

Organizational Culture and Climate: Implications for Services and Interventions Research

Anthony L. Hemmelgarn, Charles Glisson, Lawrence R. James, University of Tennessee

Efforts to disseminate and implement evidence-based practices (EBPs) in children's mental health service and other human service systems have had limited success. There is evidence that this limited success is in part a function of the characteristics of the human service organizations that provide the services. Human service organizations create a social context for the services they provide, and this context affects the quality and outcomes of the services in a variety of ways. A half century of research in a variety of organizations provides evidence that an organization's social context affects whether new core technologies (of which EBPs are an example) are adopted, how they are implemented, and whether they are sustained and effective. This article defines two dimensions of an organization's social context, climate and culture, that have been shown to be particularly important to human service quality and outcomes and reviews current organizational research to identify the potential mechanisms through which climate and culture influence the adoption and implementation of EBPs in mental health. A variety of organizational research methodologies are also suggested for integrating organizational culture and climate into services and interventions research.

Key words: climate, culture, dissemination, implementation, organizational intervention. [*Clin Psychol Sci Prac* 13: 73–89, 2006]

Address correspondence to Anthony L. Hemmelgarn, Children's Mental Health Services Research Center, University of Tennessee, 128 Henson Hall, Knoxville, TN 37996–3332. E-mail: ahemmelg@utk.edu.

Efforts to examine the dissemination, implementation, and ongoing success of efficacious clinical treatments and evidence-based practices (EBPs) within community settings are increasing (Abrahamson, 2001). The American Psychological Association's (2000) *Criteria for Evaluating Treatment Guidelines* and the National Institutes of Health's (NIH, 1999) *Bridging Science and Service* suggested that the clinical utility and effectiveness of new treatments in community-based practice settings are as important to evaluate treatment strategies as is their efficacy in controlled clinical trials. Moreover, models such as Onken and colleagues' *Stage Model of Behavioral Therapies Research* were developed to guide clinicians and researchers in assessing both the efficacy and the effectiveness of behavioral therapies (cf. Kazdin, 2001; Onken, Blain, & Bartjes, 1997; Rounsaville, Carroll, & Onken, 2001). Also, practice research networks (i.e., research networks that include representative community settings and populations) are being developed to facilitate interventions and services research in applied community settings (e.g., Borkovec, Echemendia, Ragusea, & Ruiz, 2001; Norquist, 2001).

The limited dissemination and poor implementation of efficacious treatments within children's mental health have been well documented (Weisz & Jensen, 1999). Efficacious mental health treatments are not widely disseminated across children's service systems, and current knowledge about effective mental health treatment is not reflected in practices that characterize these systems (Burns, Hoagwood, & Mrazek, 1999; NIH, 1999, 2000). Furthermore, treatments found to be effective in controlled clinical trials are not always effective when implemented in actual community settings (Hoagwood, Burns, Kiser, Ringeisen, & Schoenwald, 2001). As in other human

service sectors, a key factor in the dissemination, implementation, and ongoing success of children's mental health treatments is believed to be the organizational context in which the treatments are introduced (Glisson, 2002; Glisson & Schoenwald, in press; Hohmann & Shear, 2002; Schoenwald & Hoagwood, 2001).

Studies have linked specific organizational characteristics, such as culture and climate, to the quality and outcomes of a variety of children's services (Glisson & Hemmelgarn, 1998; Glisson & James, 2002; Hemmelgarn, Glisson, & Dukes, 2001). For example, children served by child welfare and juvenile justice systems with more positive climates are more likely to experience improved psychosocial functioning, obtain more comprehensive services, and experience more continuity in the services they receive (Glisson & Hemmelgarn, 1998). In addition, the behavioral norms and expectations that exist within an organization (organizational culture) explain, in part, differences in the quality of care across organizations and the extent to which service providers report high levels of commitment and satisfaction with their work (Glisson & James, 2002; Mallak, Lyth, Olson, Ulshafer, & Sardone, 2003). As reported by Martin, Peters, and Glisson (1998), service and custodial decisions of child welfare workers are often dictated more by organizational norms than by the actual needs of clients. In some cases, these norms lead to inappropriate decisions and placements that place children at increased risk of psychosocial problems. This contributes to high turnover and poor work attitudes among service providers, which, in turn, decrease the quality of the services (Glisson & James, 2002). For example, children served by management teams with more constructive cultures were more likely to receive needed mental health services than those served by teams with less constructive cultures (Glisson, Dukes, & Green, in press).

Studies also suggest that new technologies introduced into organizations can elicit resistance via organizational norms. Jaskyte and Dressler (2005), for example, found that across a sample of human service organizations, less innovative and aggressive organizational cultures were related to fewer innovations within these organizations. Similarly, a study of hospital emergency room cultures suggested that the success of introducing new family-centered practices in emergency rooms would vary as a function of existing organizational norms for interaction

with patients and families. Across emergency rooms, norms ranged from encouraging, compassionate, and emotionally supportive interactions to interactions characterized as callous, aloof, and authoritarian (Hemmelgarn et al., 2001). Within the latter, considerable resistance to new family-centered approaches to child health care was expected.

This article addresses two key elements of an organization's social context, its culture and climate, which mold the work attitudes and behavior of the members of the organization and, as a result, affect the organization's performance and success. The article defines the constructs of climate and culture, reviews current organizational research within human service agencies to underscore the mechanisms through which climate and culture are influential, and discusses multiple strategies for including culture and climate in clinical and interventions research. These strategies include the use of climate and culture in efforts to (a) characterize "usual care" environments, (b) sample "ideal" organizations, (c) conduct research in applied settings, (d) alter organizational social context, and (e) guide organizational change that supports treatment and service goals.

CULTURE AND CLIMATE IN HUMAN SERVICE ORGANIZATIONS

Both the diffusion of innovation literature (Rogers, 1995) and the socio-technical models of technologic implementation (Nadler & Tushman, 1977; Rousseau, 1977) suggest that successful adoption and implementation of any technology is as much a social as a technical process. The inextricable tie between an organization's core technology and the social context within an organization is the basis for the effects of culture and climate, as well as other organizational context variables, such as organizational structure or worker attitudes. That is, the social context of an organization helps to determine what types of interventions will be chosen, how these interventions will be implemented, the way decisions will be made, and how problems will be solved. Furthermore, the influence of an organization's social context on the choice, approach, and everyday implementation of an intervention may maximize or minimize its effectiveness. As Glisson (1978, 1992) has indicated, human service technologies are soft technologies that are often molded or adapted to existing organizational contexts. Similarly, diffusion of innovation literature recognizes the strength and persistence of cultural norms and values that may or

may not expedite the adoption and implementation of new human service technologies. Constructive organizational cultures, for example, promote innovation and are more likely to foster innovative new approaches, whereas defensive cultures resist innovation (Cooke & Szumal, 2000).

Of particular concern for human service interventions is the influence of organizational context, particularly culture and climate, on the relationships and interactions between service providers and service recipients. These relationships play key roles in a variety of human services, including medical, educational, social, and mental health services. As this article describes, culture and climate mold the nature, tone, and focus of the relationships and interactions between service provider and service recipient (Blau, 1960; Hoy, 1990; Hemmelgarn et al., 2001; Johnson & McIntyre, 1998; Rentsch, 1990).

Organizational Culture

Often described as the "way things are done around here," organizational culture refers to the shared norms, beliefs, and behavioral expectations that drive behavior and communicate what is valued in organizations (Cooke & Szumal, 1993; Verbeke, Volgering, & Hessels, 1998). These beliefs and expectations are the basis for socializing coworkers in how to behave within an organization and create a social milieu that shapes the tone, content, and objectives of the work accomplished within the organization (Blau, 1960; O'Reilly & Chatman, 1996; Perkins, Shaw, & Sutton, 1990). A variety of theoretical models, including social learning theory (Bandura, 1977), expectancy theories (see Miner, 1980), and cognitive processing models (see James, James, & Ashe, 1990), are useful in understanding acculturation into a new organization as well as ongoing behavior guided by an organization's expectations and norms. Succinctly described, new organizational members are taught through observation, modeling, and personal experiences the "way things are done around the organization," as well as the rewards, punishments, and expected outcomes that follow from one's work behavior. Mental representations (schemas) are developed that aid new organizational members in gaining meaningful representations of how their organizations work. Conversely, these schemas guide how organizational members work within these organizations. As a result, workers are

acculturated to a set of organizational beliefs and expectations that help guide their interpretation of organizational stimuli, the decisions they make, and the behaviors in which they engage.

These beliefs and expectations (norms) are the basis for many of the quantitative scales employed to measure organizational culture (Cooke & Rousseau, 1988; Rousseau, 1990). That is, quantitative measures of culture often consist of items describing normative behaviors and expectations within organizations. These items are administered to all organizational members and then aggregated to derive an "organizational-level" indicator of culture. Note that procedures for determining the appropriateness of aggregation, models for understanding the use of individual-level data for organizational-level variables, and appropriate data analytic techniques for multilevel data need to be considered in research that includes organizational culture. Glisson and James (2002) provide a thorough review of these issues.

Qualitative approaches for measuring organizational culture are used as well (cf. Cooke & Rousseau, 1988; Rousseau, 1990; Schein, 1990, 1992), and some researchers argue that both approaches should be used in the same study (Hofstede, Neuijen, Ohayv, & Sanders, 1990). For example, the study of emergency room culture and climate mentioned previously represents one of the few studies to use both qualitative and quantitative methods simultaneously in studying culture and climate (Hemmelgarn et al., 2001). Although currently touted and frequently discussed as the best approach in current adoption and dissemination research, published evidence using these approaches to simultaneously assess culture and climate is still scarce. A critical reason is the time and energy required to conduct both approaches within a single study. Within our emergency room study, qualitative methods included focus groups, open-ended interviews, and field observation. In addition to the numerous hours required for observing and conducting interviews, considerable time and energy was spent designing an approach or framework for gathering information as well as organizing information after it had been gathered. The emergency room study used a critical incident-probing technique (Flanagan, 1954) to gather information about norms and expectations across varying emergency rooms. Subsequently, a specifically tailored quantitative questionnaire to include common climate and culture items that

surfaced during interviews was created. These scales were then completed by all organizational members to describe cultural norms and expectations and the impact of the work environment within their emergency rooms.

The study by Hemmelgarn, Glisson, and Dukes (2001) found that in some emergency rooms, parents and children were rarely separated from each other, healthcare providers were careful to respond fully to the concerns and questions raised by parents, and it was common for physicians and nurses to comfort parents during serious cases. In other emergency rooms, medical personnel actively avoided parental contact, shared minimal information with parents, and demonstrated negligible concern for the emotional difficulties faced by parents during serious pediatric emergencies. In some hospitals, it was the norm to provide support to families of children seriously injured or ill. In other emergency rooms, support was neither valued nor the norm. The study concluded that the introduction of family-centered care activities within the latter emergency rooms would be met with resistance and failure. Recent evidence of organizational culture's influence on the adoption of innovations is provided by Jaskyte and Dressler (2005). Cultural norms of innovativeness and aggressiveness related to the number of innovations adopted within a sample of 19 organizations. Moreover, within their sample, organizations with particularly strong shared cultures were found to be less innovative, explained by possible resistance to change of well-established norms.

Organizational culture can affect technical aspects of services as well. As indicated earlier, Glisson and colleagues (Glisson, 1996; Martin et al., 1998; Nugent & Glisson, 1999) found that service and custodial decisions made by caseworkers about children placed in state custody were dictated more by organizational norms than by the actual needs of the children being served. In one example, caseworkers serving child welfare and juvenile justice children ignored the results of standardized need assessments that were introduced to improve services (Martin et al., 1998). Instead of using the information from the new assessments to make decisions, caseworkers continued to follow the older, established norms for referring children to placements and mental health services, regardless of the information provided by the new assessment. For example, it was the norm for males to be placed in more restrictive placements than females,

regardless of age, reasons for custody, and problem behaviors.

The existing patterns of placement decisions observed in this service system were supported and maintained by organizational norms that emphasized the importance of extensive paperwork, obeying bureaucratic rules, obtaining prior approval for all decisions, documentation of activities, and routinized, assembly-line procedures that ignored the individualized needs of the children. The introduction of a new technology within this system, a standardized assessment of children's psychosocial functioning, was met with relatively little resistance. Indeed, additional procedures involving paperwork and reports were readily accepted as a normal part of a caseworker's duties. However, the actual results of the standardized assessments were ignored and not used for the intended purpose of improving placement and referral decisions. Although caseworkers asked the children's caregivers to complete the new assessment as another form to fill out and file, neither the information provided by the new measure nor the implications of those results for service and placement decisions were considered. Service and placement decisions continued to be guided by existing norms. In other words, the new technology was adapted to "fit" into the established culture of the social context in which it was implemented.

Many child welfare and juvenile justice systems are believed to be inefficient and ineffective (Garbarino, 1999; Lindsey, 1994). Characterized by passive-defensive cultures, these bureaucracies require extensive documentation, supervisory approval, and conformity as protection against intense public criticism, administrative sanctions, and frequent litigation (Glisson, 2000; Glisson et al., in press; Glisson & Hemmelgarn, 1998; Schorr, 1997). These types of bureaucracies promote core technologies that are highly routinized. For example, child welfare and juvenile justice caseworkers often perceive their clients as having similar problems and conclude what each client needs without assessing the unique characteristics of the individual cases. In many cases, these perceptions, expectations, and normative behaviors lead caseworkers to easily dismiss new technologies, ideas, or interventions that do not "fit" with their preconceived notions of what is important, what issues should be addressed, or what actions should be taken. Moreover, these types of defensive cultures promote

negative organizational climates characterized by de-personalization, emotional exhaustion, role overload, and role conflict (Glisson & James, 2002).

In a broad sense, organizational culture provides 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. This is true of child welfare and juvenile justice organizations as well as all types of human service organizations. Within health-care settings, for example, Berlowitz et al. (2003) demonstrated that quality improvement efforts were more successfully implemented within organizational cultures that emphasized innovation and teamwork. Similarly, Shortell, Bennett, and Byck (1998) demonstrated across 61 hospitals that participative, flexible, risk-taking cultures were associated with successful implementation of quality improvement efforts and perceived positive patient outcomes. On the other hand, the established patterns of behavior and the underlying values that support these behaviors (organizational culture) can provide well-worn, highly resistant "ways of doing things" that may be inconsistent, if not antithetical to those of the new treatments (Glisson, 1978; 1992).

The types of soft technologies employed by human service organizations are more vulnerable to the social contexts of the organizations that implement them than are hard technologies. Because the outcomes of soft technologies are relatively indeterminate and difficult to assess (compared to many hard technologies, such as making steel or building automobiles), vulnerable soft technologies (e.g., mental health treatments) are more susceptible to adaptation by existing organizational cultures. Although the adaptation eliminates the features that made the technology attractive in the first place, the impact of the adaptation of soft technologies is not overtly obvious to the organization's customers or stakeholders.

The strength of the motives for this accommodation of the organization's core technology to existing cultural norms through adaptation should not be underestimated. Organizational norms have "survival value" for human service workers regardless of their contribution to care (Hemmelgarn et al., 2001; Schein, 1992). That is, cultural norms support expected behaviors that workers come to depend on in their efforts to survive in a work

environment that makes intense demands of their time, energy, and emotional resources. Minimizing patient contact in emergency rooms, for example, may maintain necessary psychological and physical distance from the serious psychological stress of pediatric deaths and emergencies. Likewise, child welfare and juvenile justice caseworkers often find it easier to focus on paperwork than to face the emotional challenges of close contact with highly dysfunctional and abusive families. Unless steps are taken to support personnel against the daily stresses of confronting highly emotional situations, interventions, such as the introduction of a new family-centered approach, may be met with considerable resistance. And ironically, those who are most vocal about the negative aspects of their work environment can be the most resistant to changes that threaten their adaptive patterns of survival behavior (Glisson et al. in press).

Psychologic and Organizational Climate

Psychologic climate is defined as the individual employee's perception of the psychological impact of the work environment on his or her own well-being (James & James, 1989; James, James, & Ashe, 1990; James & Jones, 1974). An illustrative facet of the broader construct of psychological climate can be seen in Edmondson's (1999) work on psychological safety within teams. A sense of confidence that the team will not embarrass, reject, or punish someone for disagreeing with team protocols (team psychological safety) leads to perceptions of one's team environment as a nonthreatening, safe context where errors can be expressed, mistakes can be addressed, and solutions can be forwarded. Other more traditional indicators include role overload, role conflict, challenge, stress, equity, challenge, etc. All of these indicators or facets have been found to be underscored by a general, higher-order evaluative factor of whether or not one's work environment is personally "good" or "bad" for one's own well-being (i.e., psychological climate).

The theoretical basis for climate perceptions is outlined by James, James, and Ashe's (1990) use of interpretive schemas and the process of valuation. That is, individuals evaluate through an assessment of what is personally important to them whether or not particular aspects of their jobs provide for their personal welfare. These valuations take place through value-engendered schemas that can be influenced by experiences within a work setting.

For example, a team context that encourages open discussion of errors and active problem solving can influence not only superficial evaluations of a specific event for a particular individual, but also an individual's latent schema for interpreting novel, ambiguous, and potentially threatening events. Through interpersonal discussion of work perceptions and social learning processes, such as modeling (Bandura, 1977), individuals can begin to mold each other's evaluative frameworks and subsequent perceptions of their work environment (climate perceptions). Therefore, an individual may learn through interactions within his or her "psychologically safe" work team that these events do not need to be perceived as dangerous or threatening. Moreover, a new underlying schema may begin to develop wherein ambiguous stimuli or facing personal errors begins to be interpreted as challenges and opportunities for personal development instead of incompetence and inability.

Given the individual nature of psychologic climate, perceptions among employees in a given work unit may differ. However, through interpersonal interactions and social learning processes within a work setting, employees in a particular work unit often agree on their perceptions of the impact of their work environment. When this happens, their shared perceptions can be aggregated to describe organizational climate (Jones & James, 1979; Joyce & Slocum, 1984). This distinction is critical in that psychologic climate remains a property of the individual although the property may be shared with coworkers. *Organizational climate* exists when psychologic climate perceptions are shared among workers within a particular work unit (e.g., organization, division, team). Only when agreement exists can an aggregate measure of organizational climate be computed and employed as an organizational-level measure of climate (Glisson & James, 2002). There is a longer history of research on climate than on organizational culture, and well-established quantitative measures of climate are available that have been developed for social and mental health service organizations (Glisson et al., in press; Glisson & Durick, 1988; Glisson & Hemmelgarn, 1998; Glisson & James, 2002). These instruments include measures of role conflict, role overload, depersonalization, and emotional exhaustion that have been linked to staff turnover, service quality, and outcomes in a variety of studies.

Psychologic climate has been related to work attitudes (Glisson & Durick, 1988), burnout (McIntosh, 1995), job

involvement (Brown & Leigh, 1996), and work performance (Glisson & Hemmelgarn, 1998; Pritchard & Karasick, 1973; Riketta, 2002). Similar relationships have been found at an organizational level for organizational climate (Glisson & James, 2002). Particularly, close relationships have been found between climate and work attitudes such as job satisfaction and organizational commitment (Glisson & Durick, 1988; Glisson & James, 2002; James & McIntyre, 1996; James & Tetrick, 1986). Current research suggests that worker attitudes, such as job satisfaction, job involvement, and commitment, serve as mediating mechanisms between climate perceptions and more distal outcomes, such as employee motivation and performance (Parker et al., 2003). This is because people behave in accordance with their attitudes, expectations, and beliefs about their jobs. As suggested by James, Hartman, Stebbins, and Jones (1977), work environment perceptions evoke expectancies for outcomes, as well as instrumentalities and valuations that directly influence motivation. Climate perceptions also evoke feelings of satisfaction and identification with one's job or organization.

Perceptions are particularly important in social and mental health services because of the nature of the helping relationships that are central to the work. The attitudes and perceptions that service providers bring to these interactions can dramatically influence the nature and tone of the interactions (Schneider, White, & Paul, 1998). If a work environment is nonsupportive, impersonal, and stressful, employees' interactions with those who receive their services will reflect the lack of support, impersonality, and stress that employees perceive in their work environment. It is more likely that human service providers will be tenacious and innovative in the face of unexpected problems or service barriers if they perceive that their work environment is fair to them and provides personal support for their efforts. In short, if workers perceive that their organization stands behind them and can be counted on when the going gets tough, they are more likely to put the extra effort into the work that is required for success.

Findings within child welfare and juvenile justice systems support these contentions (Glisson & Durick, 1988; Glisson & Hemmelgarn, 1998; Glisson & James, 2002). Successful outcomes require caseworkers to be responsive to unexpected problems and individualized needs, tenacious in navigating a complex bureaucratic

maze of state and federal regulations, and able to form personal relationships that win the trust and confidence of a variety of children and families. Research findings indicate that children who are served by agencies with more positive climates are more likely to experience improved psychosocial functioning, obtain more comprehensive services, and experience more continuity in the services they receive (Glisson & Hemmelgarn, 1998). Caseworkers in more positive climates provide services with higher levels of responsiveness and availability to the children they serve. And caseworkers in more positive climates describe higher levels of job satisfaction and commitment to the goals of their organization (Glisson et al., in press; Glisson & Durick, 1988; Glisson & James, 2002). For these reasons, effective caseworker relationships are more likely to occur in organizations where caseworkers report lower depersonalization, emotional exhaustion, role conflict, and role overload, all of which are key indicators of organizational climate.

IMPLICATIONS FOR RESEARCH AND PRACTICE

Organizational theory and research suggest that organizational culture and climate affect decisions about whether or not innovative technologies are adopted, and the quality and fidelity with which they are implemented. Nonetheless, critical work remains in considering and including these organizational constructs in clinical and interventions research on the adoption of best practices. The following sections discuss multiple strategies from the organizational research literature for incorporating organizational culture and climate in mental health research on the adoption and implementation of best practices.

Characterizing Usual Care Practices

The study of organizational culture and climate in human service organizations is relatively sparse when compared to that conducted in business organizations. But research to date suggests that approaches to measuring climate and culture adapted from those used in business settings specifically for human service settings provide effective measures for these types of organizations (Glisson et al., in press; Glisson & Durick, 1988; Glisson & Hemmelgarn, 1998; Glisson & James, 2002). At the same time, subtle nuances specific to child welfare, juvenile justice, mental health, and other human service settings may exist. These include the strength of particular dimensions of

traditional climate (e.g., depersonalization, role overload, role conflict, emotional exhaustion) within these human service settings or the importance of tailored dimensions of culture (e.g., support among coworkers) within hospital settings (Coeling & Simms, 1993; Hemmelgarn et al., 2001).

Hemmelgarn, Glisson, and Dukes (2001) combined quantitative measures of culture and climate with qualitative assessments based on field observations and interviews with emergency room nurses, doctors, social workers, and support personnel. These interviews targeted normative behaviors and expectations surrounding the provision of emotional support to families during pediatric emergencies and deaths. This study was helpful in identifying cultural norms associated with emotional support among hospital personnel as a prerequisite to the provision of supportive and compassionate treatment of families and children during pediatric emergencies. Additionally, this approach helped to identify key normative behaviors and expectations that could impede or enhance the implementation of new technologies or practice protocols such as family-centered care.

Both quantitative and qualitative methods of assessing culture can provide critical information on the underlying norms that guide the behaviors and actions of human service providers, including the decision to adopt new interventions. Our previous studies (Glisson & Durick, 1988; Glisson & Hemmelgarn, 1998; Glisson & James, 2002) indicated that systems such as child welfare or juvenile justice may have relatively negative organizational climates and defensive cultures in comparison to traditional business settings. Given the infancy of this research, however, data from large, representative samples of organizations that are necessary to document typical levels of organizational climate and culture within different human service sectors are lacking. These data would contribute to a better understanding of the challenges that change agents and researchers could expect to face in human service sectors when disseminating and implementing new assessment, treatment, or monitoring technologies. Indeed, clinical researchers, intervention developers, and services researchers could benefit from an exhaustive database of "usual care" conditions, including the cultural norms and climate characteristics of those organizations most likely to adopt and implement new interventions. These data could provide a better

understanding of the norms and expectations that drive behavior in human service workgroups, teams, or organizations as well as the differences that may exist across different human service agencies. One such nationwide study of a representative sample of mental healthcare organizations is currently underway under the Research Network on Youth Mental Health sponsored by the MacArthur Foundation.

Choosing "Ideal" Organizations

Although requirements for "effective" cultures may not generalize to all work settings, Cooke and Lafferty (1994) characterize an "ideal" organizational culture by an emphasis on innovation, autonomy, skill development, trust, open lines of communication, and flexibility. Their Organizational Culture Inventory describes different types of organizational cultures and an organization's proximity to an "ideal culture," providing the basis for selecting an organization(s) that maximizes the likelihood of success. Similarly, constructive cultures that emphasize achievement motivation, safe climates that minimize conflict, and flexible structures that share authority are more likely to promote the search for new innovations and the implementation of improved technologies. That is, innovation is linked to cultures that value quality improvement, climates characterized by low levels of emotional exhaustion and role overload, and structures that promote participation and teamwork (Cooke & Szumal, 2000; Michela & Burke, 2000; Rogers, 1995). This and other research have informed the development of culture (Organizational Culture Survey) and climate (Organizational Climate Survey) measures for human service organizations (Glisson et al., in press; Glisson & Durick, 1988; Glisson & Hemmelgarn, 1998; Glisson & James, 2002).

Given existing knowledge of effective cultures and positive climates, services researchers can select "ideal" organizations for study that share these characteristics. Choosing only those organizations with ideal cultures and positive climates has several benefits. First, it provides the best possible chance of success when implementing new assessment or treatment technologies. Second, it allows a researcher to control or "hold constant" the effects of organizational culture and climate. In many cases, developers of interventions who are in the initial stages of dissemination or clinical researchers who are interested only in documenting effectiveness within a

practice setting are interested in maximizing their success, not in exploring culture and climate effects. Third, it is an easy, cost-effective approach for researchers with limited resources who want to eliminate the negative effects of culture and climate by selecting work settings with the best possible chance of success.

Nonetheless, optimizing work settings through selection does not test the resilience of an intervention to the adaptive effects of a variety of cultures and climates, both of which are believed to influence the adoption and implementation of an intervention. The lack of variation in culture and climate limits the generalization of effective adoption or implementation strategies beyond "ideal" organizations and provides no opportunity to explore the impact of organizational culture or climate. This is because the range in organizational culture and climate is truncated when data are not collected from organizational cultures and climates that are resistant to innovative technologies and new interventions. Additionally, selecting only optimal organizations or contexts minimizes the opportunity to identify practical, challenging problems that face researchers and practitioners in their efforts to implement new interventions in a cross-section of applied settings.

Including Culture and Climate in Interventions and Services Research

Research designs that include either organizational culture or climate can vary substantially, depending on the goals or objectives of a researcher. An organizational or services researcher's primary objective may be to study the direct and indirect effects of organizational culture or climate on the implementation of a new intervention. This may involve the inclusion of culture or climate in broader intervention or dissemination studies (Glisson & Hemmelgarn, 1998; Schoenwald, Sheidow, Letourneau, & Liao, 2003) or in studies focused on creating change in culture and climate using organizational interventions as factors in randomized, experimental designs (Glisson et al., in press; Glisson & Schoenwald, in press). A clinical researcher, on the other hand, may simply want to isolate or hold constant the effects of organizational culture or climate or both while exploring a new intervention (see previous section).

As the available number of organizations, subgroups, or work units increases, the ability to apply more rigorous

methodologic designs and statistically powerful analyses increases as well. From an organizational researcher's view, a large random sample of organizations increases the external validity of findings and provides the option of random assignment of organizations for experimental designs. However, the difficulty of gaining access to large numbers of organizations and the resources necessary to study interventions within multiple organizations present substantial barriers. A more realistic option for many researchers would include two or three organizations or multiple divisions or units within one organization, and the ability to measure, if not manipulate, organizational climate or culture.

With small samples of organizations, *a priori* hypotheses, clear theoretical support, and statistical control of confounding variables can be employed to establish plausible links between organizational culture, organizational climate, and service outcomes. Hemmelgarn, Glisson, and Dukes (2001), for example, were able to order four hospital emergency rooms on a continuum that represented the strength of cultural norms in providing emotional support to children and families who were experiencing serious pediatric emergencies. Initially established following extensive open-ended interviews with hospital emergency room staff, the continuum was supported in subsequent statistical analyses of quantitative responses to measures of organizational culture and climate. Although not an implementation study, one would hypothesize a continuum of resistance to the introduction of a family-centered care intervention across the four emergency rooms. This hypothesized continuum could be tested through planned comparisons of mean outcome scores to explore the importance of organizational culture and climate within an implementation study. Threats to internal validity are potential problems without randomization. Nonetheless, *a priori* hypotheses, theoretical rationale, and attempts to control for confounding variables can lead to plausible inferences regarding the effects of culture and climate.

With an increasing number of organizations, randomized block designs become feasible. After blocking organizations on organizational culture or climate, organizations can be randomly assigned to treatment (e.g., a new intervention) and control conditions within each block. This approach allows the assessment of both the main and the moderating effects of climate or culture

by including them as factors in the design. It also allows the study of a limited number of organizations while ensuring similar levels of organizational climate and culture in both the control and treatment samples. That is, blocking controls differences in identified organizational variables that might confound results when randomly assigning treatments within a small sample of organizations. The randomization of treatment conditions (e.g., intervention versus control) increases the internal validity of the study, whereas representation of varying levels (blocks) of organizational culture and climate increase external validity.

A third approach is to directly include measures of organizational culture and climate in statistical analyses of outcomes from a sample of organizations. This allows main, moderating, and mediating effects to be assessed or the effects of organizational culture and climate to be controlled as covariates. This approach does not, of course, replace methodologic strategies that control threats to internal and external validity of a study. Additionally, the analyses of relationships among organizational-level variables and individual-level outcomes (e.g., client's well-being) can account for the multilevel nature of the variables and the composition models that link measures and constructs across levels of analyses (Glisson et al., in press; Glisson & James, 2002; Klein & Kozlowski, 2000a, 2000b).

A common mistake seen in the research literature is inferring organizational effects on individual outcomes (e.g., employee turnover) when the measures of climate or culture were actually taken at the individual level. That is, variables are sometimes described at work-unit levels (organizational culture) without aggregating the individual responses to represent work-unit levels. Organizational culture can be measured only when individual-level descriptions of cultural norms and expectations are shared within a subgroup or organization (James, Demaree, & Wolf, 1993). If shared norms do exist, aggregated scores are calculated to represent the shared norms and expectations at the work-unit level (see Glisson & James, 2002).

The failure to analyze relationships using appropriate work-unit level scores provides biased estimates of the relationships between individual and organizational constructs. A statistical approach particularly well suited for these types of analyses is Hierarchical Linear Modeling

(HLM). HLM analysis can be applied when predictors include variables at both an individual and an organizational level and the outcomes measure is at an individual level (Raudenbush & Bryk, 2002). Glisson and James (2002) and Glisson, Dukes, and Green (in press) provide examples of the use of HLM approaches in assessing relationships between organizational- and individual-level variables.

Manipulating Culture and Climate in Dissemination and Implementation Research

As discussed earlier, soft technologies (e.g., new mental health interventions) are especially "vulnerable" to social context variables, such as organizational culture or climate, because they are relatively indeterminate and non-routinized (Glisson, 1978, 1992). As a result, innovative soft technologies such as new EBPs can be altered or adapted by an organization's social context to "fit" the existing culture and climate. In some cases, this "fit" may eliminate the features that made the newly adopted intervention attractive or effective in the first place. Organizational culture explains why some organizations are more likely to alter contextual features to support a new technology, whereas other organizations are more likely to alter the new technology to fit the context. Organizations with constructive, innovative, and flexible cultural norms, for example, are more likely to promote the search for new innovations and the implementation of improved technologies with minimal adaptation (Cooke & Szumal, 2000; Michela & Burke, 2000; Rogers, 1995). Organizational interventions designed to change cultural norms and improve climate may be necessary to ensure the necessary motivation, flexibility, and behavioral expectations required when implementing or maintaining a new treatment or EBP (see succeeding text). That is, the introduction of a new treatment may require the introduction of organizational change efforts to develop an organizational context that supports the new treatment model.

The ongoing Rural Appalachian Project illustrates this approach (Glisson, 2002; Glisson & Schoenwald, in press). Within each of the eight rural counties, children are randomly assigned to receive either Multisystemic Therapy (MST) or the usual services available in each respective county. Additionally, the eight counties are randomly assigned to either a macrolevel organization/community intervention labeled ARC (availability,

responsiveness, and continuity) or control. Thus, interventions at both a macro level (ARC) and a micro level (MST) can be explored. That is, four design conditions that include a control condition, MST services alone, ARC alone, and MST along with ARC will be compared. It is expected that children who receive MST in an ARC county will experience better outcomes than those in other treatment conditions.

Although simple in appearance, designs such as these are complex in their implementation and statistical analyses. For example, this design requires three-level HLM analyses with repeated outcome measurements over time, representing level 1, nested under each child (level 2), within each county (level 3). The design requires the cooperation of the eight county court systems that agreed to support a study that randomly assigns children adjudicated delinquent to the MST treatment condition or control condition, and that randomly assigns counties to an organizational/community development intervention. From the researchers' perspective, it requires the implementation of both an efficacious treatment and an effective organizational/community intervention model, as well as the orchestration of these interventions across multiple organizations and communities. Nonetheless, these types of efforts provide information that is necessary to bridge the gaps between science and practice, and contribute to the successful dissemination of efficacious clinical practices in community settings (see Glisson & Schoenwald, in press; NIH, 1999, 2000).

Given the complexity of these efforts, collaborative efforts among organizational researchers, dissemination researchers, and clinicians are vital. As Schoenwald and Hoagwood (2001) suggest, it may be necessary that some aspects of validated treatment protocols be modified to deliver effective treatments in real-world settings. Conversely, organizational and community interventions for changing usual care settings are needed to ensure that critical elements or components of efficacious clinical treatments can be sustained in the field.

Developing Organizational Interventions

The success of service providers within child welfare, juvenile justice, mental health, and related systems is dependent on (a) the adoption of efficacious treatments, (b) adherence to treatment protocols, (c) positive therapeutic relationships, and (d) service availability, responsiveness,

and continuity (Glisson, 2002). First, the psychosocial assessments and treatment interventions that are adopted must be appropriate, valid, and effective for the problems and populations targeted by the service system (Burns et al., 1999; Hoagwood et al., 2001). Second, adherence to the established protocols that comprise new practices must occur. Poor adherence frequently undermines the intended outcomes (Glisson, 1996; Henggeler & Schoenwald, 1999; Martin et al., 1998). Third, the quality of the therapeutic relationships that develop between service providers and those they serve is critical to success (Blanz & Schmidt, 2000; Eltz, Shirk, & Sarlin, 1995; Florsheim, Shotorbani, Guest-Warnick, Barratt, & Hwang, 2000). A positive therapeutic relationship requires that a client experience a therapist as safe, involved, and helpful. Finally, services must be available, responsive, and characterized by continuity if the services are to be effective (Dozier, Cue, & Barnett, 1994; Wahler, 1994). For example, a child and family must be able to contact an appropriate service provider when needed (i.e., availability). The child and family must believe that the service provider is addressing the issues that concern the child and family most (i.e., responsiveness). Also, key institutions (e.g., courts, schools, medical providers) must work in concert with the service provider and family to overcome the barriers to success that confront the children and their families (i.e., continuity).

Glisson and colleagues developed the ARC organizational intervention to foster and develop organizational contexts that support the four key components identified previously (Glisson, 2002; Glisson et al., in press; Glisson & Schoenwald, in press). This approach employs a multifaceted approach that is based on empirical evidence of organizational intervention effectiveness. Guzzo, Jette, and Katzell's (1985) meta-analytic study of psychologically based organizational interventions, for example, demonstrated the success of organizational interventions such as ARC in increasing key outcomes such as worker productivity (Guzzo et al., 1985). The ARC intervention incorporates four guiding principles and 10 organizational change components often seen in the organizational change literature. 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

(Glisson, 2002; Glisson et al., in press). For example, case management teams that received the ARC intervention reported less depersonalization, emotional exhaustion, role conflict, and role overload, and experienced two-thirds less caseworker turnover.

The ARC development model promotes four principles: (a) be mission driven—all administrative and clinical decisions must contribute to the well-being of clients; (b) be results oriented—measure success by how much the client's well-being is improved; (c) be improvement directed—continually seek to improve services; and (d) be relationship centered—focus on the network of relationships (e.g., families, schools, courts, community) that are most important to the client's well-being.

The ARC intervention relies on change agents who are trained to work with treatment teams, organizational administrators, key opinion leaders, and community stakeholders. These agents facilitate the development of a desired organizational and community social context and function as boundary spanners between service teams, administrators, organizations and community stakeholders. Although working in mental health sectors, these individuals' backgrounds may vary from organizational or community developers to individuals trained in arbitration or team building. Regardless of background, key characteristics of effective change agents (see Rogers, 1995) and training in specific practices for these individuals should be attended to (see Glisson et al., in press). Often unrecognized is the fact that private and public mental health agencies employ similar individuals within their organizations on a regular basis, such as management consultants, organizational developers, or trainers. As such, cost and resource issues for introducing change agents within the mental health sector are quite similar to those already experienced by mental health providers, as are issues around the acceptance of these individuals into mental health contexts. The latter suggest the importance of identifying individuals and their characteristics that have had success in the past within their particular organization. General characteristics of effective change agents have been delineated by Rogers (1995).

Effective change agents influence and teach others, listen to and empathize with key opinion leaders and stakeholders, and confront difficult issues. Change agents must possess credibility in the eyes of stakeholders and opinion leaders, high levels of energy, and the ability to

tolerate high levels of ambiguity (cf. Burke, 1992; Rogers, 1995). Change agents should be able to communicate and work effectively in multiple environments as a bridge between key stakeholders and those desiring change. Also, change agents who implement organizational change strategies should be well versed in organizational theory and techniques for organizational change (e.g., team-building skills, conflict management strategies, and Continuous Quality Improvement [CQI]). Both the organizational change literature and the literature on the diffusion innovations emphasize the importance of change agents (Aldrich & Herker, 1977; Bartel, 2001; Beer, 1980; Bennis, 1966; Callister & Wall, 2001; French & Bell, 1984; Porras & Robertson, 1992; Rogers, 1995).

Organizational change agents influence perceptions, attitudes, and decisions of key opinion leaders, community stakeholders, and service providers, help form new management and service strategies and support the adoption of new assessment and treatment technologies and development of behavioral norms that support more effective service. This influence is gained by providing technical information, feedback on outcomes, conflict resolution, and facilitation of communication concerning the nature, implementation, and success of treatments or service protocols.

The change agent works in the organization and community to create a social context that supports the objectives of the selected technology or treatment, and facilitates a "fit" between the new technology and the social context that avoids the inappropriate adaptation of the new technology. This context includes the service organization(s) and the broader community of stakeholders who have a vested interest in the new treatment or protocol. Tasks for the change agent may include the diagnoses of problems in the implementation process, motivating interest about a new or innovative treatment, establishing a common framework and value system across stakeholders, and working with stakeholders to stabilize the adoption and continuance of new protocols (Porras & Robertson, 1992; Rogers, 1995).

The complexity of the social barriers to adopting, implementing, and sustaining effective mental health treatment technologies often requires a variety of organizational interventions to occur simultaneously (Henggeler & Schoenwald, 1999; Hoagwood et al., 2001;

Hohmann & Shear, 2002; Schoenwald & Hoagwood, 2001). Neuman, Edwards, and Raju's (1989) meta-analysis examining organizational interventions demonstrated that multifaceted interventions were more effective than organizational interventions that focused on only one dimension of organizational context. Often described as "pulling multiple levers," the literature suggests that the simultaneous use of multiple community and organizational intervention components is necessary to develop an organizational context that supports effectiveness (Porras & Robertson, 1992). Even a brief list of possible barriers, such as existing organizational norms, community values, traditional approaches to practice, interpersonal conflicts, intergroup competition, and a fear of change, point to the importance of multiple intervention components. The 10 components, or levers, included in the ARC intervention are summarized in Table 1. More detail can be obtained in Glisson (2002) and Glisson, Dukes, and Green (in press).

Empirical support to date for the ARC intervention indicates that the organizational contexts of children's service systems can be improved through organizational change efforts (Glisson, 2002; Glisson et al., in press). Moreover, ongoing research is studying how organizational and community interventions can support effective implementation of EBPs (Glisson & Schoenwald, in press). These efforts represent early attempts to develop and test organizational interventions in child welfare, juvenile justice, and mental health service systems.

CONCLUDING REMARKS

There is evidence that the organizational context of human service systems affects the nature of the services provided by those systems. Studies of children's service systems, in particular, have linked organizational culture and climate to service provider attitudes, staff turnover, service quality, and service outcomes. Moreover, evidence from a variety of studies outside of human service suggests that organizational culture and climate are especially important factors in determining the successful adoption of new technologies.

Collaboration between interventions, services, and organizational researchers can contribute to improved dissemination and implementation studies. A lack of clarity in the definitions of organizational constructs, inappropriate measurement strategies, and inattention to the multilevel nature of organizational constructs have

Table 1. ARC Intervention Components

Component	Description
1. Personal relationship development (Gray, 1990; Rogers, 1995)	Cultivate personal relationships with key opinion leaders, community stakeholders, service providers, and administrators.
2. Network development (Gray, 1990; Rogers, 1995; Trist, 1985)	Cultivate network relationships among organizational administrators, service providers, opinion leaders, and community stakeholders.
3. Team development (Dyer, 1977; Patten, 1981)	Create teams to maximize use of collective expertise, support, and resources in effective client service provision.
4. Information and assessment strategies (Pasmore, Francis, Haldeman, & Shani, 1982; Rogers, 1995)	Develop knowledge and mechanisms among community groups and service providers to assess and monitor data for improvement-directed behavior.
5. Feedback (Burke, 1992; Porras, 1986)	Gather and share data from existing sources to provide feedback about service availability, responsiveness, and continuity to service providers, administrators, and community stakeholders.
6. Participatory decision making (Bennis, 1966; McGregor, 1960; Porras, 1986)	Foster shared input and decision making within service teams and community groups to influence effective service delivery.
7. Conflict management (Bartel, 2001; Caldwell & O'Reilly, 1982; Callister & Wall, 2001; Walton, 1987)	Resolve conflicts at the interpersonal, intraorganizational, and interorganizational levels.
8. Continuous quality improvement (Shortell et al., 1995; Steel & Shane, 1986; Yager, 1981)	Establish assessment, monitoring, and problem-solving paradigm for organizational and service improvement.
9. Job redesign (Dazal & Thomas, 1968; French & Bell, 1984; Hackman & Oldham, 1980)	Redesign jobs to eliminate service barriers and make optimal use of existing resources and expertise.
10. Self-regulation and stabilization of innovations (Porras, 1986; Rogers, 1995)	Facilitate independent use of ARC components by service systems and community stakeholders.

plagued some studies conducted to date. Organizational research methods and constructs such as culture and climate, which have been developed over many decades in studies of other types of organizations, can guide the efforts of interventions and services researchers who seek to gain a better understanding of strategies for disseminating and implementing EBPs in mental health service organizations. Interventions and services researchers can incorporate these methods and constructs in dissemination and implementation studies to (a) select ideal organizational cultures and climates as study sites, (b) include valid measures of organizational culture and climate as covariates in statistical models, (c) use randomized designs with culture and climate as blocking factors, or (d) directly manipulate organizational context through planned organizational interventions. Each of these strategies can provide unique information about the impact of organizational context on the adoption and implementation of EBPs in mental health service systems.

ACKNOWLEDGMENT

This research was supported by NIMH grants R01-MH56563 and R01-MH66905.

REFERENCES

Abrahamson, D. J. (2001). Treatment efficacy and clinical utility: A guidelines model applied to psychotherapy research. *Clinical Psychology: Science and Practice, 8*, 176-179.

Aldrich, H., & Herker, D. (1977). Boundary spanning roles and organization structure. *Academy of Management Review, 2*, 217-230.

American Psychological Association. (2000). *Criteria for evaluating treatment guidelines*. Washington, DC: Author.

Bandura, A. (1977). *Social learning theory*. Englewood Cliffs, NJ: Prentice-Hall.

Bartel, C. A. (2001). Social comparisons in boundary-spanning work: Effects of community outreach on members' organizational identity and identification. *Administrative Science Quarterly, 46*(3), 379-413.

Beer, M. (1980). *Organization change and development: A systems view*. Santa Monica, CA: Goodyear.

Bennis, W. G. (1966). *Changing organizations*. New York: McGraw-Hill.

Berlowitz, D. R., Young, G. J., Hickey, E. D., Saliba, D., Mittman, B. S., Czarnowski, E., et al. (2003). Quality improvement implementation in the nursing home. *Health Services Research, 38*, 65-83.

Blanz, B., & Schmidt, M. H. (2000). Practitioner review: Preconditions and outcome of inpatient treatment in child and adolescent psychiatry. *Journal of Child Psychology and Psychiatry, 41*(6), 703-712.

Blau, P. M. (1960). Structural effects. *American Sociological Review, 25*, 178-193.

Borkovec, T. D., Echemendia, R. J., Ragusea, S. A., & Ruiz, M. (2001). The Pennsylvania Practice Research Network and future possibilities for clinically meaningful and scientifically rigorous psychotherapy effectiveness research. *Clinical Psychology: Science and Practice, 8*(2), 155-167.

- Brown, S. P., & Leigh, T. W. (1996). A new look at psychological climate and its relationship to job involvement, effort, and performance. *Journal of Applied Psychology, 81*, 358-368.
- Burke, W. W. (1992). *Organization development* (2nd ed.). Reading, MA: Addison-Wesley.
- Burns, B. J., Hoagwood, K., & Mrazek, P. J. (1999). Effective treatment for mental disorders in children and adolescents. *Clinical Child and Family Psychology Review, 2*, 199-254.
- Caldwell, D. F., & O'Reilly, C. A. (1982). Boundary spanning and individual performance: The impact of self-monitoring. *Journal of Applied Psychology, 67*(1), 124-127.
- Callister, R. R., & Wall, J. A. (2001). Conflict across organizational boundaries: Managed care organizations versus health care providers. *Journal of Applied Psychology, 86*(4), 754-763.
- Coeling, H. V. E., & Simms, L. M. (1993). Facilitating innovation at the unit level through cultural assessment. Part 2: Adapting managerial ideas to the unit work group. *Journal of Nursing Administration, 23*, 13-20.
- Cooke, R. A., & Lafferty, J. C. (1994). *Organizational culture inventory*. Plymouth, MI: Human Synergistics International.
- Cooke, R. A., & Rousseau, D. M. (1988). Behavioral norms and expectations. *Group and Organizational Studies, 13*(3), 245-273.
- Cooke, R. A., & Szumal, J. L. (1993). Measuring normative beliefs and shared behavioral expectations in organizations: The reliability and validity of the Organizational Culture Inventory. *Psychological Reports, 72*, 1299-1330.
- Cooke, R. A., & Szumal, J. L. (2000). Using the Organizational Culture Inventory to understand the operating cultures of organizations. In N. M. Ashkanasy, C. P. M. Wilderom, & M. F. Peterson (Eds.), *Handbook of organizational culture and climate* (pp. 147-162). Thousand Oaks, CA: Sage Publications.
- Dazal, I., & Thomas, J. (1968). Developing a new organization. *Journal of Applied Behavioral Science, 4*, 473-506.
- Dozier, M., Cue, K. L., & Barnett, L. (1994). Clinicians as caregivers: Role of attachment organization in treatment. *Journal of Consulting and Clinical Psychology, 62*, 793-800.
- Dyer, W. G. (1977). *Team building: Issues and alternatives*. Reading, MA: Addison-Wesley.
- Edmondson, A. (1999). Psychological safety and learning behavior in work teams. *Administrative Science Quarterly, 44*, 350-383.
- Eltz, M. J., Shirk, S. R., & Sarlin, N. (1995). Alliance formation and treatment outcome among maltreated adolescents. *Child Abuse and Neglect, 19*(4), 419-431.
- Flanagan, J. C. (1954). The critical incident technique. *Psychological Bulletin, 51*, 327-358.
- Florsheim, P., Shotorbani, S., Guest-Warnick, G., Barratt, T., & Hwang, W. (2000). Role of the working alliance in the treatment of delinquent boys in community-based programs. *Journal of Clinical Child Psychology, 29*(1), 94-107.
- French, W. L., & Bell, C. H. (1984). *Organization development: Behavioral science interventions for organization improvement* (3rd ed.). Englewood Cliffs, NJ: Prentice-Hall.
- Garbarino, J. (1999). *Lost boys: Why our sons turn violent and how we can save them*. New York: The Free Press.
- Glisson, C. (1978). Dependence of technological routinization on structural variables in human service organizations. *Administrative Science Quarterly, 23*(3), 383-395.
- Glisson, C. (1992). Structure and technology in human service organizations. In Y. Hasenfeld (Ed.), *Human services as complex organizations*. Beverly Hills, CA: Sage Publications.
- Glisson, C. (1996). Judicial and services decisions affecting children in state custody: The limited role of mental health. *Social Service Review, 70*(2), 257-281.
- Glisson, C. (2000). Organizational culture and climate. In R. Partt (Ed.), *The handbook of social welfare management* (pp. 195-218). Thousand Oaks, CA: Sage Publications.
- Glisson, C. (2002). The organizational context of children's mental health services. *Clinical Child and Family Psychology Review, 5*(4), 233-253.
- Glisson, C., Dukes, D., & Green, P. (in press). The effects of the ARC organizational intervention on caseworker turnover, climate, and culture in children's service systems. *Child Abuse and Neglect*.
- Glisson, C., & Durick, M. (1988). Predictors of job satisfaction and organizational commitment in human service organizations. *Administrative Science Quarterly, 33*, 61-81.
- Glisson, C., & Hemmelgarn, A. L. (1998). The effects of organizational climate and interorganizational coordination on the quality and outcomes of children's service systems. *Child Abuse and Neglect, 22*(5), 401-421.
- Glisson, C., & James, L. R. (2002). The cross-level effects of culture and climate in human service teams. *Journal of Organizational Behavior, 23*, 767-794.
- Glisson, C., & Schoenwald, S. (2006). The ARC organizational and community intervention strategy for implementing evidence-based children's mental health treatments. *Mental Health Services Research, 7*(4), 243-259.
- Gray, B. (1990). Building interorganizational alliances: Planned change in a global environment. *Research in Organizational Change and Development, 4*, 101-140.
- Guzzo, R. A., Jette, R. D., & Katzell, R. A. (1985). The effects of psychologically based intervention programs on worker productivity: A meta-analysis. *Personnel Psychology, 38*, 275-291.

- Hackman, J. R., & Oldham, G. R. (1980). *Work redesign*. Reading, MA: Addison-Wesley.
- Hemmelgarn, A. L., Glisson, C., & Dukes, D. (2001). Emergency room culture and the emotional support component of family-centered care. *Children's Health Care, 30*(2), 93-110.
- Henggeler, S. W., & Schoenwald, S. K. (1999). The role of quality assurance in achieving outcomes in MST programs. *Journal of Juvenile Justice and Detention Services, 14*, 1-17.
- Hoagwood, K., Burns, B. J., Kiser, L., Ringeisen, H., & Schoenwald, S. (2001). Evidence-based practice in child and adolescent mental health services. *Psychiatric Services, 52*, 1179-1189.
- Hofstede, G., Neuijen, B., Ohayv, D. D., & Sanders, G. (1990). Measuring organizational cultures: A qualitative and quantitative study across twenty states. *Administrative Science Quarterly, 35*, 286-316.
- Hohmann, A. A., & Shear, M. K. (2002). Community-based interventions research: Coping with the noise of real life in study design. *American Journal of Psychiatry, 159*(2), 201-207.
- Hoy, W. K. (1990). Organizational climate and culture: A conceptual analysis of the school workplace. *Journal of Educational and Psychological Consultation, 1*, 149-168.
- James, L. R., Demaree, R. G., & Wolf, G. (1993). rWG: An assessment of within-group interrater agreement. *Journal of Applied Psychology, 75*, 306-309.
- James, L. R., Hartman, A., Stebbins, M. W., & Jones, A. P. (1977). Relationships between psychological climate and a VIE model for work motivation. *Personnel Psychology, 30*, 229-254.
- James, L. A., & James, L. R. (1989). Integrating work environment perceptions: Explorations into the measurement of meaning. *Journal of Applied Psychology, 74*, 739-751.
- James, L. R., James, L. A., & Ashe, D. K. (1990). The meaning of organizations: The role of cognition and values. In B. Schneider (Ed.), *Organizational climate and culture* (pp. 40-84). San Francisco: Jossey-Buss.
- James, L. R., & Jones, A. P. (1974). Organizational climate: A review of theory and research. *Psychological Bulletin, 81*(12), 1096-1112.
- James, L. R., & McIntyre, M. D. (1996). Perceptions of organizational climate. In K. Murphy (Ed.), *Individual differences and behavior in organizations* (pp. 416-450). San Francisco: Jossey-Bass.
- James, L. R., & Tetrick, L. E. (1986). Confirmatory analytic test of three causal models relating job perceptions to job satisfaction. *Journal of Applied Psychology, 71*, 77-82.
- Jaskyte, K., & Dressler, W. W. (2005). Organizational culture and innovation in nonprofit human service organizations. *Administration in Social Work, 29*, 23-41.
- Johnson, J. J., & McIntyre, C. L. (1998). Organizational culture and climate correlates of job satisfaction. *Psychological Reports, 82*, 843-850.
- Jones, A. P., & James, L. R. (1979). Psychological climate: Dimensions and relationships of individual and aggregated work environment perceptions. *Organizational Behavior and Human Performance, 23*, 201-250.
- Joyce, W. F., & Slocum, J. W. (1984). Collective climate: Agreement as a basis for defining aggregate climates in organizations. *Academy of Management Journal, 24*, 721-742.
- Kazdin, A. E. (2001). *Behavior modification in applied settings* (6th ed.). Belmont, CA: Wadsworth.
- Klein, K. J., & Kozlowski, S. W. J. (2000a). From micro to meso: Critical steps in conceptualizing and conducting multilevel research. *Organizational Research Methods, 3*, 211-236.
- Klein, K. J., & Kozlowski, S. W. J. (2000b). *Multilevel theory, research, and methods in organizations*. San Francisco: Jossey-Bass.
- Lindsey, D. (1994). *The welfare of children*. New York: Oxford University Press.
- Mallak, L. A., Lyth, D. M., Olson, S. D., Ulshofer, S. M., & Sardone, F. J. (2003). Culture, the built environment, and healthcare organizational performance. *Managing Service Quality, 13*, 27-38.
- Martin, L. M., Peters, C. L., & Glisson, C. (1998). Factors affecting case management recommendations for children entering state custody. *Social Service Review, 72*, 521-544.
- McGregor, D. M. (1960). *The human side of enterprise*. New York: McGraw-Hill.
- McIntosh, N. J. (1995). Exhilarating work: An antidote for dangerous work? In S. L. Sauter & L. R. Murphy (Eds.), *Organizational risk factors for job stress* (pp. 303-316). Washington, DC: American Psychological Association.
- Michela, J. L., & Burke, W. W. (2000). Organizational culture and climate in transformations for quality and innovation. In N. M. Ashkanasy, C. P. M. Wilderom, & M. F. Peterson (Eds.), *Handbook of organizational culture and climate* (pp. 225-244). Thousand Oaks, CA: Sage Publications.
- Miner, J. B. (1980). *Theories of organizational behavior*. Hinsdale, IL: The Dryden Press.
- Nadler, D. A., & Tushman, M. L. (1977). A diagnostic model for organizational behavior. In J. R. Hackman, E. E. Lawler III, & L. W. Porter (Eds.), *Perspectives on behavior in organizations* (pp. 85-98). New York: McGraw-Hill.
- National Institutes of Health. (1999). *Bridging science and service: A report by the National Advisory Mental Health Council's Clinical Treatment and Services Research Workgroup* (NIH No. 99-4353). Rockville, MD: National Institutes of Health, National Institute of Mental Health.

- National Institutes of Health. (2000). *Translating behavioral science into action* (NIH No. 00-4699). NIMH National Advisory Mental Health Council. Rockville, MD: National Institutes of Health, National Institute of Mental Health.
- Neuman, G. A., Edwards, J. E., & Raju, N. S. (1989). Organizational development interventions: A meta-analysis of their effects on satisfaction and other attitudes. *Personnel Psychology, 42*, 461-489.
- Norquist, G. S. (2001). Practice research networks: Promises and pitfalls. *Clinical Psychology: Science and Practice, 8*, 173-175.
- Nugent, W., & Glisson, C. (1999). Reactivity and responsiveness in children's service systems. *Journal of Social Services Research, 25*, 41-60.
- Onken, L. S., Blain, J. D., & Battjes, R. (1997). Behavioral therapy research: A conceptualization of a process. In S. W. Henggeler & R. Amenton (Eds.), *Innovative approaches from difficult to treat populations* (pp. 477-485). Washington, DC: American Psychiatric Press.
- O'Reilly, C. A., & Chatman, J. A. (1996). Culture as social control: Corporations, cults, and commitment. In B. Staw & L. Cummings (Eds.), *Research in organizational behavior: An annual series of analytical essays and critical reviews* (pp. 157-200). Stamford, CT: JAI Press.
- Parker, C. P., Baltes, B. B., Young, S. A., Huff, J. W., Altmann, R. A., Lacost, H. A., et al. (2003). Relationships between psychological climate perceptions and work outcomes: A meta-analytic review. *Journal of Organizational Behavior, 24*, 389-416.
- Pasmore, W., Francis, C., Haldeman, J., & Shani, A. (1982). Sociotechnical systems: A North American reflection on empirical studies of the seventies. *Human Relations, 35*, 1179-1204.
- Patten, T. (1981). *Organizational development through team building*. New York: Wiley.
- Perkins, A. L., Shaw, R. B., & Sutton, R. L. (1990). Summary: Human service teams. In J. R. Hackman (Ed.), *Groups that work (and those that don't)* (pp. 349-357). San Francisco: Jossey-Bass.
- Porras, J. I. (1986). Organization development. In G. E. Germane (Ed.), *The executive course: What every manager needs to know about the essentials of business*. Reading, MA: Addison-Wesley.
- Porras, J. I., & Robertson, P. J. (1992). Organizational development: Theory, practice, and research. In M. D. Dunnette & L. M. Hough (Eds.), *Handbook of industrial and organizational psychology: Vol. 3* (2nd ed., pp. 719-822). Palo Alto, CA: Consulting Psychologists Press.
- Pritchard, R. D., & Karasick, B. W. (1973). The effects of organizational climate on managerial job performance and job satisfaction. *Organizational Behavior and Human Performance, 9*, 126-146.
- Raudenbush, S. W., & Bryk, A. S. (2002). *Hierarchical linear models: Applications and data analysis methods* (2nd ed.). Thousand Oaks, CA: Sage Publications.
- Rentsch, J. R. (1990). Climate and culture: Interaction and qualitative differences in organizational meanings. *Journal of Applied Psychology, 75*, 661-668.
- Ricketta, M. (2002). Attitudinal organizational commitment and job performance: A meta-analysis. *Journal of Organizational Behavior, 23*, 257-266.
- Rogers, E. M. (1995). *Diffusion of innovations* (4th ed.). New York: Free Press.
- Rounsaville, B. J., Carroll, K. M., & Onken, L. S. (2001). A stage model of behavioral therapies research: Getting started and moving on from stage I. *Clinical Psychology: Science and Practice, 8*(2), 133-142.
- Rousseau, D. M. (1977). Technological differences in job characteristics, employee satisfaction and motivation: A synthesis of job design research and sociotechnical systems theory. *Organizational Behavior and Human Performance, 19*, 18-42.
- Rousseau, D. M. (1990). Assessing organizational culture: The case for multiple methods. In B. Schneider (Ed.), *Organizational climate and culture* (pp. 153-192). San Francisco: Jossey-Bass.
- Schein, E. H. (1990). Organizational culture. *American Psychologist, 45*, 109-119.
- Schein, E. H. (1992). *Organizational culture and leadership*. San Francisco: Jossey-Bass.
- Schneider, B., White, S. S., & Paul, M. C. (1998). Linking service climate and customer perceptions of service quality: Test of a causal model. *Journal of Applied Psychology, 83*(2), 150-163.
- Schoenwald, S. K., & Hoagwood, K. (2001). Effectiveness, transportability, and dissemination of interventions: What matters when? *Psychiatric Services, 52*, 1190-1197.
- Schoenwald, S. K., Sheidow, A. S., Letourneau, E. J., & Liao, J. G. (2003). Transportability of Multisystemic Therapy: Evidence for multi-level influences. *Mental Health Services Research, 5*, 223-239.
- Schorr, L. B. (1997). *Common purpose*. New York: Doubleday.
- Shortell, S. M., Bennett, C. L., & Byck, G. R. (1998). Assessing the impact of continuous quality improvement on clinical practice: What it will take to accelerate progress. *The Milbank Quarterly, 76*, 593-624.
- Shortell, S. M., O'Brien, J. L., Carman, J. M., Foster, R. W., Hughes, E. F. X., Boerstler, H., et al. (1995). Assessing the impact of continuous quality improvement/total quality management: Concept versus implementation. *Health Services Research, 30*(2), 377-401.

- Steel, R. P., & Shane, G. S. (1986). Evaluation research on quality circles: Technical and analytical implications. *Human Relations, 39*, 449-468.
- Trist, E. (1985). Intervention strategies for interorganizational domains. In R. Tannenbaum, N. Margulies, & F. Massarik (Eds.), *Human systems development*. (pp. 167-197) San Francisco: Jossey-Bass.
- Verbeke, W., Volgering, M., & Hessels, M. (1998). Exploring the conceptual expansion within the field of organizational behaviour: Organizational climate and organizational culture. *Journal of Management Studies, 35*, 303-329.
- Wahler, R. G. (1994). Child conduct problems: Disorders in conduct or social continuity? *Journal of Child and Family Studies, 3*, 143-156.
- Walton, R. E. (1987). *Managing conflict: Interpersonal dialogue and third-party roles* (2nd ed.). Reading, MA: Addison-Wesley.
- Weisz, J. R., & Jensen, P. S. (1999). Efficacy and effectiveness of child and adolescent psychotherapy and pharmacotherapy. *Mental Health Services Research, 1*, 125-157.
- Yager, E. G. (1981). The quality control circle explosion. *Training and Development Journal, 35*, 98-105.

Received January 24, 2005; revised August 8, 2005; accepted September 15, 2005.