Influence of Organizational Characteristics on Success in Implementing Process Improvement Goals in Correctional Treatment Settings

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Abstract

Although research indicates that organizational characteristics substantially influence the adoption and use of evidence-based practices (EBPs), there has been little empirical research on organizational factors most likely to influence successful implementation of EBPs, particularly in criminal justice settings. This study examined organizational characteristics related to the success of change teams in achieving improvements in assessment and case-planning procedures for persons leaving correctional settings and receiving community services. In this evaluation of the Organizational Process Improvement Intervention (OPII), part of NIDA's Criminal Justice Drug Abuse Treatment Studies (CJDATS) cooperative, 21 sites were randomized to an Early-Start or a Delayed-Start condition. For this analysis, data from both conditions were combined. Agencies with fewer program needs, good communication, adequate staffing levels, good supervision, positive attitude toward rehabilitation, and higher institutional capacity for change were better able to implement planned changes in assessment and case-planning procedures. Such agencies may be better candidates for implementation improvement strategies, whereas other agencies could benefit from pre-intervention efforts aimed at strengthening these characteristics before attempting to improve assessment procedures.

Keywords

Introduction

Implementation science refers to the study of methods to promote the integration of research findings and evidence into healthcare policy and practice.[1] This field seeks to understand the

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behavior of healthcare professionals and other stakeholders as a key variable in the uptake, adoption, and implementation of evidence-based practices (EBPs).[2] Although much research in this area initially focused on how EBPs are diffused and adopted under natural conditions, implementation science has increasingly sought to understand how specific implementation strategies can be employed to improve the use of EBPs in real-world settings.[3] Implementation strategies refer to "a systematic intervention process to adopt and integrate evidence-based health innovations into usual care" (p. 124).[4] Although various conceptual models of implementation (e.g., [5–9]) suggest that organizational characteristics have substantial influence on the exploration, adoption, and use of EBPs, there has been little systematic empirical research on organizational factors that are most likely to influence successful implementation, especially in criminal justice settings.[10]

As such, this paper focuses on a study to improve assessment processes for correctional agencies and their community partners that are responsible for re-entry of substance-involved offenders. A major goal of the assessment study, called the Organizational Process Improvement Intervention (OPII), was to evaluate an implementation strategy designed to improve the assessment of offenders (probationers, prisoners, or parolees), the development of case plans for community services, the transfer of case plans to community treatment agencies, and the utilization of the case plans by community treatment agencies to provide appropriate services. The research question addressed in the paper is: Which organizational characteristics are most strongly related to the success of change teams in achieving planned improvements in assessment and case-planning procedures for offenders with substance use problems?

Need for Improvements in the Assessment Process in Criminal Justice Treatment Settings

Substance abuse represents a substantial problem for offenders who are attempting to successfully re-enter the community following jail or prison. Recent data indicate that 48% of federal prisoners, 17% of state prisoners,[11] and 25.5% of local jail inmates were serving sentences related to illegal substances.[12] There is a similar picture when looking at offenders serving their sentences under the supervision of community correctional agencies. Substance-related offenses accounted for 26% of offenders on probation and 35% on parole.[13] Among parolees, 28.5% were currently using illicit drugs, whereas the figure among probationers was 26.5%; this compares with 8.2% of adults in the general population being current users of illicit drugs.[14]

The screening and assessment of inmates and provision of services at discharge from prisons and jails is critical to reducing recidivism rates and improving the chances of successful offender reentry. Screening and assessment are essential in determining which services are needed to address the multiple problems faced by ex-offenders. If appropriate services are provided, it is expected that recidivism rates will be reduced.[15–17] Screening and assessment constitute a two-step process. Screening identifies people at risk for the disorder. Comprehensive assessment determines the nature and complexity of the individual's needs and recommends appropriate services.[18]

The case for reducing recidivism through improved screening, assessment, and referral is based on research indicating the importance of delivering interventions focused on dynamic

criminogenic risk factors, such as substance abuse, criminal thinking, and antisocial associates. In addition, research indicates that higher risk offenders should receive more intensive treatment than lower risk offenders.[19–21] Thus, conducting a careful assessment to identify needs and risk factors prior to commencing treatment and again prior to discharge to community treatment is of particular importance.

Current best practice in the assessment process includes use of standardized and validated assessment instruments, interventions that address criminogenic risk, and linkage of intake and ongoing assessments with service plans, service delivery, and intermediate outcomes.[22] This process involves collecting information on relevant clinical domains (e.g., substance use, employment, mental health status, criminal attitudes, and behaviors); interpreting this information through a defined procedure to yield an assessment of client needs in those clinical domains; developing a case plan that addresses assessed needs; and then using the case plan to guide delivery of treatment services.

Although standardized and validated instruments with known reliability and validity exist for screening and assessment of offender risk and needs,[23] few prisons, jails, or community corrections agencies use evidence-based assessment instruments to identify services needs.[24] It is clear that the processes of assessment, service planning, and service delivery for offenders, particularly those in transition from correctional custody to community treatment, are currently operating under less than optimal conditions.[25,26] In addition to the need to increase use of standardized and validated assessment instruments, improvements are also needed in the use of assessment data to enhance coordination and collaboration between correctional and treatment agencies, improve treatment effectiveness, and lower the risk of relapse and recidivism.[27,28] For example, the results from standardized assessments can inform the determination of the most appropriate level of services, which can thereby enhance treatment effectiveness and help establish the proper level and type of aftercare services. In light of these concerns. The field needs evidence-based practices to improve assessment procedures and client outcomes. Implementing best practices in offender assessment occurs within the context of correctional agencies that may or may not be open to practice improvements, that have varying levels of organizational readiness to introduce such strategies, and that have other characteristics that promote or inhibit practice improvements.

Organizational Factors Influencing Implementation

An organization's climate can greatly influence the implementation of planned change. Based on previous research,[5–9] key organizational characteristics related to organizational readiness for implementing new practices include staff agreement on agency mission, staff cohesion, leadership and supervision, nature and quality of communication within the organization, tolerance for change and perceived benefits for change among staff, management support for change, staff turnover, and resources.[5,7–9,29,30,31] Financial, spatial, and staff resources are also important influences on an organization's capacity and willingness to change.[32–36] For example, one review[37] found that insufficient case management staff, high caseloads, and inadequate training and referral materials limited the willingness of staff to pursue changes in organizational practices. Several recent studies in

criminal justice settings have noted that other organizational factors influencing adoption of EBPs include strong and flexible leadership, clear mission, regular training, teamwork, and infrastructure for quality assurance.[38,39]

Because little systematic empirical research to date has examined organizational factors most likely to influence successful implementation of EBPs in criminal justice settings,[10] this study focuses on the internal organizational environment. Although other influences such as the external environment are certainly worthy of further study, implementation studies rarely test entire conceptual models owing to resource limitations (e.g., funding) and logistical constraints (e.g., number of sites available for analyses).[5,40]

Study Aim

This study sought to determine which organizational characteristics are related to the success of change teams in achieving planned improvements in assessment and case-planning procedures for persons leaving correctional settings and receiving services in the community. This is an important area of study because corrections agencies often interface with multiple community systems, which may pose unique challenges to successful implementation of evidence-based assessment practices. Although the literature suggests organizational factors that could be important, it is critical that they be evaluated specifically in correctional settings.

Methods

The OPII study was one of the research protocols in the Criminal Justice Drug Abuse Treatment Systems (CJDATS), a national collaborative research project funded by the National Institute on Drug Abuse (NIDA) and consisting of nine research centers. Criminal justice agency partners of the Research Centers were involved in the design and implementation of the OPII study to help address the specific needs of their agency (see[10] for a description of CJDATS).

The Research Centers obtained approval for the study protocol from their Institutional Review Boards. Where necessary, approvals were also secured from participating correctional and/or treatment agency research committees or Institutional Review Boards. All participants provided informed consent.

OPII Intervention

A detailed description of the OPII intervention and the study design is found in a published protocol,[41] but a brief summary follows. The design of the OPII study was informed by Proctor's model of implementation research, which distinguishes between evidence-based *intervention* strategies, *implementation* strategies, and three levels of *outcomes* (implementation, services, and client).[9] Following the Proctor model, the intervention strategy was improvement of assessment and case-planning procedures, and the implementation strategy was an approach utilizing a local change team (LCT) and a facilitator that together followed a structured but flexible process-improvement protocol to bring about positive changes in assessment and case planning within correctional settings.[41] The use of change teams to attempt to bring about organizational changes has a long history

generally and in criminal justice settings;[42–44] the involvement of facilitators in organizational change efforts is also well established.[45,46] Building on the previous use of a change team and facilitator to bring about process improvements, the research team developed the specific elements of the OPII protocol adapted to correctional treatment settings.

The Local Change Team (LCT) consisted of correctional and treatment staff from criminal justice and community agencies and a facilitator. The facilitator worked with the LCT to conduct an organizational assessment of the quality of existing processes in each of four dimensions (Measurement and Instrumentation, Integration with Case Plan, Conveyance and Utility, and Service Activation) and then identify and implement specific, targeted process-improvement goals in one or more of these four dimensions (see Table 1).

Each LCT consisted of 6–12 members, including individuals from the participating correctional agency and at least one person from the community-based treatment agency that received referrals from the correctional agency. The LCTs included correctional and treatment staff members with direct responsibility for assessment, case planning, service linkages, and community-based treatment planning functions, as well as individuals in managerial and/or supervisory roles associated with these tasks. One of the members of the LCT was designated as the change team leader; that person convened meetings, made assignments, and communicated with agency leadership about LCT activities. Given the often frequent personnel changes in correctional and treatment agencies and the length of the OPII intervention (at least 12 months), there was considerable turnover in the membership of the LCTs over time. More than one-third (38%) of members left the LCTs for various reasons over the intervention (most were replaced); this varied from 11% to 58% across teams.

The facilitator was an employee of the Research Center or was hired by the Research Center as an external consultant. Each Research Center had its own facilitator. Most facilitators had previously worked directly with agency partners in some capacity, and all had skills and knowledge related to their work with the LCTs, including knowledge of the operations of criminal justice and treatment agencies, experience conducting organizational change through group dynamic and strategic planning, and good communication skills. The facilitator guided the LCT through the phases of the OPII (see below), helped ensure fidelity to the OPII protocol, assisted in writing the various reports, and provided information from outside sources as needed. The degree to which the facilitators were active in the work of the LCTs varied across sites. The work of the facilitator and LCT took place in face-to-face meetings and by email and telephone.

The five phases of the OPII and the planned duration of each phase were as follows: (1) Team Development, beginning with identification of key participants and ending in an introductory Kick Off meeting with the LCT members, the facilitator, and the research staff (1–2 months), (2) Needs Assessment (3–4 months), (3) Process Improvement Planning (3–4 months), (4) Implementation (6 months), and (5) Follow-Up/Sustainability (3 months). The actual time required to complete the OPII varied from one LCT to another (from 13 to 30 months, with an average of 20 months), depending on such factors as the stability of

membership within the LCT, local contextual factors, and the complexity of the goals set by the LCT.

During the Needs Assessment phase, the LCT utilized a staff walk-through of the assessment and case-planning process in their agency[47] and a Strengths, Weaknesses, Opportunities, and Threats (SWOT) exercise[48] to critically examine and prioritize gaps or capacities in four core dimensions of the assessment and case-planning process (see Table 1). During the Process Improvement Plan phase, the LCT, with assistance from the facilitator, then used information gathered from the needs assessment to identify areas for improvement in one or more of the four core dimensions, leading to the creation of a Process Improvement Plan. During the Implementation Phase, the LCT and facilitator carried out the goals and objectives specified in the Process Improvement Plan. Finally, during the Sustainability Phase, the LCT determined whether the agency should continue to implement its improvement plans, whether new goals or procedures were needed, and whether the LCT process itself (e.g., team meetings) should continue.

The goals and objectives developed by each LCT depended on the problems identified during the Needs Assessment Phase and on priorities and available resources of the local agencies. As a result, there was considerable variation in the improvements in assessment and case planning set by each LCT. Examples of goals and their associated objectives are provided in Table 2.

Study Design

Evaluation of the OPII used a multisite cluster randomized design (for more detail on the study, see [41]). Cluster randomized designs are well suited to studies in which the intervention is targeted at the organizational rather than at the individual level, as is the case for the OPII.[49] Clusters consisted of a state- or county-level criminal justice agency and one or more community treatment providers that received referrals from that criminal justice agency. Within a state correctional agency, the clusters were randomly assigned to an Early Start or a Delayed Start condition. After randomization, the Early Start sites began the OPII process as soon as possible, whereas the Delayed Start sites conducted business as usual, without any additional intervention. After approximately 12 months, or when the Early Start LCT had completed the Implementation phase (whichever was reached sooner), the Delayed Start LCT began to carry out the OPII protocol. Given that the research question for this paper addressed factors influencing the success of LCTs in achieving their process improvement goals, not a comparison of study conditions, the survey responses from staff in both the Early Start and the Delayed Start sites are combined in the current analysis.

Participating Agencies and Programs

Each of the nine CJDATS Research Centers recruited two correctional agencies (one Research Center partnered with three correctional agencies and another had partners in two states), and each of the 13 correctional agencies partnered with one community treatment program. The other 8 correctional agencies partnered with 2–4 treatment partners (34 treatment programs in total). Correctional settings included prisons, probation, and parole. Most of the participating agencies served adults, but two of them served juveniles. A total of

21 correctional facilities participated in the study. Staff members participating in the LCT were those who conducted assessments and/or prepared case plans and those who held management or clinical supervision positions. Each LCT initially had between 6 and 12 staff members, although the number fluctuated over the study period depending on personnel and facility changes.

Variables and Measures

The dependent variable for this study is a rating of the Implementation Success that each LCT achieved in implementing the goals and objectives of its Process Improvement Plan. Implementation Success was evaluated by reviewing three LCT generated documents and assessing the degree to which the originally stated goals and objectives of the LCT had been achieved. The three LCT documents used in the ratings were the Needs Assessment Report, the Process Improvement Plan, and the Implementation and Sustainability Report. The OPII operational manual[41] specified a suggested for each of the reports to ensure consistency across sites and facilitators. Two and sometimes three research assistants (M.A. or Ph.D. level) received training in the rating protocol and then independently reviewed and rated the documents of each LCT, with no research assistant evaluating the documents of an LCT associated with his or her own Research Center. For each goal and objective that was listed in the Process Improvement Plan, research assistants assigned an implementation score using a 7-point Likert scale that was anchored at "0" Not begun and "6" Completed, with "7" reflecting insufficient information contained in the Implementation and Sustainability Report to assign a score. The number of goals for sites ranged from 1 to 7, with a mean of 3; the number of objectives ranged from 3 to 18, with a mean of 8; across all 21 change teams, there were 69 goals and 169 objectives. The ratings only considered the degree to which the goals and objectives were successfully implemented, not their content or complexity. Following the completion of independent ratings, the raters participated in a consensus call to review their ratings, discuss discordant ratings, and assign a consensus score for any discordantly rated items. The Krippendorff α was computed on the individual ratings conducted prior to the consensus call in order to measure the reliability of the raters' success scores across different goals and objectives (Krippendorff, 2013). The computed α (0.77) suggested a sufficient level of reliability in the raters' scores. The final success rating for each LCT was an average of the rated goals and objectives, and indicated the degree to which an LCT was successful in achieving its goals and objectives.

The independent variables for this study included key organizational characteristics previously hypothesized and/or demonstrated to influence the results of change efforts.[5,8,9,29] The Baseline Survey of Organizational Characteristics (BSOC) was administered to correctional and treatment staff during (or shortly after) the Kick Off meetings. The BSOC was developed by the CJDATS Research Centers to describe staff background and organizational characteristics of the participating sites. It is a pencil-and-paper instrument that can be administered individually or in a group. Most of the scales were taken from the Organizational Readiness for Change and the Survey of Organizational Functioning instruments, developed and validated by Texas Christian University.[29,51–53] (A copy of the BSOC and the scoring guide can be accessed at the National Addiction and HIV Data Archive Program: www.icpsr.umich.edu/icpsrweb/NAHDAP/studies/35082.)

The BSOC included 29 scales (see Table 4). The number of items in each scale ranged from four to 10. Each item on the BSOC was rated on a 5-point Likert scale, from 1 (*Disagree Strongly*) to 5 (*Agree Strongly*). In addition, demographic information (e.g., age, race, ethnicity, gender, work experience, job characteristics) was gathered through the BSOC survey. Wording of items was tailored to type of personnel (correctional staff, treatment staff). The BSOC was administered to LCT members and to other correctional and treatment staff members at the participating criminal justice and treatment agencies who were likely to be involved in the assessment process. Correctional staff who were asked to complete the BSOC consisted of correctional counselors (or an equivalent designation) who were assigned to inmates and who were typically responsible for making referral decisions within the institution and to community supervision and services. (The BSOC was not administered to custody staff concerned with security or to administrative staff.) Treatment staff included staff in the correctional agencies (prison, probation) involved in the study, including LCT members and staff in the community-based treatment program(s) involved in the study. The method of recruiting staff to complete the BSOC varied across Research Centers, depending on the policies and procedures of the respective agencies.

The overall response rate to the baseline survey for both treatment and correctional staff was 97%. The combined sample for analysis was 659 (328 treatment staff and 331 correctional staff) from 21 study sites. Table 3 presents key background characteristics of the staff whose survey responses contributed to the analyses reported here. Overall, most respondents were women (57.5%). The majority identified themselves as White (66.2%), followed by African American (30.0%), Hispanic (8.6%), and other racial/ethnic categories (less than 1%). The education level of respondents was 21.9% with less than a bachelor's degree, 47.5% with a bachelor's degree, and 31.0% with a master's degree or higher. Nearly three-quarters of the respondents were correctional officers or treatment counselors, with the others being directors, supervisors, or support/other staff. The three main work settings were probation, prison, and prison treatment program.

Analytical Approach

The purpose of the analysis was to evaluate which, if any, organizational characteristics, as measured by BSOC scales, predict organizational change, expressed as the success of the LCTs in implementing their process improvement plans. Since the dependent variable is the Success Rating measured at the organizational level (Level 2) and the predictors are the BSOC scales measured at the individual level (Level 1), an analytical method is needed that allows a Level 2 outcome to be predicted by Level 1 variables. There are few analytical methods currently available for adequately dealing with this type of model. Croon and colleagues[54–56] have developed methods for analyzing higher-level outcomes predicted by individual-level variables.

As these authors point out, the usual methods of analyzing a Level 2 outcome have been either to aggregate all data to the group level or to disaggregate group-level data to individual level by assigning the group-level value for a given group to each individual in that group. Both of these approaches are flawed.

In the aggregation method, individual-level independent variables are aggregated to the group level by assigning either group mean or group median values as the group-level response and then analyzing the data at the group level. But this method reduces the variability in the data by not accounting for the within-group variability of the independent variables, resulting in biased estimates of the standard errors of the regression parameters. This method also results in a reduced sample size and corresponding loss in power. In the disaggregation method, each individual in the same group is assigned the same outcome value for that group. Analysis is carried out at the individual level, producing individual-level standard errors of the model parameters. The lack of variability within each group for individual-level variables leads to inaccurate estimates of the standard errors of the regression parameters.

In contrast, the Croon approach used in this study appropriately accounts for individual- and group-level variability by conducting a two-level analysis where the within-group variability of the independent variables is estimated at Level 1 and the group-level variability is accounted for in the group-level regression model in cases where the outcome is measured at the group level (for an application of the model similar to the present analysis, see [57]).

The model equations are:

$$\text{Group level:} \quad y_g = \beta_0 + \beta_1 \xi_g + \varepsilon_g$$
$$\text{Individual level:} \quad x_{ig} = \xi_g + \upsilon_{ig}$$

In these equations, y_g is the group-level outcome, ξ_g the group-level explanatory variable. The individual-level explanatory variable x_{ig} is expressed at the group level by the latent group-level variable ξ_g and the individual-level error term υ_{ig}. β_0 and β_1 are the regression parameters; ε_g is the group-level error term; and υ_{ig} is the individual-level error term associated with the individual-level explanatory variable x_{ig}. The between-group variance of the independent variable is denoted by σ_ξ^2 and the within-group variance by σ_υ^2. The group-level error term ε_g has variance σ_e^2. The variance of the individual-level error term υ_{ig} is assumed to be constant for all respondents and all groups, and the group-level and individual-level error terms are also assumed to be independent of each other. This version of an HLM model, in which a group-level outcome (Success Rating) is predicted by individual-level variables (BSOC scale scores), was implemented using the MPlus Version 7.2 statistical package.[58]

Of the 29 BSOC scales, 26 were considered for this paper. Since one scale (Services Coordination) had different response categories for correctional and treatment staff, the scores could not be combined. The three communications scales in the BSOC, which represent different aspects of communication, were combined into a single total communication scale. A Bi-factor Confirmatory Factor Analysis (CFA) was conducted to ascertain whether there was an underlying global scale related to all the communication items. The Bi-factor model is better suited than the standard confirmatory factor model to detect the underlying factor structure when there are several interrelated factors as well as an overall factor.[59,60] The Bi-factor CFA model specified a global communications scale with significant factor loadings on all communications items as well as the three subscales with

factor loadings from some of the items. Three of the model fit statistics for this model were good (CFI = 0.94, TLI = 0.93, and SRMR = 0.03) and one of the model fit statistics was acceptable (RMSEA < 0.07), indicating the acceptability of the global communication scale.

Table 4 shows the Cronbach alpha and the Intraclass Correlation Coefficient (ICC) for each of the 26 BSOC scales for the treatment staff and correctional staff combined data. The ICC is defined as the proportion of observed variance that can be explained by between-group differences. Scales with small ICCs (e.g., <.10) suggest less consensus among participants within a given site, whereas scales with higher ICCs suggest greater agreement among staff within a given site.[61] The Cronbach's alphas ranged from 0.50 to 0.95. Sixteen of the scales had an alpha higher than 0.70, indicating moderate to high scale reliability: Staff Needs, Training Needs, Program Needs, Staffing, Internet, Supervision, Influence, Job Satisfaction, Belief in Rehabilitation, Mission, Cohesion, Stress, Burnout, Management Support, Leadership, and Communication. The other scales were excluded from further analysis. Reliability tests conducted separately for treatment and correctional staff data showed similar alpha values for each scale.

For each scale with high reliability, ICC values ranged from 0.02 to 0.46 (see Table 4). The design effects for these scales range from 1.6 to 14.8. While some scales did have a design effect lower than 2, for most of the scales the design effect was 4 or higher, indicating that they should not be aggregated at the organizational level. In general, clustered data with design effect higher than 2 should be analyzed, taking into account the hierarchical/nested structure of the data,[62] since the inaccuracy of the error variance estimation becomes larger with higher ICC and cluster size. Each of the high-reliability BSOC scales was entered into a separate HLM model with Success Rating as the dependent variable. The number of sites (21) was too few to allow us to include covariates (e.g., site characteristics, staff characteristics), either at the organizational level or individual level in the HLM models.

Results

The distribution of the success ratings for each change team is shown in Table 5. The ratings indicated relatively high success across most of the 21 change teams. The overall mean was 4.3 on a 6-point scale. Five of 21 change teams received the highest possible rating of 6.0, and 13 change teams had ratings of 4.0 or higher, with an additional six having a rating of 3.0. Only two change teams had a rating below the mid-point of 3.0.

HLM models (using MPlus) of each of the 16 scales with the Success Rating outcome indicated that five scales had significant associations (see Table 6): Program Needs (p<0.03), Staffing (p<0.03), Supervision (p<0.01), Belief in Rehabilitation (p<0.03), and Communication (p<0.01). Each of these five models revealed significant variability within and between the organizations. All model fit statistics (SRMR, RMSEA, CFI, TLI) were within acceptable range for each of the bivariate HLM models (the RMSEA fit statistic for each model is included in Table 6). These models indicate that organizations with higher staff confidence in agency leaders (supervision) achieved higher success ratings than did organizations with more focus on the overall adequacy of staff assigned to do the work (staffing). The negative estimate for Program Needs indicates that LCTs that operated within

organizations with higher needs for improved programming were less successful in implementing their goals. Organizations with better communication between staff and leadership and organizations with greater support by correctional staff for offender substance abuse treatment were also more successful in achieving their goals. Although it would have been desirable to include these five scales in a multivariate HLM model, limited statistical power due to the number of sites resulted in unacceptable model fit when these scales were included in such a model.

Discussion

This paper examined organizational characteristics that may influence the success of change teams in achieving targeted improvements in the assessment and case-planning process. Using conservative Croon HLM models that allowed analysis of site-level implementation outcomes (success) with individual level predictors, the findings indicated that lower ratings of program needs and higher ratings of staffing, supervision, support for rehabilitation, and communication within organizations significantly predicted successful implementation of the change plans. Although the other BSOC scales did not significantly predict ratings of success, the direction of effect for each scale was as would be expected; in particular, success in achieving goals was negatively impacted by higher Staff Needs, Training Needs, Stress, and Burnout.

Program Needs

Study sites in which staff rated their agency as having fewer program needs were more successful in implementing their process improvement plans. This result is consistent with findings from other studies that show that organizations starting out with lower program needs and a higher baseline of resources and support have greater success with outcomes in treatment and client engagement and satisfaction.[63–65] Simpson, Joe, and Rowan-Szal[66] likewise found that programs where staff viewed fewer barriers to training were more satisfied after training and more likely to implement the training in their practice.

It appears that organizations operate with a positive contagion, in that those that are already operating at high efficiency and with fewer program needs have a greater capacity to implement new initiatives and achieve further success. Organizations that have cultures that are more conducive to change may be better able to resolve program needs; perhaps, they have fewer needs because they already have a culture that supports open communication, good supervision, and staff satisfaction and have a relative abundance of resources, and therefore are better able to institute changes. Thus, having fewer program needs may not itself be a causal factor in instituting change; rather it may be the result of the organizational capacity to change.

On the other hand, high program needs may be a function of a variety of factors that act as barriers to readiness to change. External factors that can influence the ability to implement process improvement strategies may include regulatory practices and policies that inhibit change; leadership, both external (e.g., political leadership) and internal, that does not support change or does not provide the resources to encourage change or to develop the staff capabilities to enable change; or low pressure to change from the community. Correctional

settings often operate under highly regimented management structures that make change difficult. High program needs thus may be a proxy for forces that have inhibited change in the past and may continue to do so.

Communication

Communication was found to be an even more important factor ($\beta = .53$), indicating that open communication among staff and between staff and management was highly and positively related to successful implementation of the change plan. This is not surprising, since improvements in the assessment and case-planning process often necessitated policy changes, buy-in from management and front-line staff, and execution of new procedures by front-line staff. This finding is consistent with a large body of recent research on the importance of communication in fostering effective correctional systems.[67] Meta analyses have shown that communication is consistently associated with the success of change teams.[68,69] Specific contributions of communication include the sharing of information,[69] understanding the perspective of others,[70] increasing psychological empowerment,[71] performance monitoring and coordination,[72] and implementation of planned changes.[73]

Staffing

As has been found in other studies,[33–35] the present study confirmed the importance of adequate staff resources for an organization's capacity and willingness to change. High caseloads and inadequate training often limit the willingness of staff to pursue organizational innovations.[37] Organizations in which employees face significant time pressures in performing their work may be less willing to invest the time in planned change efforts that require interagency collaboration.[74] Organizations with greater resources may also have advantages in building inter-organizational relationships, partly because they are better able to afford the time required for networking.[75]

Supervision

This study confirmed that organizational norms and values communicated by those in key leadership positions are critical variables affecting planned change outcomes.[74–76] In addition to supervisory support, agencies that empower workers through greater job autonomy may form and maintain more effective intra- and interagency relationships.[77–79] Other research has noted that organizations that are successful in implementing evidence-based practices have leaders who support implementation through workflow design and by conducting continuous monitoring, feedback, and reinforcement of implementation activities.[80,81]

Belief in Rehabilitation

Several studies have suggested that correctional staff support for rehabilitation may be a significant factor influencing treatment implementation and outcomes in correctional settings.[26,82] For example, Friedmann, Taxman, and Henderson[82] found that correctional administrator attitudes favorable to rehabilitation for offenders were positively associated with the number of evidence-based practices used in prisons, jail, and community corrections. Few studies, however, have empirically examined how such attitudes influence

implementation outcomes. The present study supports the argument that correctional officer support for rehabilitation is a critical factor influencing change attempts in correctional treatment settings.

Limitations

There are several limitations to this study. First, the number of sites available for analysis was relatively small, precluding inclusion of additional covariates (e.g., staff characteristics such as gender or years of experience) and making it difficult to detect small effects. Implementation studies that seek to examine agency-level outcomes will need to ensure a sufficient number of sites in order to obtain adequate statistical power at the agency level.[83,84] Although the analysis used higher-order Croon models (i.e., models with two or more predictors), larger sample sizes likely would result in stronger goodness-of-fit statistics. While the bivariate HLM Croon models (Table 6) revealed the significant influence of five major variables, it is clear that this method may have led to sample-specific results,[85] and these results require replication with larger samples that allow for entry of multiple predictors.

Second, the procedure for rating of "success" was developed specifically for this study. Success is a multi-dimensional concept that is influenced by organizational resources and by the complexity of the goals selected. The success ratings used in this paper did not take into account goal difficulty or complexity. In addition, the ratings of success assumed that the content of the implementation report accurately represented the activities of the LCT.

Third, the outcome was "success rating" of the implementation plan, measured at the organizational level. The study did not examine the impact of changes in assessment and case planning on client outcomes. But as suggested in the Proctor model,[9] future studies should examine organizational changes within correctional systems in terms of client outcome (e.g., detection, referral, retention, relapse, recidivism), although the resources needed to undertake such comprehensive studies would be considerable.

Fourth, the study does not address wider ecological issues in local systems such as state laws or policies. While results here speak to organizational factors, they do not address how local law or court practices might affect staffing, supervision, training needs, or communication. The intersection between larger systems and organizations could be a fruitful area of study in order to advance the field in terms of what state-level systems changes enhance or detract from organizational characteristics related to EBPs. As a simple example, changes in sentencing practices might increase or decrease caseloads for staff.

Fifth, for purposes of this analysis, the data for the early-start and the delayed-start sites were combined. Because a given early-start and delayed-start pair of LCTs had the same facilitator, it is likely that the delayed-start LCTs benefited from the experience (positive and negative) of the early-start LCT in implementing the OPII protocol, but the degree of influence undoubtedly varied among Research Centers. Given the time interval between administration of the BSOC to the early-start and the delayed-start sites and the distance between agencies (often hundreds of miles, it is extremely unlikely that the delayed-start respondents were influenced by early-start respondents.

Finally, the correctional and treatment agencies were not selected randomly, and thus may not be representative of criminal justice systems across the country. Still, the fact that corrections systems in 10 states from different geographic regions participated in the study suggests that the findings have more than local applicability. Also, the predictor variables were developed from 659 surveys from correctional and treatment staff, providing further support that the findings may generalize to other correctional systems.

Implications for Behavioral Health

The findings indicate that agencies with fewer program needs, good communication, adequate staffing levels, good supervision, and a positive attitude toward rehabilitation—in general, a higher institutional capacity for change—appear to be better able to implement planned changes in assessment and case-planning procedures for offenders being released to the community. Organizations considering systemic changes for improving services to this population may first wish to review their communication strategies and plan how to optimize them. In addition, organizations with fewer needs were more successful in bringing about change, and the programs may have had fewer needs because they were previously more successful at instituting changes. Alternatively, organizations that support open communication have a culture that is more conducive to change, which leads to their having fewer program needs. As stated by Fixsen and colleagues,[86] adoption and implementation of system changes is a *process*, not one or more isolated events. To successfully implement organizational change, the findings of this study indicate that staff should start with a fairly high level of organizational support and communication.

The observed effects of organizational factors in this study provide a foundation for future studies targeting the improved implementation of evidence-based assessment practices for offenders reentering the community. Successful reentry depends upon effective assessment, case planning, and sharing of information between correctional and community treatment agencies.[87] Implementation strategies such as the OPII provide an important tool to improve the use of evidence-based assessment practices in these complex systems. While further research is still needed to investigate the full array of variables that may influence successful implementation of EBPs in correctional and community treatment settings,[5,9] the organizational characteristics identified in this study can provide helpful guidance for researchers and agencies contemplating EBP improvement efforts. For example, baseline assessments can be used to identify and target key organizational characteristics for change prior to initiating planned interventions.[9,40]

Addressing limitations in critical areas (staff and training resources, communication, supportive leadership) prior to attempts to implement new practices should improve the likelihood of successfully adopting and sustaining those practices. A strong action research component prior to planned interventions—where external researchers and practitioners together develop a shared understanding of desired outcomes and change mechanisms— merits closer consideration.[88,89] Such formative work could also help alert outside researchers to potential intra- and inter-organizational factors that may influence the uptake, utilization, and sustainability of specific evidence-based practices.[5,9]

Conclusions

This paper examined organizational factors that relate to the use of local implementation teams to achieve organizational change. A number of organizational characteristics were found to be significantly associated with implementation success. Specifically, five organizational factors were related to success in achieving assessment and case-planning goals. Organizations with fewer program needs, good communication, adequate staffing, good supervision, and support for rehabilitation appear best suited to implementing EBPs related to offender assessment and case planning. In general, an organization needs a minimal level of capacity in order to bring about successful change in assessment and case-planning procedures and in other efforts to introduce evidence-based practices. These findings should provide guidance for future studies seeking to measure the influence of organizational factors on implementation of EBPs. Future research should incorporate multiple predictors (e.g., organizational and staff characteristics, external environments) within the multilevel frameworks suggested by major conceptual models of implementation, which will require a sufficiently large number of organizations and a strong agency commitment to improvement efforts.

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Table 1

Core Dimensions of the Assessment Continuum

Measurement and Instrumentation	This dimension is concerned with the breadth and quality of instruments that correctional agency uses to identify the strengths, weaknesses, and service needs of substance-using offenders. Nine domains have been identified as being fundamental to a high quality assessment of offenders with substance use disorders: 1 History and patterns of substance abuse 2 History of and engagement in drug treatment 3 Motivation for treatment 4 History of mental illness 5 Suitability for pharmacological treatment 6 Medical history 7 HIV/AIDS status and risk factors 8 Criminal behavior 9 Criminogenic risk factors In addition to focusing on the comprehensiveness of the assessment, this dimension is also concerned with the psychometric properties of the instruments.
Integration with the Case Plan	This dimension is concerned with the extent to which the correctional case plan explicitly addresses each of the nine assessment domains. It also seeks to gauge efficacy and suitability to the needs of the offender as called for in the written problem statement, goals, objectives, and suggested interventions.
Conveyance and Utility	This dimension is concerned with the extent to which community-based treatment programs receive the information contained in the corrections agency case plan and with the degree to which the programs find the information is useful in arranging services for clients.
Activation and Provision of Service	This dimension is concerned with whether the client is engaged in community treatment, with the type and nature of services received, and with communication between agencies about the treatment.

Table 2

Examples of Local Change Team Goals and Objectives

Goal:	
	Improve the assessment and treatment information transfer system within and between Department of Corrections (DOC) and community providers.
Objectives:	
1	Assess current use of release of information forms within the DOC and for parole officers and community agencies.
2	Assess current treatment discharge summaries and re-entry plans to see if relevant assessment, treatment, and recommendations for community services information are in plan.
3	Implement changes as needed to address these action areas.
Goal:	
	Provide a cost-effective way to promote offender success and compliance by using information technology to store and share data quickly and securely, developing a holistic picture of the offender's personal, demographic, and treatment information.
Objectives:	
1	Create and implement a "common electronic referral form" that can be passed to each agency, containing basic client information and service requirements.
2	Create an alert system to notify partner agencies if the offender does not present as directed.
3	Devise, create, and implement a standard multi-agency release-of-information and consent-to-treat form (similar to that used by DHS and other public sector organizations) that can be signed electronically by the offender on the first parole visit.
Goal:	
	Institute a quality assurance process to ensure that the offender needs assessment is updated every six months per department policy.
Objectives:	
1	Develop a form to be used to track the frequency of offender needs assessment administration.
2	Staff initiation and training.
3	Develop data collection method.
4	Measure the implementation of goal.
Goal:	
	Improve communication between the department of corrections (DOC) and community providers.
Objectives:	
1	Create a policy for sharing identified information with community providers that includes the implementation of an affiliation agreement between appropriate partners.
2	Develop a policy and procedure for what relative pertinent information (e.g., psych evaluation (if completed), medication, treatment discharge summary, etc.) is given to community providers when someone leaves DOC to a program.

Table 3

Demographic and Work-Related Characteristics of BSOC Respondents

Variable Name	N	%
Staff Type		
Corrections	331	50.23
Treatment	328	49.77
Gender		
Male	268	42.54
Female	362	57.46
Race		
American Indian/Alaskan Native	2	0.32
Asian	3	0.48
Hawaiian/Pacific Islander	1	0.16
Black/African American	123	29.59
White	416	66.24
Multiracial	16	2.55
Hispanic	54	8.60
Other	3	0.48
Refused	10	1.59
Education		
< Bachelor	144	21.92
Bachelor Degree	312	47.49
Masters/Higher	201	30.59
Job Level		
Director	25	3.87
Supervisor	94	14.55
Officer/Counselor	472	73.07
Support/Other	55	8.51
Work Setting		
Probation	166	26.14
Prison	141	22.20
Prison Treatment Program	134	21.10
Parole	54	8.50
TASC	13	2.05
Community Treatment Program	66	10.39
Work Release Center	6	0.94
Community Health Clinic	10	1.57
Other	45	7.09

Note: BSOC = Baseline Survey of Organizational Characteristics; TASC = Treatment Alternatives for Safer Communities

Table 4

BSOC Subscales (Sites = 21): Number of Respondents, Number of Items, Mean, Standard Deviation, Intraclass Correlation, Design Effect, and Cronbach's Alpha

Scales	N	No. of Items	Mean	Std. Dev.	ICC	Design Effect	Alpha
Staff Needs	652	10	33.61	8.98	0.17	6.1	0.94
Program Needs	657	9	32.56	8.73	0.09	3.7	0.89
Training Needs	657	7	30.34	8.09	0.09	3.7	0.84
Pressures for Change	652	7	32.37	6.27	0.03	1.9	0.69
Staffing	655	6	31.02	7.83	0.22	7.6	0.77
Training	654	4	32.70	7.65	0.10	4.0	0.63
Equipment	655	6	34.04	6.54	0.29	9.7	0.59
Internet	655	4	31.79	10.51	0.46	14.8	0.76
Supervision	655	7	33.38	7.95	0.12	4.6	0.85
Growth	654	5	36.31	6.01	0.10	4.0	0.66
Efficacy	657	5	41.16	4.53	0.02	1.6	0.69
Influence	652	6	36.71	6.31	0.03	1.9	0.82
Adaptability	654	4	39.59	5.09	0.04	2.2	0.64
Job Satisfaction	655	6	37.84	6.85	0.07	3.1	0.78
Belief in Rehabilitation	646	3	31.72	9.16	0.16	5.8	0.83
Mission	657	5	34.00	7.30	0.12	4.6	0.82
Cohesion	656	6	33.31	8.40	0.09	3.7	0.87
Autonomy	654	5	32.07	5.72	0.05	2.5	0.50
Stress	659	4	33.40	8.52	0.07	3.1	0.78
Change	657	5	32.62	5.81	0.04	2.2	0.59
Burn Out	658	7	23.06	6.53	0.08	3.4	0.76
Management Support	656	5	32.97	5.73	0.06	2.8	0.78
Leadership	655	9	35.52	8.82	0.03	1.9	0.95
Divergence	647	4	26.20	5.67	0.10	4.0	0.58
Tolerance	650	10	27.96	4.50	0.02	1.6	0.60
Communication	653	16	31.67	6.89	0.08	3.4	0.90

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Notes: **Bold** indicates scales that had acceptable alpha and were tested for bivariate relationship with outcome.

BSOC = Baseline Survey of Organizational Characteristics; ICC = Intraclass Correlation Coefficient

Table 5

Success Rating for Each Site

Site	Success Rating
Site 1	0.78
Site 2	1.75
Site 3	3.13
Site 4	3.25
Site 5	3.27
Site 6	3.38
Site 7	3.60
Site 8	3.63
Site 9	4.00
Site 10	4.33
Site 11	4.35
Site 12	4.43
Site 13	4.50
Site 14	4.71
Site 15	5.45
Site 16	5.70
Site 17	6.00
Site 18	6.00
Site 19	6.00
Site 20	6.00
Site 21	6.00

Note: The rating scale ranged from 0 (*not completed*) to 6 (*fully completed*).

A "site" consisted of one criminal justice agency and one or more treatment partners.

Table 6

Relationship between BSOC Scales with High High Scale Validity and Success Ratings Based on HLM (Croon) Model

Scales	β (s. e.)	p value	RMSEA	SRMR between	SRMR within	CFI	TLI	Between Variance, Est (s. e.)	Within Variance, Est (s. e.)
Staff Needs – reflects valuations made by treatment staff about program needs with respect to improving client functioning.	−0.10 (0.09)	0.254	0.00	0.00	0.00	1.00	1.00	11.95 (4.04)	65.72 (3.47)
Program Needs – reflects valuations by staff about program strengths, weaknesses, and issues that need attention.	−0.26 (0.12)	0.033	0.00	0.001	0.00	1.00	1.00	6.40 (2.02)	69.55 (4.46)
Training Needs – assesses perceptions of training in several technical and knowledge areas that may be needed by staff.	−0.18 (0.13)	0.166	0.00	0.001	0.00	1.00	1.00	5.40 (2.28)	57.85 (3.79)
Staffing –focuses on the skills of staff and the adequacy of staffing levels.	0.20 (0.09)	0.031	0.00	0.001	0.00	1.00	1.00	12.44 (4.09)	46.61 (3.69)
Internet – refers to staff access and use of e-mail and the Internet for professional communications, networking, and obtaining work-related information.	0.07 (0.04)	0.123	0.00	0.00	0.00	1.00	1.00	48.78 (10.76)	55.68 (8.69)
Supervision – reflects staff confidence in agency leaders and perceptions of co- involvement in the decision- making process.	0.28 (0.11)	0.010	0.00	0.00	0.00	1.00	1.00	7.34 (1.82)	56.13 (5.30)
Influence – is an index of staff interactions, sharing, and mutual support.	1.35 (1.21)	0.264	0.00	0.012	0.00	1.00	1.00	0.69 (0.85)	39.13 (2.93)
Job Satisfaction – measures general satisfaction with one's job and work environment.	0.31 (0.19)	0.101	0.00	0.00	0.00	1.00	1.00	3.21 (2.32)	44.65 (3.38)
Belief in Rehabilitation – assesses support by correctional staff for substance abuse treatment for offenders.	0.19 (0.09)	0.026	0.00	0.00	0.00	1.00	1.00	14.11 (3.37)	68.02 (7.30)
Mission – captures staff awareness of agency mission and clarity of its goals.	0.35 (0.19)	0.063	0.00	0.00	0.00	1.00	1.00	5.95 (2.94)	48.42 (4.00)
Cohesion – focuses on workgroup trust and cooperation.	0.16 (0.20)	0.426	0.00	0.00	0.00	1.00	1.00	5.58 (2.16)	64.71 (6.28)
Stress –measures perceived strain, stress, and role overload.	−0.28 (0.20)	0.165	0.00	0.00	0.00	1.00	1.00	4.84 (3.53)	68.85 (3.75)
Burn Out –assesses a sense of fatigue and disillusionment by staff in working with offenders.	−0.20 (0.17)	0.249	0.00					3.02 (1.93)	40.46 (2.68)
Management Support – assesses the extent to which the agency places a high priority on success in carrying out job duties.	0.54 (0.31)	0.081	0.00	0.00	0.00	1.00	1.00	1.76 (1.01)	31.36 (2.98)
Leadership – reflects staff perceptions that leadership is effective and inspirational.	0.72 (0.77)	0.352	0.00	0.007	0.00	1.00	1.00	1.54 (1.36)	76.00 (6.68)
Communication – focuses on the adequacy of information networks to keep everyone informed and having bi- directional interactions with leadership.	0.53 (0.20)	0.008	0.00	0.00	0.00	1.00	1.00	3.65 (1.29)	43.88 (5.04)

Notes: s. e. = standard error; RMSEA = Root Mean Square Error of Approximation; SRMR = Standardized Root Mean Square Residual; CFI = Comparative Fit Index; TLI = Tucker-Lewis Index