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Resources and Training in Outpatient Substance Abuse Treatment Facilities

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Abstract

The exposure to new clinical interventions through formalized training and the utilization of strategies learned through training are two critical components of the program change process. The current study considers the combined influence of actual program fiscal resources and counselors' perceptions of workplace resources on two mechanisms of training: exposure and utilization. Data were collected from 323 counselors nested within 59 programs located in 9 states. Multilevel analysis revealed that training exposure and training utilization represent two distinct constructs that are important at different stages in the Program Change Model. Training exposure is associated primarily with physical and financial resources, whereas utilization is associated with professional community and job burnout. These results suggest that financial resources are important in initial exposure to new interventions, but that successful utilization of new techniques depends in part on the degree of burnout and collaboration experienced by counselors.

Keywords

Training exposure; training utilization; resources; program costs; substance abuse treatment

1. Introduction

The adoption and implementation of a technology into program practice is complex, as the focus is typically at the clinic-level (i.e., program-wide) or at the individual counselor-level. In the former, a new intervention approach or protocol would be integrated into clinical activities throughout the organization. Indeed, many treatment advances, such as new medications, require such extensive commitment or investment that only program-wide efforts can make them work. As noted by others (e.g., Backer, David, & Soucy, 1995; Rosenheck, 2001; Simpson, 2002), the "adoption" of clinical interventions or tools into practice at the program level is likely to be shaped by a variety of organizational influences that may either promote or inhibit usage. In contrast, at the individual level, counselors may be free to incorporate certain techniques into their sessions as needed, regardless of the choices made by their colleagues.

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For both of these situations, a number of individual and organizational factors have been identified as potentially impacting the transfer (e.g., Backer et al., 1995; Rosenheck, 2001; Simpson, 2002; Klein & Knight, 2005). The TCU Program Change Model (Simpson & Flynn, 2007) ties together many of these factors into a theoretical framework (e.g., Simpson & Flynn, 2007; Simpson, Joe & Rowan-Szal, 2007), and describes the process of adopting and implementing new evidence-based practices to address client needs. This Program Change Model is related to a family of other change models that include some variant of the plan-do-study-act (PDSA) cycle first described by Shewhart (1939). Such models include those offered by Fixsen and colleagues (Fixsen et al., 2005) which encompass components including staff and practitioner selection, pre-service and in-service training, ongoing consultation and coaching, staff and program evaluation, facilitative administrative support, and systems interventions. Other change models include the Consolidated Framework for Implementation Research (CFIR; Damschroder et al., 2009) with five domains similar the those in the Fixsen model; the Change Book developed by the Addiction Technology Transfer Centers (Addiction Technology Transfer Centers, 2000, 2004) which provided more procedural guidance to the PDSA process; and the NIATx model (Network for the Improvement of Addiction Treatment; McCarty et al., 2007) which uses business improvement processes to strengthen treatment efficiency.

The TCU Program Change Model begins with preparation which includes identification of service needs and organizational readiness for change. The process of change was recently expanded to incorporate training based on clinical needs (Lehman, Simpson, Knight, & Flynn, 2011). Clinical needs can be identified through measurement systems that assess client attributes at admission and throughout treatment (e.g., treatment readiness, motivation, risk factors, substance abuse severity levels, mental and physical health, criminal thinking), and can be used to identify program-level clinical needs and assess program performance when aggregated at the program or organizational level.

Exposure to new clinical interventions and practices through formalized training is a critical component of the change process. Training provides exposure to new interventions and ideas and provides support for how to utilize techniques in practice. Indeed, training represents a first stage in the Program Change Model, and is followed by adoption (decision and action), implementation, and practice improvement. Adoption is a two-step process involving a decision to adopt an intervention which involves leadership support of the adoption process, assessment of the quality and utility of the innovation in meeting clinical needs, and the adaptability of the innovation for meeting specific nuances of the treatment setting. The decision to adopt is followed by a plan of action to test the innovation and can include evaluating the capacity of the innovation in meeting preliminary expectations, receiving satisfactory results and feedback on the innovation, and determining that resistance to the change is manageable (Simpson & Flynn, 2007). The implementation stage expands the adoption stage to regular use of the innovation and is dependent on factors including perceptions of effectiveness, feasibility, and sustainability given available resources (Lehman et al., 2011).

Simpson and Flynn (2007) emphasize that this model is a working theory in which refinements are expected, the stages of change are not viewed as rigidly linear, and that there are often cyclical phases of progress with setbacks involved. Indeed, it is recognized that this process does not fully describe how all programs attempt to implement change but instead describes a systematic process that includes many elements critical for successful change to occur. The current study proposes this model as a heuristic to help guide and organize thinking about the steps and components that can help lead to successful implementation of new clinical services while recognizing that implementation can occur in many different ways. However, attempts at organizational change and implementation of

new processes are all too often unsuccessful because programs do not approach change with a strategic plan that outlines the necessary components for successful change.

In this paper, we distinguish between two aspects of training – exposure to training and utilization of skills and materials obtained from training. Training exposure entails providing access to training and requires financial resources to pay for trainers to come to the program to provide training or for staff to travel to external training opportunities. It also requires other non-financial resources including staff time (covering caseloads while in training). Program resources derived from actual cost-accounting methods have not been widely examined in relation to training opportunities and exposure and training utilization. As part of the study from which data were obtained for this paper, the Treatment Cost Analysis Tool (TCAT), a Microsoft® Excel-based spreadsheet designed for treatment directors and financial officers, was used to assess treatment costs (Flynn et al., 2009). Training utilization is more closely tied to adoption and implementation as it entails taking what is learned in training and using it in clinical practice. The extent to which training is utilized is more likely to be a function of staff attributes and a program that supports collaboration and emphasizes client outcomes.

Within the context of this study, these two aspects refer to training in general at each program and how that training is often utilized. Utilization of training in terms of implementing specific innovations or clinical changes was not assessed. Although it would be interesting to be able to examine the implementation of specific innovations, it was not possible to collect that level of data within the scope of this study. We posit that these two aspects of training (i.e., exposure and utilization) are both critical to improving clinical practices, fit into different stages of the program change model, and have different program-level or staff-level correlates.

While several studies have addressed program-level adoption (e.g., Simpson & Flynn, 2007), it is also important to examine individual adoption experiences more closely. An implication of the TCU Program Change Model is that a greater understanding of individual experiences can also be gained through better consideration of the relationship of individual attributes and the “common effects” of the treatment environment on counselor reactions to training experiences. In this regard, it is important to examine both individual perceptions of the workplace (i.e., training needs, office resources, professional community) and program contextual factors (i.e., program characteristics, costs), within the same analytic model.

The perception of personal resources by counseling staff should be important to training experiences, particularly utilization. Prior research suggests that having the tools necessary to carry out a new intervention, working in a constraint-free environment where the behavior can occur, and having confidence in one’s ability to implement an intervention are important (Fishbein, 1995). Program resources should also be influential, especially resources that represent indicators of empowerment, control, and support for allowing trial adoption. In their review of the literature on dissemination strategies that facilitate the transfer of research-based practices, Corrigan and his colleagues (Corrigan, Steiner, McCracken, Blaser, & Barr, 2001) identify lack of necessary knowledge and skills, job burnout, and aspects of organizational climate as important barriers.

The present study examines the relationship between two aspects of resources (financial costs and perceptions of the work environment) and two aspects of training (exposure and utilization). Based on the Program Change Model (Flynn & Simpson, 2009; Lehman et al., 2011; Simpson & Flynn, 2007), we hypothesize that training exposure will be influenced by actual program-level resources (costs) as indicated by financial accounting data from the TCAT, as well as perceived program resources in terms of office space, staffing, training,

electronic communications and equipment (clinical staff ratings). Theoretically, programs that have greater resources should be better able to provide training for counselors through in-house training procedures bringing in external trainers for workshops, or sending counselors to external training workshops or meetings. On the other hand, we hypothesize that training utilization, which is more closely tied to the adoption and implementation stages of the Program Change Model, will be influenced by individual-level counselor attributes and their perceptions of their work environment, including job satisfaction, staff burnout, and a sense of professional community (i.e., peer collaboration, collective responsibility, and reflective dialogue). While the Program Change Model includes leadership as an important influence in the adoption and implementation process, it is not included in the present study because we are examining the influence of leadership in greater detail in a companion paper. Because counselors are nested within programs, a multilevel analytic approach is used to examine how individual perceptions of resources relate to training utilization within the context of the organization.

2.1. Method

2.1. Sample

The current study is drawn from the Treatment Costs and Organizational Monitoring project (TCOM; Broome, Flynn, Knight, & Simpson, 2007; Flynn et al., 2009; Knight, Broome, Simpson, & Flynn, 2008), a 5-year research study aimed at developing and demonstrating the utility of a set of organization functioning and resource instruments. In selecting the programs, a naturalistic quota sampling plan was developed to provide adequate coverage of various program and geographic regions. The original populations in which the instruments and samples were developed consisted of programs located in 9 states: Florida, Idaho, Illinois, Louisiana, Ohio, Oregon, Texas, Washington, and Wisconsin. All were offered monetary compensation, staff training opportunities, and individualized feedback reports in exchange for providing organizational and client data. Participating programs had to provide outpatient drug free (ODF) substance abuse treatment for adults and had to have a minimum of three clinical staff members. Research protocols were fully compliant with guidelines to protect human participants and were reviewed and approved by Texas Christian University's Institutional Review Board (IRB).

The current study is based on the subset of 59 programs that had completed both a program-level financial assessment and counselor-level organizational functioning assessments during the first year of the project (late 2004/early 2005). There were 323 counselors nested in these 59 programs (range = 2 to 26; mean = 5.47; $SD = 4.92$ responses across programs). Counseling staff were predominantly female (63%), white (71%), and in their mid-forties ($M = 47$, $SD = 10$). Twenty-two percent reported a caseload of 1–10 clients, 48% reported 11–30 clients, and 30% reported 31 or more clients. Twenty-six percent had been in their present job for less than one year, 44% for one to five years, and 30% for six or more years.

2.2. Procedure

At the start of the project, a program director or clinical manager completed the TCU Survey of Structure and Operations (SSO; Knight et al., 2008), eliciting information about general program characteristics, services provided, and staff and client characteristics. Directors or financial officers completed the Treatment Cost Analysis Tool (TCAT; Flynn et al., 2009), which elicited information about total program costs, non-personnel costs, personnel costs (including salaries, wages, and benefits), and information regarding admission counts and number of individual and group sessions offered from their most recent agency reports or databases (i.e., annual reports). The SSO took approximately 40 minutes to complete, whereas the TCAT took substantially longer (approximately 4 hours).

Clinical staff and directors completed a Survey of Organizational Functioning (SOF; Broome et al., 2007), designed to assess program needs, resources, staff attributes, and organizational dynamics within social service settings. The SOF is a superset of the Organizational Readiness for Change (ORC) survey (Greener, Joe, Simpson, Rowan-Szal, & Lehman, 2007; Lehman, Greener, & Simpson, 2002) which included all of the ORC scales and additional measures of job attitudes, leadership, workplace practices, and training exposure and utilization. The SOF took approximately 20 minutes to complete.

2.3. Measures

2.3.1. Program demographics—Directors described their *Outpatient Service Approach* as regular outpatient (less than 6 hours of structured programming per week), intensive outpatient (minimum of 2 hours of structured programming on 3 days per week), or mixed (both regular and intensive outpatient; Substance Abuse and Mental Health Services Administration, 2007). *Parent Organization Affiliation* was defined as belonging to a larger organization or agency of which the clinic or program is a part (with either shared or separate financial accounting practices). Directors also indicated whether the program was located in an urban, suburban, or rural catchment area.

Three additional program descriptors were assessed using the TCAT. *Active Client Count* referred to the number of clients actively enrolled in treatment on the day the survey was completed, and *Annual Admissions* referred to the number of clients admitted to the program during the previous fiscal year. *Direct Client Contact* represented the proportion of time counselors spent in direct contact with clients. This variable was derived by dividing the total number of hours spent in individual and group sessions (all counselors over a one-year period) by the total number of available hours (total number of hours worked by all counselors during that one year).

2.3.2. Financial resources—Actual financial resources were measured at the program level using the TCAT. Three measures are reported in dollar amounts and included *Total Revenue*, *Total Non-Personnel Costs*, and *Total Labor Costs*. *Total Program Costs* were calculated by adding total non-personnel and total labor costs. A *Cost per Episode* measure was calculated by dividing total program costs by total admissions. Finally, *Cost per Counseling Hour* was calculated by dividing total program costs by total counseling hours provided (across all counselors). Cost per episode and cost per counseling hour reflect average costs across all clients admitted during a one year period. In the current sample, these costs were based on fiscal years 2004 or 2005 (depending on each program's specific financial reporting period).

For analytic purposes, a natural log transformation was used for total program costs, total revenue, cost per episode, and cost per counseling hour, as this improved the distribution and reduced the potential negative impact of outliers (Wooldridge, 2003). Total labor cost and total non-personnel costs were expressed in derivatives of 10,000.

2.3.3. Perceived program resources—Perceived resources were measured at the individual counselor level using the SOF. For the purpose of this study, perceived resources were conceptualized as falling into four general domains: identification of needs, office resources, job attitudes, and professional community. The psychometric properties of the scales that comprise these domains are reported elsewhere (Broome et al., 2007; Broome, Knight, Edwards, & Flynn, 2009; Joe, Broome, Simpson, & Rowan-Szal, 2007; Lehman et al., 2002). All ratings utilized a 1 to 5 response scale, where 1 indicated “disagree strongly” and 5 indicated “agree strongly.” Scale scores were rescaled to range from 10 to 50.

The motivation for change domain included 3 scales: program needs (8 items measuring areas where additional guidance is needed; Cronbach's coefficient alpha = .84), training needs (8 items measuring topics on which counselors need more training; Cronbach's coefficient alpha = .84), and pressures for change (7 items identifying sources of pressure; Cronbach's coefficient alpha = .67).

The office resources domain included 5 scales: offices (4 items measuring adequacy of facilities; Cronbach's coefficient alpha = .65), staffing (6 items measuring adequacy of staffing; Cronbach's coefficient alpha = .66), training (4 items measuring opportunities for training; Cronbach's coefficient alpha = .69), computer access (7 items measuring the use of technology in the workplace; Cronbach's coefficient alpha = .73), and e-communications (4 items measuring the use of internet sources; Cronbach's coefficient alpha = .73).

The job attitudes domain encompassed two measures: job burnout (7 items representing emotional exhaustion, cynicism, and inefficacy; Cronbach's coefficient alpha = .65) and satisfaction (6 items representing job satisfaction; Cronbach's coefficient alpha = .78).

The professional community domain included six scales: peer collaboration (4 items measuring the degree to which counselors collaborated or shared work; Cronbach's coefficient alpha = .64), deprivatized practice (5 items measuring counselors' tendency to observe one another's methods; Cronbach's coefficient alpha = .76), collective responsibility (6 items measuring the degree to which counselors share responsibility for operations and improvement; Cronbach's coefficient alpha = .86), focus on outcomes (5 items measuring a focus on client outcomes; Cronbach's coefficient alpha = .75), reflective dialogue (5 items measuring the degree to which counselors discuss goals and strategies with colleagues; Cronbach's coefficient alpha = .66), and counselor socialization (2 items measuring how well new counselors are incorporated into the team; Cronbach's coefficient alpha = .29). In accordance with prior research on workplace practices, the six highly intercorrelated scales were combined into a single general professional community measure (Cronbach's coefficient alpha = .91; Broome et al., 2007).

2.3.4. Training outcomes—The primary dependent variables of interest in this study, training exposure and training utilization (Joe et al., 2007), were measured at the individual counselor level using the SOF. Training exposure included 5 items representing the extent to which counselors were exposed to new interventions and initiatives through training opportunities. Examples include, "How many workshops do you expect to attend in the next 12 months?" and "In the last year, how many times did your agency offer special, in-house training?" (Cronbach's coefficient alpha = .63). Training utilization included 4 items representing how often counselors used what they learned in training. Examples include "When you attend workshops, how often do you try out the new interventions or techniques learned?" and "In recent years, how often have you adopted (for regular use) new counseling interventions or techniques from a workshop?" (Cronbach's coefficient alpha = .79).

2.4. Statistical analysis

The purpose of this study is to examine the relationships between program and staff resources and staff exposure to and utilization of skills learned in training. Because staff were nested under programs, the current study employed a 2-level hierarchical linear model (HLM; Raudenbush & Bryk, 2002). This approach takes into account shared variability among respondents within their naturally occurring groups. Organizational attributes including cost and service functions served as program level (level-2) variables, with counselor perceptions of job resources as individual/staff level (level-1) variables. Analyses were conducted with HLM 6 computer software (Raudenbush, Bryk, & Congdon, 2005).

The current study entails two primary analytic steps. First, program-level variables and individual staff-level variables were each analyzed in terms of their domains and examined in separate hierarchical linear models for each dependent measure. Staff perceptions of organizational resources were organized into four level-1 models representing these domains: (1) identification of needs, (2) office resources, (3) job attitudes, and (4) an index of professional community.

Program measures included program demographics, client contact, and costs. These financial resources and organizational structure measures were examined with five level-2 models representing: (1) program demographics, (2) direct client contact, (3) total costs, (4) cost per episode, and (5) cost per counseling hour. Cost per episode and cost per counseling hour were derived based on total program costs and were therefore examined in separate models. In the second analytic step, the program- and staff-level correlates significant at $p < .1$ were entered into a composite model for the corresponding dependent measure.

3. Results

3.1. Descriptive statistics

Means and standard deviations for the program and staff characteristics are reported in Table 1. Programs were affiliated with a parent organization (68%) and located in urban or suburban settings (20% rural). Twenty-eight percent of 59 programs were regular outpatient (less than 6 hours of structured programming per week), 14% were intensive outpatient (minimum of 2 hours of structured programming on 3 days per week), and 58% were mixed (providing both regular and intensive tracks). Counselors spent 63% ($SD = 23\%$) of their total available hours in direct client care.

Cost variables are reported in 2004–2005 US dollars. On average, across the 59 outpatient treatment sites, total program costs were estimated at \$415,392.60 ($SD = \$401,901.66$). An average episode of outpatient care was \$1,607, with a wide standard deviation of \$2,206.55. A counseling hour was \$94.17, with a standard deviation of \$70.93. Programs on average serve 113 clients ($SD = 127$), with annual admissions of 400 ($SD = 433$).

Ratings on program needs, training needs, office resources, training resources, computer access, and e-communication demonstrate the widest variability among staff members across programs. These 2004–2005 data show that staff members on average report inconsistent access to the Internet and computers. Although there is sizeable variation among staff, most counselors report low to moderate need for training to enhance current practices in client care and report moderate access to training resources including continuing education and in-house training.

3.2. Unconditional model

An initial unconditional hierarchical linear model was conducted on utilization and exposure, allowing for assessment of the overall variance in each outcome, the overall mean across programs, and the intraclass correlation (ICC) an index of variance accounted for by program differences. These models indicate that the grand mean for exposure is 32.92 with a program-level standard deviation of .85. Twenty-three percent of the total variance in exposure ratings was accounted for by program differences ($ICC = .23$). The grand mean for utilization is 33.18 with a program-level standard deviation of .51, and 12% of the variance in utilization ratings accounted for by program characteristics ($ICC = .12$). The intraclass correlation coefficient (ICC) value for both training exposure and training utilization are $> .10$ indicating the presence of group differences, especially for training exposure. These results provide justification for the examination of individual as well as program level associations with the outcomes (Bliese, 2000).

3.3. Staff-level prediction models

In testing the potential staff domains as significant factors for each outcome each was considered in separate models. The models are summarized in Table 2. At level-1, training exposure was associated with less training needs ($-.18, p < .05$), more office resources (.17, $p < .05$), more training resources (.45, $p < .001$), greater access to e-communication (.26, $p < .001$), and more professional community (.46, $p < .001$). Although not statistically significant, job satisfaction approached significance and was included in the subsequent composite model (.22, $p < .1$). Training utilization was associated with greater access to e-communication (.14, $p < .01$), less job burnout ($-.26, p < .01$), and more professional community (.44, $p < .001$). Training resources approached significance (.11, $p < .1$).

Among the staff domains, office resources accounted for the most level-1 (56%) and level-2 (15%) variance in mean training exposure ratings. Among the staff domains, job attitudes (22%) and professional community (26%) accounted for the most variance in mean training utilization ratings. These models represent an early indication that counselors are exposed to and participate in more job training opportunities when the job setting offers readily available resources to complete everyday activities; whereas utilization of material received in training appears more closely tied to variables inherent in the interpersonal relations of the workplace.

3.4. Program-level prediction models

Program-level domains were also considered in separate models by outcome. The models are summarized in Table 3. Training exposure was related to an intensive service approach compared to regular care (7.00, $p < .05$). Higher total labor costs (.15, $p < .1$), lower total program costs ($-4.0, p < .1$), and higher cost per episode (2.30, $p < .1$) approached significance. Training utilization was associated with a lower proportion of direct client contact to total available contact hours ($-4.44, p < .05$). Higher cost per counseling hour (1.60, $p < .1$) approached significance.

Among the program-level domains, overall costs explained the most variance (9%) for mean ratings of training exposure, with proportion of direct contact (8%) accounting for the most variance among the domains for mean ratings of training utilization.

3.5. Composite model for training

As a final step in the analyses, staff- and program-level measures significant at or below $p = .1$ were entered into a composite hierarchical model. In order to maintain a conservative estimation with the available sample size, coefficients significant at $p < .1$ were included in their respective model only. Table 4 provides a summary of the results.

Training exposure was related to multiple job resources. Counselors working in organizations with fewer office resources ($-.18, p < .05$), where job training is a priority (.41, $p < .001$), and with greater access to on-the-job internet use (.20, $p < .01$) report more exposure to new interventions through training opportunities. Program costs were also related to training exposure. Higher total labor costs (.09, $p < .05$), higher cost per episode (2.33, $p < .05$), but lower total program costs ($-2.40, p < .05$) were associated with higher average training exposure ratings.

Several additional measures approached significance. Counselors voicing a need for more training opportunities (.12, $p < .1$) and those working in an organization with an intensive service approach (4.04, $p < .1$) reported slightly more opportunities to engage in job training. When included in the composite model, job satisfaction and professional community were not associated with counselors' tendency to engage in training opportunities.

The composite model for training utilization yielded a different pattern of associations. When program and staff correlates were examined simultaneously, staff perceptions of the workplace were more heavily associated with training utilization than with organizational structure or cost measures. Specifically, staff were more likely to utilize material received in training when burnout was low ($-.22, p < .01$) and professional community was high ($.33, p < .001$). Training resources, access to on-the-job internet use, cost per counseling hour, and direct client contact were no longer significant.

The composite models reveal that program membership, financial resources, and program characteristics account for 62% of the variance in program-level ratings of training exposure, while program-level factors account for 27% of the variance in mean training utilization ratings. Staff perceptions of job resources and the work environment accounted for 17% of the variance in staff-level training exposure and 12% of the variance in training utilization.

The results suggest the complexity in modeling the relationship between job resources and training. In particular, program costs and job resources influence the level of exposure to training opportunities, while utilization of materials received in training is more heavily associated with job attitudes and interpersonal relations among coworkers.

4. Discussion

The goals of the study reported here were to examine program- and staff-level factors that are related to staff reports of exposure to training opportunities and utilization of materials and skills obtained. The expanded TCU Program Change Model describes a sequential process of clinical change in which programs first identify clinical needs and then address identified needs through implementation of new interventions (Lehman et al., 2011). Once specific clinical needs have been identified, evidence-based practices to address those needs can be selected. The Program Change Model shows that the process during which new clinical practices become part of practice improvement begins with access to training (Flynn & Simpson, 2009; Simpson & Flynn, 2007). Among other factors, training needs to be affordable, that is, programs need to have the resources to provide access to training. Following exposure to training are adoption and implementation stages in which the materials and skills derived from training are put into clinical practice. The results of this study suggest that training exposure is more closely associated with work environment and financial resources whereas the later stages of adoption and implementation (training utilization) are more closely associated with a supportive program climate and staffing which is outcome oriented and fosters professional and collaborative relationships among counselors.

4.1. Staff-level indicators

At the staff level, training exposure was negatively associated with training needs and was positively associated with training resources, office resources, e-communications, and professional community. Although the negative association of training exposure with training needs may seem surprising, that is higher training needs would be expected to lead to higher training exposure, the measurement of the two scales was concurrent and thus it is likely that staff who reported high training exposure also reported low training needs because those training needs were being met. However, relationships at the staff level also showed that staff who perceived greater resources (training, office, and e-communication) also reported greater exposure to training. E-communication is particularly important to training exposure because training opportunities and even training events are accessed more and more through online sources. Staff-level predictors of training exposure were not limited to resource-type variables. Professional community, which was a composite of scales

representing the extent to which counselors work together, share information, and focus on outcomes had a strong positive relationship with training exposure, and job satisfaction had a marginally significant and positive relationship. Programs with a strong sense of professional community that focus on client outcomes are more likely to provide counselors with the tools that they need to provide the highest level of client care and are more attuned to continually improving clinical practices. Access to training is a critical component of improving clinical practices. The relationship with job satisfaction may be a function of working in programs that provide training enabling counselors to do their jobs effectively.

Overall, job attitudes and professional community played an important role in training utilization. Professional community had a strong and positive relationship with training utilization which demonstrates the importance of counselors working collaboratively in adopting and implementing new practices. Counselors who reported high levels of burnout were less likely to report utilizing skills learned in training. Motivation to improve services and clinical practices decreases when counselors are experiencing emotional exhaustion, cynicism, and inefficacy (Cherniss, 1980; Garman, Corrigan, & Morris, 2002; Garner, & Knight, 2007; Maslach et al., 2001). E-communications also appears to be an important factor in training utilization. Greater access to the internet allows counselors to communicate with trainers, with staff from other agencies who went through the same trainings, and find information to help better utilize training skills.

4.2. Program level indicators

Results described above showed that program-level variables were predictive of training exposure. Staff in programs that had an intensive service approach reported higher levels of training exposure than did staff in other programs. Staff in programs with higher total labor costs, and with higher costs per episode were somewhat more likely to report higher training exposure. Although these relationships were not strong (at the .10 probability level) they show a trend toward programs that spend more money on client care as providing greater access to training. The negative relationship of total program costs to training exposure may be an indication that programs with limited financial resources (e.g., smaller in size and budget) are less likely to have adequate resources available for training. Training utilization was negatively associated with direct client contact and positively associated with costs per counseling hour. High levels of direct client contact could indicate some overload for counselors who may not then have adequate time to initiate new practices. However, programs that spend more per counseling hour may put an emphasis on improving clinical practices that allow counselors to utilize skills and materials obtained from training.

4.3. Combined model

When the program-level and staff-level predictors were combined into a single model for predicting training exposure and training utilization, the overall results showed a clearer demarcation between resource variables predicting training exposure and staff perception variables predicting training utilization. Significant predictors of exposure included office and training resources, e-communication, and program-level variables included total labor costs, total program costs, cost per episode, and intensive service approach. Professional community was not a significant predictor of training exposure in the combined model. For training utilization, staff burnout and professional community were significant predictors. Individual- and program-level resource and cost measures did not significantly predict utilization of training. These results for training exposure and utilization support the notion that exposure to training is associated primarily with physical and financial resources available to dedicate to training, but that professional community and burnout play important roles in whether counselors adopt and implement skills learned in training.

4.4. Implications

What are the implications of these results? One of the more important implications of this study is that in order to have the greatest benefit from training, programs need to be aware of the staff climate that is present. If there is a low sense of professional community and/or if burnout is high, it may be more effective to target those issues before resources are spent on training for new clinical innovations. While this may entail spending some training resources on staff development rather than clinical services, those resources may be well-spent if they increase the likelihood that training for clinical services will be fully utilized.

Fostering a climate of professional community, which encourages counselors to work together, share information and focus on client outcomes, has potential to increase the positive impact of training by encouraging greater utilization of knowledge and skills obtained. Leadership can play an important role here by helping to create an atmosphere that encourages counselors to work closely together. Additional training targeted toward teaching counselors better cooperation skills may be helpful if there is a low sense of professional community. Burnout is also an important issue to monitor and treat. Burnout may be ameliorated by providing a greater variety of tasks and responsibilities without requiring spending of additional resources. Greater program resources may be associated with a more supportive climate, increased staffing, and lower client loads.

4.5. Strengths and limitations

This study has a number of strengths which contribute to its findings. It utilized a sample of outpatient substance abuse treatment programs (i.e., the most widely available type of substance abuse treatment in the U.S.) from several different regions of the country which contribute to the generalizability of results. The use of program cost accounting measures is relatively unique in this type of study and results show the importance of cost factors in training exposure. The combination of program-level cost-accounting measures with staff-level perceptual measures is also a strength in that the findings do not rely on a single level of measurement or methodology. Several weaknesses in the study should be noted however. Although national in scope, the sample of programs was not a fully representative national sample and may not have been representative of the included regions. Counselors in the participating programs may not have been representative of all counselors in those programs. All measures were collected in a single year and thus represent a cross-sectional design in which causal inferences cannot be made. In addition, many of the measures, including training exposure and training utilization are based on self-report and do not indicate whether any specific new practices were implemented. And finally, the study was limited to outpatient substance abuse treatment programs and relationships may differ in other types of programs.

4.5. Conclusions

The overall results of this study support several tenants of the TCU Program Change Model. They demonstrate the importance of program resources and staff-level perceptions of the workplace in exposure to new clinical methods through training, adoption, and implementation of new methods by utilizing skills learned in training. Training exposure and training utilization are two distinct constructs and represent different stages in the Program Change Model. Once new clinical needs are identified, exposure to training is often the first step in successfully making clinical change which can ultimately lead to practice improvement. Exposure is not generally sufficient however, as practice improvement requires that skills and materials from training be utilized in order for new practices to be adopted and then implemented into clinical practice. The results of this study help support this sequential process and show that exposure and utilization have distinct predictors.

Future research in this area needs to expand into other treatment settings such as residential- and correctional-based treatment to examine how well the results presented here generalize to those settings. In addition, other factors related to training exposure, such as relevance and quality of training should be added to the models. The impact of personal attributes and other aspects of program climate should also be examined in future research.

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Table 1

Program and Staff Characteristics

	M(SD)
Program-level Measures (N = 59)	
Program Demographics	
Services Approach	
Regular Service Approach	28%
Intensive Service Approach	14%
Mixed Service Approach	58%
Parent Organization	68%
Active Client Count	113 (127)
Annual Admissions	400 (433)
Rural Catchment	20%
Direct Client Contact	.63 (.23)
Financial Resources	
Total Revenue	\$418,513.84 (\$449,040.89)
Total Non-Personnel Costs	\$127,813.08 (\$141,042.23)
Total Labor Costs	\$286,165.85 (\$266,443.43)
Total Program Costs	\$415,392.60 (\$401,910.66)
Cost Per Episode	\$1,606.87 (\$2,206.55)
Cost Per Counseling Hour	\$94.17 (\$70.93)
Individual (Staff)-level Measures (N = 323)	
Program Needs	28.58 (7.31)
Training Needs	27.53 (7.49)
Pressures for Change	31.09 (5.69)
Office Resources	36.16 (7.43)
Staff Resources	33.72 (6.14)
Training Resources	34.51 (8.21)
Computer Access	32.53 (7.36)
E-Communication	33.60 (9.69)
Burnout	22.44 (5.58)
Satisfaction	40.68 (5.75)
Professional Community	36.62 (4.87)

Table 2

Staff-level Relationship to Training Outcomes

	Coefficient	
	Training Exposure	Training Utilization
Individual (Staff)-level Measures		
Identification of Needs		
Base	32.92***	33.18***
Program Needs	.12	-.00
Training Needs	-.18*	-.02
Pressures for Change	.10	.05
Office Resources		
Base	33.42***	33.27***
Office Resources	.17*	.07
Staff Resources	-.03	.01
Training Resources	.45***	.11 [†]
Computer Access	.06	-.10
E-Communication	.26***	.14**
Job Attitudes		
Base	32.87***	33.15***
Burnout	-.15	-.26**
Satisfaction	.22 [†]	.11
Professional Community		
Base	32.86***	33.16***
Professional Community	.46***	.44***

[†]
 $p < .10$,

*
 $p < .05$;

**
 $p < .01$;

 $p < .001$

Table 3

Program-level Relationship to Training Outcomes

	Coefficient	
	Training Exposure	Training Utilization
Program-level Measures		
Program Demographics		
Base	32.96***	33.08***
Intensive Service Approach	7.00*	1.75
Mixed Service Approach	-.08	1.06
Parent Organization	.011	-.54
Active Client Count	.014	-.00
Annual Admissions	-.033	.00
Rural Catchment	1.65	1.20
Direct Client Contact		
Base	32.87***	33.08***
Direct Client Contact	4.23	-4.44*
Overall Costs		
Base	32.95***	33.14***
Total Revenue (log)	.11	.02
Total Non-Personnel Costs	-.01	.01
Total Labor Costs	.15 [†]	-.05
Total Program Costs (log)	-4.0 [†]	.32
Cost Per Episode		
Base	32.89***	33.17***
Cost Per Episode (log)	2.30 [†]	.37
Cost Per Counseling Hour		
Base	32.83***	33.07***
Cost Per Counseling Hour (log)	2.32	1.60 [†]

[†] $p < .10$,

* $p < .05$;

** $p < .01$;

*** $p < .001$

Table 4

Composite Model for Training Outcomes

	Coefficient	
	Training Exposure	Training Utilization
Individual (Staff)-level Measures		
Base	33.41 ***	33.07 ***
Training Needs	-.12 †	---
Office Resources	-.18 *	---
Training Resources	.41 ***	-.01
E-communication	.20 **	.05
Burnout	---	-.22 **
Satisfaction	.00	---
Professional Community	.11	.33 ***
Program-level Measures		
Total Labor Costs	0.09 *	---
Total Program Costs (log)	-2.40 *	---
Cost Per Episode (log)	2.33 *	---
Cost Per Counseling Hour (log)	---	-.32
Intensive Service Approach	4.04 †	---
Direct Client Contact	---	-4.63
Staff-level variance explained	17%	12%
Program-level variance explained	62%	27%

† $p < .10$,

* $p < .05$;

** $p < .01$;

*** $p < .001$