Assessing and Changing Organizational Social Contexts for Effective Mental Health Services

Charles Glisson and Nathaniel J. Williams

Children's Mental Health Services Research Center, University of Tennessee, Knoxville,
Tennessee 37996; email: cglisson@utk.edu, nwilli39@utk.edu

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Abstract

Culture and climate are critical dimensions of a mental health service orga-
nization's social context that affect the quality and outcomes of the services
it provides and the implementation of innovations such as evidence-based
treatments (EBTs). We describe a measure of culture and climate labeled
Organizational Social Context (OSC), which has been associated with inno-
vation, service quality, and outcomes in national samples and randomized
controlled trials (RCTs) of mental health and social service organizations.
The article also describes an empirically supported organizational inter-
vention model labeled Availability, Responsiveness, and Continuity (ARC),
which has improved organizational social context, innovation, and effective-
ness in five RCTs. Finally, the article outlines a research agenda for develop-
ing more efficient and scalable organizational strategies to improve mental
health services by identifying the mechanisms that link organizational in-
terventions and social context to individual-level service provider intentions
and behaviors associated with innovation and effectiveness.

INTRODUCTION

Children and adults across all demographic groups experience mental health problems that significantly lower their quality of life and contribute to increased disability and mortality. This group of children and adults includes 46% of the US population who experience mental health problems at some point in their lives and 6% of the population who face chronic and persistent mental illnesses that often require long-term or intermittent care (68, 69, 80). Moreover, a large proportion of the children and adults who receive mental health services do not benefit from care (76, 108). Their outcomes are poor because they receive services from providers who do not use effective treatments or because they encounter various barriers that interfere with the availability, responsiveness, or continuity of the services they seek (30).

Numerous complex factors affect the outcomes of mental health services, but the availability, responsiveness, and continuity of the services and the specific treatment models used in those services are, in part, functions of the social contexts (e.g., cultures and climates) of the organizations that provide the service (32). Mental health service organizations vary in social context and are not equally effective even when they serve similar populations with similarly trained clinicians (39, 111). Our review suggests that the social contexts of organizations that provide mental health services can be accurately assessed and improved and that improvements in social context are central to the successful implementation of effective services (38, 39).

Our review describes strategies for assessing and changing the cultures and climates of mental health service organizations that may be especially important in meeting the current demand for improved services to troubled youth, abused children, traumatized war veterans, and other populations in critical need of accessible and responsive mental health care. We also describe a research agenda for developing more efficient and transportable organizational interventions by identifying the mechanisms that link organizational interventions to behavior change at the individual service provider level. The mechanisms must be identified to develop focused interventions that can be efficiently implemented in a variety of mental health service settings (e.g., mental health clinics, child welfare systems, veterans' hospitals, primary care settings).

Social context has long been associated with successful innovation implementation and outcomes. For example, we know from decades of empirical studies in various academic disciplines that social context is instrumental in facilitating or inhibiting the successful implementation of innovations within the social networks of communities defined by geographical locale (e.g., city, village) or profession (e.g., farmers, physicians) (93). We have also learned that social contexts within organizations are powerful determinants of an organization's readiness to implement innovations and predict which organizations will be the most innovative (70, 72). For example, social context is a factor in surgical teams' successful implementation of new state-of-the-art, surgical procedures (24). Moreover, the social context of mental health and social service organizations is associated with both successful innovation implementation and effective outcomes (39, 85).

Social contexts are interpersonal networks of individuals characterized by norms, expectations, and shared perceptions that influence individual behavior (93). The characteristics of organizational social contexts affect many types of behavior, including innovation adoption, staff turnover, commitment, tenacity in solving complex problems, collaboration, and task engagement (51). Several social processes account for these context-based behaviors, including group learning, mimicry, sanctions, identity formation, competition, schema formation, and meaning construction (10, 20, 28, 101, 102). These processes explain the similarity of behavior observed within the same social contexts as well as the variation of behavior observed between different social contexts. We have known for some time that such processes explain why the effectiveness of organizations varies and

why some organizations are more likely to adopt and implement innovations successfully (48, 65, 91).

The social contexts of organizations that provide mental health and social services are associated with differences in both individual service provider behavior and client outcomes (1, 3, 4, 34, 35, 37, 44, 47, 82, 97, 98, 110). Moreover, organizational research in many sectors, including medicine, customer service (e.g., banking), and various professional fields (e.g., information technology), explains how organizational social contexts determine whether an organization is innovative, that is, whether it is an early adopter of new ideas, tools, and practices that could improve its effectiveness (15, 51, 86, 88, 94). Studies from both outside and within mental health include several frameworks developed specifically for understanding innovation (19, 48, 52). Most of these frameworks conceptualize organizational social context as a multidimensional construct (e.g., culture, climate) that affects all phases of innovation from adoption to sustainment (2). Despite this work, few service improvement and innovation implementation efforts in mental health services actually address organizational social context. Instead, most service improvement and innovation efforts focus on technical training at the individual level without addressing contextual characteristics such as culture and climate that support or inhibit the successful implementation and outcomes of that training (12, 79).

DIMENSIONS OF ORGANIZATIONAL SOCIAL CONTEXT ASSOCIATED WITH INNOVATION AND EFFECTIVENESS

The challenge of organizational innovation and effectiveness has played a central role in the history of organizational research and practice for well over a century (e.g., 103). The history of these efforts reflects a transition from the simplistic, mechanistic assumptions regarding individual work behavior in nineteenth-century organizations to more recent, complex views of the roles played by social context, cognition, and perception (13, 62, 77, 106). Early approaches, best represented by Frederick Taylor's (103) "scientific management," were based on the "top down" assumption that work behaviors can and must be carefully specified, explicitly linked, and tightly controlled by organizational leaders to improve productivity and efficiency. Although subsequent empirical studies and increasingly complex views of work behavior and performance challenged many of these early assumptions, Lisbeth Schorr (99) noted almost a century later that the underlying philosophy of these mechanistic models was still evident in the managerial approaches taken in mental health and social service organizations: "We are so eager, as a body politic, to eliminate the possibility that public servants will do anything wrong that we make it virtually impossible for them to do anything right" (p. 65).

Moving beyond the early mechanistic models, the sociotechnical model of organizational effectiveness explained an organization's effectiveness as a function of the fit between the organization's social context and the characteristics of its core technology (13, 105). The origin of the sociotechnical model is associated with a landmark study in Great Britain that described the failed efforts to implement the innovative "long-wall" method of coal mining (104, 105). The failure was linked to an intricate set of shared behavioral norms and expectations that had evolved over generations of British coal miners. The incongruence between the established social norms of the coal miners and the tasks required by the innovative long-wall technology contributed to psychological distress and turnover among the miners and reduced productivity.

Today, the fact that an organization's social context is associated with its capacity for innovation and effectiveness is generally accepted, and two dimensions of social context—organizational climate and culture—are mentioned most often (62, 96, 107). The terms have distinct histories. Organizational climate appeared first in the 1930s when Lewin (74) studied how the "atmosphere"

or "climate" engendered by a work group's leader affected the behavior of group members. The term climate reflected the psychological impact of the work environment on employees' well-being, motivation, and performance (61).

Studies of organizational culture—defined as the shared behavioral norms, values, and expectations in an organization—emerged several decades later in the 1970s (50, 90). The term organizational culture borrowed heavily from sociological and anthropological research on social culture and studies of communities, indigenous groups, and other socially defined collectives. The two terms, organizational culture and organizational climate, began to be used interchangeably by some writers in the 1990s, but a comprehensive thematic analysis of the literature in the latter part of that decade confirmed a distinction between culture and climate that continues among many organizational researchers (107).

Our view is that culture and climate differ in important ways. Organizational climate is created by employees' shared perceptions of the psychological impact of their work environment on their own personal well-being and functioning (41, 60). The perceptions that are shared by employees in a given work environment represent an agreement in their appraisals of the meaning and significance of their work (60). The perceived impact of a work environment on each individual's personal well-being has been labeled psychological climate (63). When individuals in the same work environment agree on their perceptions of the psychological impact of their work environment, their shared perceptions define the organizational climate of that particular work environment. The difference between psychological climate and organizational climate can be illustrated with the notion of perceived room temperature. Room temperature can be understood as individual-level appraisals of being too hot or too cold. If all the individuals in a room agree that the room is either too hot or too cold, the group's shared perception of the room's temperature can be described (the group is either too hot or too cold) while retaining the idea that each individual is experiencing the temperature (each individual is either hot or cold).

Individual-level job performance, psychological well-being, withdrawal, staff turnover, job satisfaction, organizational commitment, and motivation as well as organizational-level innovation, productivity, and performance have all been associated with organizational climate (15, 88, 96). Moreover, the organizational climate of mental health and social service agencies has been empirically linked to service quality, treatment planning decisions, clinician attitudes toward evidence-based treatments (EBTs), staff turnover, and youth mental health outcomes (1, 4, 34, 37, 39, 40, 82, 98). Climate has also been described as mediating the effect of organizational culture on individual-level work attitudes and behavior (3, 40).

Organizational culture is defined as the behavioral norms and expectations that characterize a work environment (17, 41, 107). These norms and expectations guide the way employees in a particular work environment approach their work, direct their priorities, and shape the way work is done. New members of an organizational unit are acculturated through social processes such as modeling, reinforcement, and sanctions (53). Many writers emphasize that organizational culture is a layered construct consisting of deeply held assumptions and values that translate into normative expectations and behavior. However, several studies suggest organizational culture is transmitted more through behavioral norms and expectations than through internalized values or assumptions that may not be explicit or known (26, 54, 57, 58).

The effects of organizational culture on individual and organizational outcomes have been widely studied, and the number of such studies has increased during the past decade. Wilderdom (109) identified 10 studies of the association of organizational culture and outcomes prior to 2000, whereas a subsequent review by Sackmann (94) and a meta-analysis by Hartnell et al. (51) a decade later identified 55 and 84 such studies, respectively. Organizational culture has been associated with a variety of outcome criteria, including service quality, innovation, employee work attitudes,

organizational growth, and performance (73, 84). Among these studies, organizational culture explained 35% of the variance in innovativeness among hospital units, 46% of the variance in earnings among customer service organizations, and 38% of the variance in performance behavior and standards among customer service organizations (94).

Organizational culture in the context of mental health and social services has been empirically linked to clinician attitudes toward EBTs, sustainability of newly adopted treatment programs, access to mental health services, service quality, staff turnover, and mental health outcomes (1, 3, 34, 35, 39, 40, 110). In summary, culture-based behavioral norms and expectations within an organization guide individual behavior, and variation between organizations' norms and expectations explains differences in organizational innovation, performance, and outcomes (51, 71).

ASSESSING ORGANIZATIONAL CULTURE AND CLIMATE IN MENTAL HEALTH SERVICES

Numerous instruments are used in health and mental health settings to assess organizational culture and climate, but many have inadequate psychometric properties. Moreover, several have unreported or poorly reported psychometric properties or have been applied in just a single study (25, 31, 100). Emmons et al. (25) found highly variable and poor score reliabilities across studies (i.e., $\alpha < 0.70$), factor structures that were unique to each study, use of a single rater to assess an organization's culture and climate, and inappropriate composition models for constructing items and aggregating individual-level responses.

The Organizational Social Context (OSC) measure was developed over a 30-year period to address these types of problems in assessing the organizational cultures and climates of mental health and social service organizations (36, 41, 44). The OSC is designed for both research and practice (e.g., 11), and US national norms are available for child welfare and mental health settings, respectively (36, 41). The availability of national norms permits organizational culture and climate profiles to be estimated for an organization in relation to a nationwide sample of similar organizations.

OSC Measure of Organizational Culture

The OSC measure of organizational culture relies on line workers' responses to items assessing three dimensions of behavioral norms and expectations that guide their work behavior (41). The three dimensions are proficiency, rigidity, and resistance. Clinicians in proficient organizational cultures report they are expected to be responsive to the unique needs of each of the clients they serve and to have up-to-date knowledge and clinical skills. Clinicians in rigid organizational cultures report they are expected to closely follow a host of bureaucratic rules and regulations and have limited discretion and authority in completing their work. Clinicians in resistant cultures report they are expected to suppress change or innovation in their work environment through either active or passive strategies that maintain the status quo. Organizational cultures that produce the best clinical outcomes for youth, the best clinician attitudes toward EBTs, highest service quality, and longest program sustainability are those that expect high levels of proficiency and low levels of resistance and rigidity compared with national norms (1, 34, 39, 41, 85).

OSC Measure of Organizational Climate

The OSC measure of organizational climate includes three dimensions of employees' shared perceptions of the psychological impact of their work environment on their own well-being and

functioning (41). The three dimensions are engagement, functionality, and stress. In engaged organizational climates, clinicians describe their work-related accomplishments as personally meaningful and report they are personally involved in their work with clients. In functional climates, clinicians report that they receive the levels of support and cooperation from coworkers and administrators needed to do their jobs and have a clear understanding of their roles in the organization and how they contribute to its success. In stressful climates, clinicians report high levels of role overload, role conflict, and emotional exhaustion in their work. Organizational climates that produce the best outcomes for youth, lowest employee turnover, positive clinician attitudes toward innovation (e.g., EBTs), and highest service quality are those with high levels of engagement and functionality and low levels of stress compared with national norms (1, 35, 41, 85).

OSC Reliability and Validity

The reliability and validity of the OSC have been established in multiple studies, including two studies with nationwide samples (36, 41). The OSC factorial validity was confirmed in a nationwide study of 1,154 clinicians in 100 children's mental health clinics in 26 states (41) and in a nationwide sample of 1,740 child welfare caseworkers in 81 child welfare systems (36). These studies provided evidence of moderate to excellent internal reliabilities ($\alpha \geq 0.70$) for each of the six dimensions of culture and climate assessed by the OSC, as well as evidence of within-organization inter-rater agreement and between-organization differences in line worker responses.

The validity of the OSC is based on associations with clinician turnover, program sustainability, service quality, and employee work attitudes (i.e., job satisfaction, commitment) in multiple samples across hundreds of organizations (e.g., 34, 35, 39, 41, 44, 85). The validity of the OSC in predicting service outcomes has been supported in numerous prospective studies, including a nationwide, seven-year longitudinal study of youth served by child welfare systems (35) and a randomized controlled trial of mental health service programs for youth (39). The associations among the multiple dimensions of the OSC and various criteria also support the construct validity of the culture and climate dimensions on the OSC (e.g., 1, 34, 41, 44, 85).

CHANGING ORGANIZATIONAL SOCIAL CONTEXTS FOR EFFECTIVE MENTAL HEALTH SERVICES

The association of organizational culture and climate with innovation, service quality, and outcomes suggests that organizational interventions that improve social context can be used to support EBT implementation and improve service effectiveness. Although many organizational interventions have been designed to improve culture and climate, few have been tested in mental health and social services, and almost none have been tested in randomized controlled studies in actual work settings (87). One exception is the Availability, Responsiveness, and Continuity (ARC) model of organizational effectiveness. ARC is a team-based, participatory, phased process designed to improve organizational culture and climate in mental health and social service organizations, support innovation, and remove barriers to effective service. Five randomized controlled trials (RCTs) of ARC have been conducted in the Midwest, Northeast, and Southeast regions of the United States. These RCTs show that ARC improves organizational social context, increases job satisfaction and commitment, supports EBT implementation, reduces staff turnover, and improves service outcomes (33, 38, 39, 42, 43).

Changes in organizational culture and climate that support innovation and improve effectiveness are created with three ARC intervention strategies. The first ARC strategy embeds five principles of service system effectiveness within the organization to guide ongoing organizational

innovation and service improvement efforts. The second ARC strategy trains teams of clinicians to use organizational component tools that are necessary to identify and address barriers to service innovation and effectiveness. The third ARC strategy promotes shared mental models (e.g., openness to change, psychological safety) among clinicians and administrators to support service innovation and improvement efforts. Each of the three strategies is discussed below in more detail.

Embedding Principles of Organizational Effectiveness

ARC embeds five guiding principles within an organization to guide positive change efforts and improvements in service system effectiveness (42). This strategy is supported by written ARC manuals and an ARC specialist who explains the principles and helps organizational members apply the principles in their improvement efforts. The principles are based on the idea that service barriers emerge in any organization to misdirect the attention and efforts of individual-level providers who are attempting to serve clients. The five ARC principles guide efforts to identify and address those service barriers by focusing service provider efforts on improving the well-being of the organization's clients. This focus is critical to improvement efforts because principle-based, contextual support for individual-level efforts that benefit others is an important motivator in developing service providers' commitment to making a prosocial difference through their work (46). The five ARC principles are to (*a*) be mission-driven not rule-driven, ensuring that all actions and decisions contribute to clients' well-being; (*b*) be results-oriented not process-oriented, measuring success by how much client well-being improves; (*c*) be improvement-directed not status quo–directed, continually working to be more effective in improving clients' well-being; (*d*) be relationship-centered not individual-centered, focusing on networks of relationships that affect services and clients' well-being; and (*e*) be participation-based not authority-based, ensuring that policy and practice decisions that affect client well-being involve everyone with a stake in the decision.

Twelve Organizational Component Tools to Improve Services

The ARC strategy uses 12 organizational component tools (e.g., feedback, teamwork, task redesign) through 3 stages to encourage and support collaboration, participation, and innovation within a service system. These 12 components include empirically supported organizational change strategies selected from several decades of research (e.g., 83, 92) and adapted for mental health and social service organizations. The component tools are taught and supported with the *ARC Training Manual* and *ARC Facilitator's Guide*. The University of Tennessee Children's Mental Health Services Research Center website (**http://cmhsrc.utk.edu**) provides additional information about these components and materials.

The ARC strategy creates within each organization a structure and a process for using the 12 component tools under the guidance and support of the ARC specialist (a trained expert who is external to the organization), the ARC liaison (a carefully selected internal champion who is identified by the ARC specialist in collaboration with the organizational leadership), the organizational action team (OAT), and ARC line-level teams. The ARC line-level teams are composed of direct service providers who are trained to identify and address service barriers in their work, while guided by the five ARC principles. The OAT is composed of members from all levels of the organization, including top leadership, middle management, and line-level service providers. Using the five ARC principles, the OAT is responsible for reviewing and implementing proposals submitted by the ARC line-level teams to address service barriers identified by the teams.

Collaboration. ARC specialists work in the collaboration stage with agency administrators, external stakeholders, and clinicians to incorporate three component tools. First, the ARC specialist supports the efforts of organizational leadership to introduce and explain the ARC change process and goals to organizational members and describe the organizational structures and processes that will be created to support service improvement efforts. These efforts focus on upper leadership's commitment to ARC, the five principles of service system effectiveness outlined above, and the provision of practical information about the ARC organizational structure and process. The ARC specialist works with upper leadership to (*a*) identify an ARC liaison among the upper organizational leaders who will champion the ARC effort within the organization and (*b*) create an OAT with representatives from each level (leadership, middle management, supervisors, and frontline staff).

Second, ARC specialists cultivate personal relationships with members of the organization (e.g., OAT team), external stakeholders (e.g., consumer advocates), and supervisory and frontline staff (e.g., ARC teams). These relationships are integral to framing the rationale for the improvement effort and work of the OAT and ARC teams. Third, the ARC specialist builds a network of relationships through meetings that focus on issues identified as important by the organizational leadership, line-level supervisors, and other stakeholders (43).

Participation. Five component tools form the ARC participation stage to establish organizational processes that are critical to engaging members in service improvement efforts. These component tools include team building, information and training, feedback, participative decision making, and conflict management. Using these tools, the ARC specialist trains frontline ARC team supervisors to use the ARC model of decision making and problem solving in the teams' efforts to identify and address service barriers. The *ARC Facilitator's Guide* instructs supervisors in how to conduct treatment team meetings that identify service barriers, develop proposals for addressing those barriers, and submit the proposals to the OAT for implementation. The organizational leaders and frontline team members are trained to assess the relative advantage of a proposed innovation, to apply the ARC principles in decision making, and to support efforts to identify and address service barriers.

Innovation. Finally, four ARC component tools compose the innovation stage in the implementation of changes to improve service quality and outcomes. The four component tools are goal setting, continuous improvement, job redesign, and self-regulation. The organizations' ARC teams are taught to use goal setting and continuous improvement procedures to address service barriers. Job characteristics are redesigned in this stage to eliminate service and innovation barriers. This process includes transforming job tasks, changing program practices and procedures, and training frontline staff. The development of plans to ensure self-regulation and stabilization of innovation adoption and implementation processes is the last step.

The ARC structures and processes can support various innovations as a function of the unique interests and service barriers identified by the line workers composing the ARC teams. Examples of ARC accomplishments are streamlining client referral processes, eliminating unnecessary paperwork, implementing new treatment models (e.g., EBTs), installing electronic medical record systems, modifying decision-making processes, establishing linkages among key personnel in different institutions (e.g., clinics, schools, juvenile courts), and improving intake procedures. The ARC model of organizational effectiveness views the capacity for innovation as an organizational characteristic that must be intentionally developed and sustained to support ongoing improvements in service delivery.

The Role of Shared Mental Models in Improvement Efforts

A third ARC strategy is to develop shared mental models (e.g., openness to change, psychological safety) among agency administrators, mid-level management, and frontline service providers to support innovation and service improvement efforts. Mental models are heuristically based cognitive processes that form the basis of reasoning and interpretation and influence individuals' behaviors (59, 81). Service improvement efforts depend on shared mental models among service providers that affect adoption and implementation success, are influenced by organizational culture and climate, and are malleable (59, 78). The notion of psychological safety, for example, promotes the participation of line-level workers in critically examining service barriers and proposing improvements in job-related tasks without fear of reprisal from peers or supervisors. Evidence shows that health care teams characterized by psychological safety are more effective in implementing complex innovations (24).

Five RCTs, including three published trials and two that have been recently completed, support the feasibility and benefits of ARC in improving both child welfare and mental health service systems. The trials have shown ARC to be successful in improving work environments, innovation, EBT implementation, and service outcomes (33, 38, 39, 43). The interventions were effective at both program and organizational levels and established that improvements in social context are associated with improved client outcomes.

MECHANISMS THAT LINK ORGANIZATIONAL INTERVENTIONS AND SOCIAL CONTEXT TO INDIVIDUAL BEHAVIOR

Organizational interventions are time and labor intensive and therefore expensive. Improvements in the efficiency and effectiveness of these intervention strategies require a better understanding of the mechanisms that link organizational interventions, organizational social contexts, and individual-level behaviors (95). Although organizational interventions have been shown to improve organizational social contexts and outcomes in mental health and social service systems, less is known about the mechanisms that link the interventions to individual-level behavior change (38, 39, 43).

Services researchers have noted the need for theory-guided development of implementation strategies that specify cross-level mechanisms linking organizational interventions to targeted changes in individual service provider behavior (49). A better understanding of specific change mechanisms is necessary for more efficient and effective innovation implementation strategies because it is not clear which specific strategies can or should be included (or eliminated) for a given targeted outcome. We argue that transforming organizational social context in a cost-effective and sustained way requires knowledge of the linking mechanisms that generalizes beyond any specific innovation, EBT, group of employees, setting, or organizational leader (112). The goal of identifying linking mechanisms is to provide the tools that enable organizations to pick the strategies that are most appropriate for their specific needs.

Improving our understanding of linking mechanisms requires research strategies that can overcome several challenges. Organizational studies must balance experimental control and intervention specificity with external (ecological and population) validity. Studies must test specific change mechanisms that occur in and link both organizational and individual levels. Implementation studies must also test change mechanism hypotheses across all phases of innovation: exploration, adoption, implementation, and sustainment. These challenges can be overcome with research that specifies a cross-level theory of organizational and individual behavior change and tests the theory within a research and development framework that incorporates the experimental control required
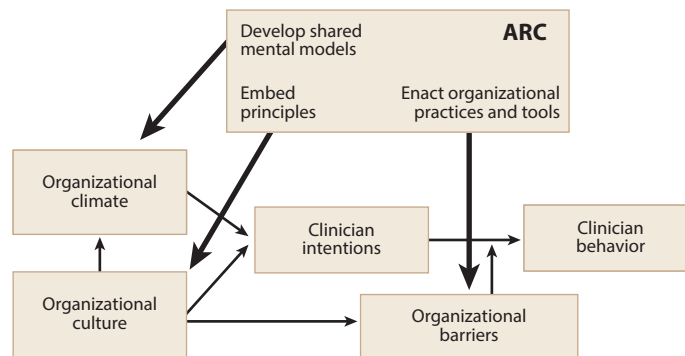
Figure 1

Theoretical model of cross-level change mechanisms, processes, and behaviors.

to assess specific change mechanisms. We propose a theoretical model and a research paradigm that contribute to this effort (112). Initial studies in a sample of 14 mental health organizations are testing our model in the context of an RCT of the ARC organizational intervention (see **Figure 1**).

The proposed model builds on research that describes the effects of planned behavioral change in human systems and incorporates four phases in identifying change mechanisms (22, 66, 67). First, the effort focuses on specifying a theoretically grounded intervention and conducting randomized trials to establish the efficacy of the intervention in the targeted outcome criteria. This first phase has been largely completed for the ARC model of organizational effectiveness as described above.

In the second phase, potential change mechanisms need to be identified and their links to targeted outcomes in a mediation framework assessed. Very little of this work has been completed with ARC or any other organizational intervention strategy. We define change mechanisms as intermediate changes that are activated by the intervention and serve as the basis of the intervention's effect. Change mechanisms in organizational interventions operate at the organizational and individual levels. In the third phase, change processes that contribute to improvements in the change mechanisms are to be identified. Work in this third phase has not begun for existing innovation implementation strategies. We define change processes as the active ingredients of the organizational intervention, which include the activities of the external organizational change agent (e.g., ARC specialist in our example) and the participating members of the service system (e.g., ARC liaison, OAT, and ARC teams in our example) that contribute to variation in the change mechanisms. Finally, in the fourth phase, empirical knowledge of the change mechanisms and change processes is to be used to improve the intervention or to develop new intervention strategies that use change processes more efficiently to affect the identified change mechanisms.

Our program of research integrates organizational culture and climate theory with well-established social cognitive theories of individual behavior and behavior change (5, 6, 10, 27). Our goal is to explain the links between organizational change processes, change mechanisms, and individual behavior change related to improvement efforts such as EBT implementation (112). Many human behaviors are explained by social cognitive theories, including the behavior of health and mental health practitioners (7, 16, 23, 89). Social cognitive theories can be integrated with organizational culture and climate theory with a focus on the role of social norms, perceived benefit, and self-efficacy in generating behavioral intentions, which are driven in part by organizational social context. In addition, the role of environmental barriers that may facilitate or constrain the enactment of behavioral intentions is included in both social cognitive theory

and in culture and climate theory (27). The meta-analysis by Godin et al. (45) found that the theory of planned behavior explained health care professionals' behaviors and that factors closely related to organizational culture and climate, including social influences, social/professional role identity, and beliefs about consequences, were all significantly related to behavioral intentions and behaviors. Moreover, clinicians' beliefs about their own abilities to act, which are reflected in our definition of organizational climate, contributed significantly to intentions and behaviors.

The model shown in **Figure 1** uses the theory of planned behavior to link organizational social context to clinicians' behavioral intentions and behavior. Behaviors related to the use of an EBT and other innovations require preparation, forethought, and sustained effort. Individuals develop intentions to pursue such behaviors and are more likely to enact the behaviors when environmental conditions support their intentions (5, 27). We argue that organizational social contexts contribute to the development of intentions to act and to the presence or absence of organizational barriers to enactment. In turn, the relationship between clinicians' intentions and their behaviors is moderated by the organizational barriers. The dual effect of culture and climate on intentions and barriers parallels research on innovation implementation and explains the influence of culture and climate on the adoption, implementation, and sustainment of EBTs and other innovations that has been established in many studies (1, 4, 9, 14, 18, 21, 29, 55, 56, 64, 75, 112). Evidence has also shown that organizational culture impacts other employee behaviors (e.g., turnover) directly and indirectly through its effects on organizational climate (3, 51, 111).

Change processes are represented by the three ARC strategies described previously. The three strategies (i.e., embedding guiding principles, enacting organizational component tools, and developing shared mental models) improve organizational culture and climate and reduce organizational barriers, which represent organizational-level change mechanisms. In addition, the strategies affect practitioners' intentions to act, which represents an individual-level change mechanism. This model therefore explains the implementation of EBTs and other innovation-related behaviors as a function of intervention change processes (ARC principles, organizational tools, and mental models) that impact organizational-level (organizational culture, climate, barriers) and individual-level (intentions) change mechanisms to influence individual behavior (e.g., innovation adoption, implementation, sustainment), as shown in **Figure 1**.

The innovation implementation process and other organizational improvement efforts have multiple stages. For example, the desired clinician behavior in the exploration stage may include search behavior directed at identifying an EBT that is relevant for specific clients. Organizational culture and climate impact clinicians' intentions to engage in search behavior and contribute to organizational barriers that moderate the effect of their intentions on behavior. Research suggests that a culture characterized by proficiency norms and a climate characterized by lower stress contribute to search behavior (1). In turn, a less resistant culture that is open to change would be expected to erect fewer barriers to the search behavior. Behaviors in the adoption, implementation, and sustainment phases can all be identified and assessed in a similar fashion. Organizational- and individual-level change mechanisms established in phase-two efforts will form the basis for phase-three studies focused on developing more efficient and scalable organizational intervention strategies.

SUMMARY

Organizational social context is central to innovation and effectiveness in mental health services and plays a key role in the adoption, implementation, and sustainment of EBTs. We have developed the OSC measure over the past three decades to assess the organizational culture and climate of mental health and social service agencies and have linked OSC profiles to clinician

behavior, service quality, and outcomes in numerous studies, including nationwide samples and RCTs. We have also developed and tested in five RCTs the ARC model of organizational effectiveness for creating the types of organizational cultures and climates that support innovation and service improvement efforts in mental health and social services. These assessment and intervention tools can be used to study and support EBT implementation and effectiveness as well as other innovation efforts (e.g., improving service quality, introducing electronic medical records, reducing staff turnover). However, changing organizational social contexts is a time-consuming and labor-intensive effort, and we need more efficient and transportable organizational interventions to improve the effectiveness of mental health service systems. Our review of numerous empirical studies shows that the implementation of innovations such as EBTs and service outcomes in mental health can be improved with organizational interventions that successfully shape social contexts. Future research efforts must focus on developing more efficient organizational intervention strategies for improving social context by identifying the specific mechanisms that link the organizational strategies to targeted individual-level intentions and behaviors.

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