagnose problems in the implementation process, motivate interest about a new or innovative technology, and work with opinion leaders in the community to stabilize the adoption of the new protocols and ensure continuance (Porras & Robertson, 1992; Rogers, 1995). A number of studies have identified factors that contribute to the change agent's success in accomplishing these objectives. The amount of effort the change agent spends on contacting and communicating with organizational and community members, the extensive use of opinion leaders, the ability to empathize with the organizational and community members, the emphasis on providing feedback about the impact of the innovation, and the credibility of the change agent as perceived by organizational and community members have all been identified as important to the change agent's success (Callister & Wall, 2001; Porras & Robertson, 1992; Rogers, 1995).

Change agents focus on different issues at each phase of the organizational development process described previously. In the first phase, a problem is

recognized (e.g., high delinquent recidivism) that creates a perceived need for innovation (e.g., new mental health treatment), and a potential innovation is identified as a solution (e.g., an evidence-based practice such as MST). In the second phase, the change agent facilitates a "fit" between the new technology and the social context in which it is implemented. The change agent helps to clarify the meaning of the innovation for the members of the affected social systems and helps the innovation become an ongoing element in the social systems' regular activities.

The change agent therefore works as an organizational developer to create a work environment that supports the objectives of the selected technology and as a "boundary spanner" with community opinion leaders and other significant institutions to facilitate communication and cooperation across organizational boundaries (e.g., judges, courts, managed care providers, and school administrators). The change agent's role as an organizational developer includes role analysis, establishing continuous quality control, team building, and work group and systems design (Burke, 1982; French & Bell, 1984; Pasmore, Francis, Haldeman, & Shani, 1982; Porras, 1986; Steel & Shane, 1986; Walton, 1987). The change agent's role as a "boundary spanner" includes educating opinion leaders, providing updates about the innovation, conflict mediation, diagnosing problems in the innovation process, motivating community interest in the innovation, creating interpersonal networks that include community opinion leaders, reinforcing the adoption of the innovation, and ensuring continuance (Blake, Shepard, & Mouton, 1964; Burke, 1974; Rogers, 1995).

Developing Interorganizational Domains

Trist (1985) described organizational domains as a target for interorganizational development that addresses complex and unstructured social problems, or what Ackoff (1974) describes as "messes." An attractive feature of the notion of interorganizational domain development is rooted in refocusing traditional organizational development from a single organization that interacts with other organizations in its environment to a focus on the domain of organizations as a whole. This feature and the recognition and acceptance of the unregulated, underorganized nature of the domains and the "messes" they confront, provide a model for development that more nearly captures the reality of actual communities than models

which emphasize formal networks or patterns of coordination.

Gray (1990) outlines strategies for planned change in these settings and introduces a model for understanding the development of interorganizational domains that is an important part of the ARC intervention. The development of interorganizational domains forges alliances among organizations that face a specific social problem with diminishing resources and no mandate for coordination or formal cooperative agreement. An important feature of these alliances is the use of technological innovation (e.g., EBPs) and "negotiated order" to develop shared understandings of the social problem, collective definitions, and lateral alliances that are based on common goals.

Gray (1985, 1990) describes domain development as a collaborative social, problem-solving process with three phases: problem setting, direction setting, and implementation. In the problem setting phase, the change agent identifies stakeholders (e.g., juvenile judges, school superintendents, heads of law enforcement, mental health service providers) concerned about a social problem (e.g., adolescent antisocial behavior) in a community, sets face to face meetings, and helps stakeholders articulate common definitions and boundaries.

Even when stakeholders begin with common definitions and understandings, they often find that their views about addressing the problem are in conflict. During the direction setting phase, change agents provide assistance in designing a process to interact constructively. Using strategies outlined in the components of the ARC intervention described below, change agents work as boundary spanners to provide a communication channel for stakeholders, interject process interventions during meetings, analyze and feedback data about the problem, and provide suggestions for how to structure the alliance (Gray, 1989, 1990).

Additional problems arise when stakeholders in a domain alliance begin to implement their agreements for action. Key roles for change agents during the implementation include facilitating the transfer of power regarding key decisions (e.g., from judges to mental health service providers), eliminating cultural barriers between institutions (e.g., law enforcement and schools), and regulating the domain by ensuring that the agreed upon patterns of interaction among stakeholders do occur (e.g., key meetings are scheduled and attended). Continuing change agent intervention in ongoing alliances among stakeholders is necessary to ensure responsiveness to changing environmental conditions or to alter prevailing interpretations or approaches that may be ineffective or counterproductive.

Demonstrating the Impact of ARC

The activities of the change agent using the ARC intervention are guided by *The ARC Initiative* (Children's Mental Health Services Research Center, 1998), a 200-page intervention manual developed by the CMHSRC in collaboration with the UT College of Business Department of Management and Industrial Organizational Psychology Program. The manual includes 10 components and is designed to allow components to be subtracted or modified to meet specific development needs. The components were developed from strategies that have been used for many years in organizational development and innovation diffusion activities in business, industry and agriculture. The ARC components were adapted and designed specifically for children's services and are included in an ongoing study of child welfare and juvenile justice case management teams (R01-MH56563). This current work and our preliminary research linking organizational culture and climate to treatment adherence, service quality and outcomes in other mental health, case management, and children's health treatment teams provide the empirical foundation and applied experience for ARC (Glisson & Hemmelgarn, 1998; Glisson & James, 2002; Hemmelgarn et al., 2001; Martin et al., 1998; Nugent & Glisson, 1999).

To date, the ARC intervention has been successful in reducing high turnover rates in child welfare and juvenile justice case management teams and in creating work environments that contribute to improved service quality by these teams. Our ongoing NIMH funded study is examining the effect of the ARC intervention on child welfare and juvenile justice case management teams in multiple urban and rural locations using a fully crossed true experimental design (Location × Intervention). Teams within each rural or urban location were randomly assigned to receive the intervention for 1 year or to the control condition. Using measures described in Glisson and James (2002) and Glisson and Hemmelgarn (1998) ARC was successful in improving the culture and climate of teams, the work attitudes of team members, case manager turnover rates, and the quality of services. For example, the teams that were randomly assigned to receive the ARC intervention had significantly less role conflict ($F = 5.29$, $p < .023$) and

role overload ($F = 5.76$, $p < .017$) and had 41% less turnover in case managers than the control teams ($F = 17.15$, $p < .000$). Teams working in rural locations experienced even greater benefits on several outcomes than those in urban locations. Interactions between the intervention and location indicated that intervention effects on service quality ($F = 4.52$, $p < .035$), culture ($F = 5.93$, $p < .016$), and job satisfaction ($F = 7.08$, $p < .008$) were greater in rural locations. This is especially important because the rural teams were in poor, geographically isolated Appalachian regions that had fewer resources than the urban teams.

Components of the ARC
Organizational Intervention

Intervention components represent "multiple levers" that are "pulled" simultaneously to create a social context that supports organizational effectiveness (Porras & Robertson, 1992). The literature on change agents and organizational development and our own experience suggest that multiple components, or levers, are necessary to improve care within children's service systems because of the complexity of the social barriers to adopting, implementing, and sustaining effective mental health technologies (Henggeler & Schoenwald, 1999; Hoagwood et al., 2001; Hohmann & Shear, in press; Schoenwald & Hoagwood, 2001). Existing organizational norms, community values, traditional approaches to practice, interpersonal conflicts, intergroup competition, turf wars, and a fear of change can prevent innovation or subvert the implementation of new treatment technologies. The 10 components, or levers, included in the ARC intervention are briefly summarized below. These overlapping and interrelated components provide examples of the types of activities that can be included in efforts to create organizational-based social contexts that contribute to effective mental health services.

(1) *Participatory decision-making* provides the opportunity for input from mental health service providers and community opinion leaders into administrative decisions that affect the way services are structured in the organization and the organizational rules and regulations that govern those services. Participatory decision-making is essential to the development of continuous quality improvement and teamwork in other components of the intervention that are described below. Participatory decision-making has

been recognized for many years as a critical step in an organizational development effort that provides the foundation for a constructive work environment culture and safe psychological climate (Bennis, 1966; McGregor, 1960; Porras, 1986).

(2) *Team building* includes a series of activities that create community advisory groups and develop work units into functioning teams capable of addressing work-related problems and organizational issues that affect mental health services. The emphasis of this component is on creating teams of direct service providers and groups of community opinion leaders who cooperate to solve problems that impede efforts to serve clients. The change agent functions as a trainer and facilitator to help service providers and community leaders establish a team structure and work collaboratively to identify and address real problems that are identified as organizational or community-based barriers to care (Dyer, 1977; Patten, 1981). Our experience is that teams develop more rapidly when focused on actual cases and real barriers to service, rather than using exercises that involve simulation or role playing.

(3) *Continuous quality improvement* provides the means for changing organizational policies and administrative procedures (e.g., referral procedures, assignment of cases) to facilitate the work of service providers. Recommendations for improvements originate from teams of service providers and advisory groups of community opinion leaders who use data-based problem-analysis procedures that are taught by the change agent. The implementation of CQI requires that the teams be trained to collect and interpret data that can be used to identify problems, recommend changes in policy, and monitor their progress in solving identified problems (Shortell et al., 1995; Steel & Shane, 1986; Yager, 1981). Our experience in using CQI with numerous children's service groups is that it is an extremely popular and effective component with service providers.

(4) *Job redesign* efforts are implemented along with CQI to involve service providers in eliminating barriers to service created by specific job characteristics (e.g., limited scope of work or variety of treatment skills used by professionals in specific job categories) that impede success. The job redesign effort requires that teams be given the opportunity to determine how their members organize their workloads and carry out their jobs. Although the core technology requires adherence to specific treatment or service protocols, the organizational context in

which the technology is embedded includes additional job characteristics and demands that can either impede or enhance the core technology's treatment goals (Dazal & Thomas, 1968; French & Bell, 1984; Hackman & Oldham, 1980). Job redesign allows service providers to design their work in a way that they believe will complement their service efforts and mental health treatment activities.

(5) *Network development* focuses on building a network of relationships among organizational administrators, service providers, and community opinion leaders such as judges, school personnel, and leaders of parent groups. The change agent develops this network by arranging meetings, sharing information about services and treatment, and identifying problems in the community related to the implementation of the service or new treatment program. The change agent facilitates the development of relationships between the community and the service providers that can be used to address community concerns about the way the treatment program is implemented (Rogers, 1995).

(6) *Feedback* about service effectiveness and barriers to care is provided by the change agent to service providers, service system administrators, judges, school administrators, and other community opinion leaders. Feedback about successes and problems has been identified by Rogers (1995) and others as a key factor contributing to change agent success. The nature of the feedback will depend on the concerns that the change agent identifies among community opinion leaders and problems identified by service providers and administrators in the implementation process (Burke, 1993; Porras, 1986).

(7) *Information and assessment strategies* are provided to the community (e.g., judges, school administrators, advocates) and service organization that can be used to evaluate the impact of the service or treatment. This is done by identifying outcome criteria and modeling how outcome data can be used in establishing baselines and monitoring progress. For example, the change agent will demonstrate how to use existing administrative data to track behavioral incidents at school or referrals to juvenile court. This teaching function is important to helping the community and service organization become self-sufficient in developing ongoing "improvement-directed" behavior (Pasmore et al., 1982; Rogers, 1995).

(8) *Personal relationships* with community opinion leaders are cultivated by change agents to provide the foundation for communication, sharing informa-

tion, and solving problems that emerge in the community during the implementation process. As explained below, change agents' personal relationships with judges, school superintendents, ministers, school groups, and community groups provide the basis for change agent success (Rogers, 1995).

(9) *Conflict resolution* at the interpersonal, intergroup, and interorganizational levels is used to mediate differences in opinion or competing interests that threaten implementation. Relationships with service providers, service system managers, and community opinion leaders are essential to effective conflict resolution at the interpersonal level (Burke, 1974; Walton, 1987). Boundary spanning activities are used to facilitate intergroup and interorganizational transactions and agreements (Bartel, 2001; Caldwell & O'Reilly, 1982; Callister & Wall, 2001).

(10) *Self-regulation and stabilization* of an innovation or new treatment program is achieved by providing the information, training, and tools described above and incrementally facilitating the independent use of those tools over time so that the innovation is maintained after the organizational intervention is discontinued (Porras, 1986; Rogers, 1995). The objective of the change agent is to achieve a terminal relationship by helping organizational members and community advisory groups gradually adopt the roles initiated by the change agent.

Rogers (1995) identified several factors that contribute to a change agent's success in the dissemination and implementation of new technologies. The factors include (1) the amount of effort spent communicating with organizational members, community opinion leaders and others who are affected by the innovation (e.g., judges, school administrators, therapists, families), (2) the emphasis placed by the change agent on identifying and cultivating relationships with community opinion leaders, (3) how well the change agent is able to focus on the needs of the organizational members and community, (4) maintaining close rapport with individuals in the organization and community, and (5) establishing professional credibility and gaining the respect of members of the organization and community. Characteristics of effective change agents specified by organizational development theorists complement the factors listed by Rogers (1995). These include (1) interpersonal and relationship skills, (2) problem-solving capabilities, (3) effectiveness in communication, and (4) a clear understanding of the personal needs and motivations of organizational members and the community (Porras & Robertson, 1992).

SUMMARY

A number of mental health services researchers have argued that the social context of the organization providing the service is important to service quality and effectiveness. Organizational context is believed to affect the adoption of efficacious treatments, adherence to treatment protocols, therapeutic alliance, and the availability, responsiveness, and continuity of services. Although only a few studies have examined the impact of organizational context on mental health services, there is evidence that the culture, structure, climate, work attitudes, and domains of service organizations affect how services are delivered and the outcomes of those services. This includes evidence collected from systems that serve children, and several ongoing, NIMH-funded studies of children's service systems are examining one or more of these organizational constructs. Findings from these and other studies are expected to contribute to a better understanding of why efficacious mental health treatments for children are not widely disseminated in actual services systems and why a gap exists between what is known about effective treatment and what is offered in the community. In addition, these studies should lead to strategies for disseminating efficacious treatments and implementing effective treatments.

Although only a few studies of the organizational context of children's services have been completed, the results parallel findings from many decades of organizational research that examined the impact of culture, structure, climate, and work attitudes on the effectiveness of business and industrial organizations. This organizational research literature is important to mental health services researchers because it provides conceptual models, measures and research methods for linking organizational-based social context to individual-level outcomes. In addition, the organizational research literature provides information about organizational intervention strategies that can be used in developing organizational contexts that improve the performance and effectiveness of mental health service systems.

ARC, an organizational intervention developed for children's service systems, incorporates change agents who function as organizational developers and boundary spanners, to build a social context that facilitates the development of effective services. The 10 components included in the ARC strategy were selected from the organizational development literature and adapted to children's service systems to create constructive and nondefensive cultures, decentralized and less formalized structures, safe climates and positive work attitudes. On the basis of findings from previous research on business and industrial organizations, and from ongoing studies of children's service systems, these dimensions of organizational context are believed to contribute to (1) a service system's openness to the adoption of innovative and efficacious treatments, (2) close adherence to treatment protocols and service strategies, (3) the development of therapeutic alliance between service provider and client, and (4) availability, responsiveness, and continuity of service.

A review of these constructs, intervention strategies, organizational measures, composition models, and multilevel analytic strategies has been provided with the objective of encouraging more mental health services researchers to include organizational context in their studies. On the basis of findings to date, it appears that the conceptual models, measures, research methods, and intervention strategies described here can be helpful in understanding how organizational context affects the quality and outcomes of children's mental health services.

ACKNOWLEDGMENT

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