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## Quality of clinical supervision and counselor emotional exhaustion: The potential mediating roles of organizational and occupational commitment

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### Abstract

Counselor emotional exhaustion has negative implications for treatment organizations as well as the health of counselors. Quality clinical supervision is protective against emotional exhaustion, but research on the mediating mechanisms between supervision and exhaustion is limited. Drawing upon data from 934 counselors affiliated with treatment programs in the National Institute on Drug Abuse's Clinical Trials Network (CTN), this study examined commitment to the treatment organization and commitment to the counseling occupation as potential mediators of the relationship between quality clinical supervision and emotional exhaustion. The final ordinary least squares (OLS) regression model, which accounted for the nesting of counselors within treatment organizations, indicated that these two types of commitment were plausible mediators of the association between clinical supervision and exhaustion. Higher quality clinical supervision was strongly correlated with commitment to the treatment organization as well as commitment to the occupation of SUD counseling. These findings suggest that quality clinical supervision has the potential to yield important benefits for counselor well-being by strengthening ties to both their employing organization as well the larger treatment field, but longitudinal research is needed to establish these causal relationships.

### Keywords

treatment workforce; emotional exhaustion; burnout; organizational commitment; occupational commitment

### 1. Introduction

Burnout has been established as a chronic issue affecting individual and organizational performance in human services (Morse, Salyers, Rollins, Monroe-Devita, & Pfahler, in

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press; Paris & Hoge, 2010), especially among those engaged in treating substance use disorders (SUDs) (Broome, Knight, Flynn, & Edwards, 2009; Vilardaga, et al., 2011). It is among several critical issues affecting this workforce that are cited as affecting its stability, and thus in need of further study (Abt Associates, 2006; The Annapolis Coalition on the Behavioral Health Workforce, 2007). Burnout is a concept that has substantial face validity across many settings of jobs and careers involving repeated role performances. It has been widely studied across multiple occupations, and repeatedly is found to have several distinct dimensions. Within studies of human service workers, emotional exhaustion, or the affective perception that one's emotional resources have been completely expended, has been identified as the most salient component of burnout (Maslach, Schaufeli, & Leiter, 2001; Schaufeli & Taris, 2005).

Workplace supervision clearly affects many dimensions of employees' attitudes and feelings toward their jobs. Within the counseling occupations, a unique form of supervision combines both ongoing direction and evaluation of performance with various forms of job-specific mentoring and training (Powell & Brodsky, 2004). Clinical supervision embeds both organizational and occupational components, with the supervisor representing both the broader performance goals of the organization and a base of experience in the unique skills and core techniques of the occupation, generally at a level that exceeds those of the individuals being supervised (Laschober, de Tormes Eby, & Kinkade, in press). While employees in many organizational settings experience both supervision and mentoring, its formalized combination into a single role has a unique presence in behavioral health treatment organizations.

Not surprisingly, clinical supervision has been cited as a potential buffer against a variety of negative job experiences, implying that such supervision can provide significant support and serve as a source of intrapersonal conflict resolution for direct human service providers (Edwards, et al., 2006; Roche, Todd, & O'Connor, 2007). The extent to which this buffering occurs is likely a function of the quality of clinical supervision provided. In this paper, we examine the relationship between the quality of clinical supervision and SUD counselor emotional exhaustion. We elaborate our prior work on this question by examining whether counselors' organizational and occupational commitment (which parallel the two functions of clinical supervision) plausibly mediate this relationship.

Preventing or reducing burnout is a managerial challenge. For organizations, emotional exhaustion is costly because it reduces employee job performance (Cropanzano, Rupp, & Byrne, 2003; Wright & Cropanzano, 1998) and increases employee absenteeism (Anagnostopoulos & Niakas, 2010; Bekker, Croon, & Bressers, 2005; Toppinen-Tanner, Ojajarvi, Vaananen, Kalimo, & Jappinen, 2005). It is linked to other withdrawal behaviors, such as turnover (Cropanzano, et al., 2003; Lee & Ashforth, 1996). For employees, emotional exhaustion is detrimental to both physical well-being and quality of life. Prospective studies have documented relationships between emotional exhaustion and the onset of physical health conditions, including Type 2 diabetes (Melamed, Shirom, Toker, & Shapira, 2006), cardiovascular disease (Melamed, Shirom, Toker, Berliner, & Shapira, 2006), and musculoskeletal pain (Armon, Melamed, Shirom, & Shapira, 2010). Emotional exhaustion is negatively associated with life satisfaction (Burke & Greenglass, 1995; Demerouti, Bakker, Nachreiner, & Schaufeli, 2000).

We have previously examined emotional exhaustion in the context of clinical supervision and perceptions of organizational justice (Knudsen, Ducharme, & Roman, 2006, 2008). Our interest in clinical supervision was influenced by observing the unique demands and features of this form of supervision as well as research linking supervisor-employee relations to affective perceptions of the workplace (T. A. Allen & Eby, 2003; Eisenberger,

Stinglhamber, Vandenberghe, Sucharski, & Rhoades, 2002; Stinglhamber & Vandenberghe, 2003). Studies of nurses had shown a negative association between clinical supervision and emotional exhaustion (Brunero & Stein-Parbury, 2008; Edwards, et al., 2006; Gonge & Buus), but there had been little research regarding SUD counseling. We initially found a strong negative association between clinical supervision and counselors' self-reported emotional exhaustion, such that more positive appraisals of one's clinical supervisor were associated with lower levels of emotional exhaustion (Knudsen, et al., 2008). However, this relationship was mediated by counselors' perceptions regarding organizational justice and job autonomy. The relationships between clinical supervision and these perceptions regarding counselors' jobs and the larger organization were consistent with other studies showing that employees' appraisals about their employer are often inferred from the quality of their relationship with their supervisor (Eisenberger, et al., 2002; Maertz, Griffeth, Campbell, & Allen, 2007).

To expand upon our previous work, in this study we consider whether organizational commitment and occupational commitment may also mediate of the relationship between clinical supervision and emotional exhaustion. As described by Meyer, Allen, and Smith (1993), these two types of commitment have three main dimensions: affective commitment (i.e., strong emotional ties), continuance commitment (i.e., ties based on the high costs of changing employers or occupations), and normative commitment (i.e., ties based on a sense of moral obligation).

We focus on the affective dimension of these two types of commitment for two reasons. First, a meta-analysis has shown that work experiences are generally associated with affective organizational commitment, but not the other dimensions (Meyer, Stanley, Herscovitch, & Topolnytsky, 2002). These meta-analytic results suggest that clinical supervision is likely to be relevant for affective commitment but not continuance commitment or normative commitment. Second, affective commitment is associated with organizationally relevant outcomes like turnover, absenteeism and job performance as well as employee well-being (Meyer, et al., 2002), suggesting that it is likely to be associated with emotional exhaustion. In addition to a potential role as a mediator, organizational commitment is significant in its own right. Recent research has demonstrated an association between affective organizational commitment and intentions to leave the field of SUD treatment (Rothrauff, Abraham, Bride, & Roman, 2011), so organizational commitment may have implications beyond the staffing needs of specific SUD treatment programs to the overall size, and hence, capacity of the treatment workforce.

While counselors' organizational commitment has important consequences for SUD treatment organizations and the larger field, counselors' occupational commitment has considerable significance for maintaining workforce capacity. Occupational commitment is distinct from organizational commitment in its emphasis on the ways that employees construct meaningful identities and develop emotional connections based on their membership within a given occupation (G. J. Blau, 1985, 1988). Notably, affective occupational commitment is associated with intentions to leave a given occupation (G. J. Blau & Holladay, 2006; Chang, Chi, & Miao, 2007), which is why it is a particularly significant construct to consider when examining the SUD treatment workforce.

To date, there have been few studies of the intersections of clinical supervision, commitment, and emotional exhaustion for SUD counselors. Using data collected from SUD counselors working in programs with the National Institute on Drug Abuse's (NIDA) Clinical Trials Network (CTN), our study has two aims. First, we seek to replicate our previous finding regarding the relationship between clinical supervision and emotional exhaustion. Then, we test the hypothesis that organizational and occupational commitment

are plausible mediators of the association between clinical supervision and emotional exhaustion.

## 2. Methods

### 2.1. Data Collection

Data from counselors were collected as part of a larger study of innovation adoption and health services delivery within community treatment programs (CTPs) affiliated with NIDA's CTN. In 2008–2009, research staff scheduled face-to-face interviews with program administrators and/or clinical directors of the CTN's CTPs (Roman, Abraham, Rothrauff, & Knudsen, 2010). To be eligible, CTPs were required to offer either methadone maintenance within an opioid treatment program (OTP) or a level of substance abuse treatment that was, at a minimum, equivalent to the American Society of Addiction Medicine (ASAM) definition of level-1 outpatient services (Mee-Lee, Gartner, Miller, Shulman, & Wilford, 1996). Treatment organizations varied in their available levels of care; some only offered outpatient care, others specialized in residential services, and many offered a mixture of outpatient and residential treatment. Some organizations were housed in a single site, while others consisted of multiple treatment centers, defined as organizational units with autonomous administrators who held discretionary control over their unit's budget. Units that did not deliver treatment (e.g., those limited to intake/assessment, transitional housing, prevention services) were not eligible for the study. Telephone screening identified 238 eligible CTPs. Administrators and/or clinical directors of 198 CTPs participated in face-to-face interviews (response rate = 84.7%), and \$150 was donated to participating CTPs.

At the end of these interviews, participants were asked to provide email addresses of counselors working within the CTP who currently carried a caseload of SUD clients. Counselors were emailed an invitation to participate in an online survey. Prior to beginning the online survey, counselors were asked to provide informed consent. If counselors preferred to complete a paper-and-pencil questionnaire, the paper version was mailed to them with two consent forms and a postage-paid envelope. A total of 1,502 counselors were invited to complete the survey, with 934 counselors deciding to participate (response rate = 62.2%). Counselors who participated received a \$50 honorarium. These research procedures were approved by the University of Georgia and University of Kentucky Institutional Review Boards.

### 2.2. Measures

The dependent variable of primary interest was emotional exhaustion, which was measured using 9 items developed by Maslach and Jackson (1981/1986). This measure was validated in Maslach and Jackson's original work and subsequently has been validated by others (Demerouti, Bakker, Vardakou, & Kantas, 2003; Koeske & Koeske, 1989; Schaufeli, Bakker, Hoogduin, Schaap, & Kladler, 2001). Response options ranged from 1 indicating "not at all true" to 7 representing "definitely true," and these 9 items were combined into a mean scale ( $\alpha = .91$ ).

Our measure of clinical supervision drew upon 17 items adapted from multiple sources (T. A. Allen & Eby, 2003; Efstation, Patton, & Kardash, 1990; Ragins & McFarlin, 1990). Our approach generates what is essentially a measure of the perceived quality of clinical supervision. Thus, these items ask about the quality of social support and mentoring that counselors received from their supervisor as well as the effectiveness of that relationship. Counselors rated their agreement with these items using response options that ranged from 1 (strongly disagree) to 7 (strongly agree). Given that these items came from multiple scale developers, we conducted an exploratory factor analysis to determine whether these items

loaded on multiple constructs. All items loaded on a single factor (not shown), so these 17 items were combined into a mean scale of clinical supervision ( $\alpha = .98$ ).

We hypothesized that two types of commitment may potentially mediate the relationship between clinical supervision and emotional exhaustion: occupational commitment and organizational commitment. Both were measured using six-item mean scales developed by Meyer, Allen, and Smith (1993). The occupational commitment measures were framed around the participant's work as an addiction treatment counselor ( $\alpha = .74$ ), while the organizational commitment items asked participants to think about the treatment center where they worked ( $\alpha = .78$ ). For example, a sample item for occupational commitment was, "I am proud to be in the substance abuse profession," and a sample item of organizational commitment was, "This organization has a great deal of personal meaning to me." Prior work has established the validity of these measures (N. J. Allen & Meyer, 1990, 1996; G. Blau, 2003; G. J. Blau & Holladay, 2006; Cohen, 1996). Response options to both scales ranged from 1 (not at all true) to 7 (definitely true).

Socio-demographic and professional characteristics were included as control variables. Models controlled for age in years, gender (1 = female, 0 = male), Hispanic ethnicity (1 = Hispanic, 0 = not Hispanic), and race (white, African American, and other, with white as the reference category). Counselors reported their highest level of educational attainment, which was coded into having a master's level degree or higher (= 1) versus those with less than a master's level degree (= 0). Other professional characteristics included tenure (years working for the CTP), licensure as a counseling professional (1 = licensed, 0 = not licensed), certification as an addictions counselor (1 = certified, 0 = not certified) and personal recovery status (1 = personally in recovery, 0 = not in recovery).

### 2.3. Statistical analyses

All analyses were conducted in Stata 12.0 (StataCorp, College Station, TX). First, descriptive statistics were calculated for all study variables. Then, we used multiple imputation to address variables with missing data because listwise deletion has substantial weaknesses (Allison, 2002). Of the 934 counselor respondents, 77.6% completed all 47 survey items used in this analysis, 16.5% had one item with missing data, and 5.9% had more than one item with missing data. Rates of missing data at the item-level ranged from 0.4% (an organizational commitment item) to 5.4% (respondent's race). To impute missing data, we used the "ice" command in Stata, a user-written multiple imputation by chained equations approach (Royston, 2005a, 2005b). Our use of "ice" produced 20 imputed datasets that contained the individual items for all scales and the control variables. After generating the imputed datasets, we calculated the mean scales for emotional exhaustion, clinical supervision, occupational commitment, and organizational commitment. Then, we used the "mi estimate" and "mibeta" commands to pool and standardize the estimates from each dataset into a single set of ordinary least squares (OLS) regression results (Barnard & Rubin, 1999; Royston, 2004). By using the "fisherz" option for "mibeta," the standardized estimates and  $R^2$  calculations were based on Fisher's  $z$  calculation, as per Harel (2009). All models were estimated with the "cluster" option, which calculates robust standard errors to take into account the nesting of counselors within treatment programs.

Our approach to evaluating occupational and organizational commitment as potential mediators of the relationship between clinical supervision and emotional exhaustion drew on the technique developed by Baron and Kenny (1986). First, we estimated the association between clinical supervision and emotional exhaustion while including the nine control variables. Next, we simultaneously added occupational and organizational commitment to the regression model to examine whether these variables attenuated the supervision-exhaustion relationship. Finally, we estimated two additional models to consider whether

clinical supervision was significantly associated with both types of commitment, while controlling for the nine socio-demographic and professional characteristics.

### 3. Results

#### 3.1. Descriptive statistics

Characteristics of participating counselors who worked in CTPs affiliated with the CTN are presented in Table 1. Demographic characteristics of these counselors were similar to a prior round of data collection from counselors in the CTN (Knudsen, et al., 2008), with the majority of respondents being female, about half reporting having earned a master's level degree or higher, and about four in ten indicating that they were personally in recovery. The average counselor was about 45 years of age.

The average counselor reported a relatively low level of emotional exhaustion, well below the midpoint of this scale. Only about 15.2% of counselors reported a level of burnout that was greater than the midpoint of the emotional exhaustion scale. The average level of occupational commitment was significantly greater than the average counselors' reported level of organizational commitment (paired  $t = 30.5$ ,  $df = 889$ ,  $p < .001$ ).

#### 3.2. Models of emotional exhaustion, occupational commitment, and organizational commitment

Table 2 presents two regression models of emotional exhaustion. In Model 1, clinical supervision is the primary covariate of interest. Controlling for socio-demographic and professional characteristics, clinical supervision was positively associated with emotional exhaustion. The negative direction of this association indicates that higher quality clinical supervision was associated with lower levels of emotional exhaustion.

The two types of commitment were simultaneously added to Model 2. Inclusion of occupational and organizational commitment reduced the magnitude of the clinical supervision-emotional exhaustion association to non-significance. This finding provided initial evidence that occupational and organizational commitment may plausibly mediate the relationship between clinical supervision and emotional exhaustion. Both types of commitment were negatively correlated with emotional exhaustion. Counselors reporting greater commitment to the occupation of SUD counseling and greater commitment to their treatment organization reported significantly lower emotional exhaustion. The magnitudes of these associations for the two types of commitment and emotional exhaustion were similar ( $\beta = -.28$  for occupational commitment and  $\beta = -.29$  for organizational commitment). Few of the control variables were associated with emotional exhaustion. Older counselors reported lower emotional exhaustion, while the association between organizational tenure and emotional exhaustion was positive. Compared to white respondents, African American counselors reported significantly lower emotional exhaustion.

To complete the procedures described by Baron and Kenny (1986), we estimated two additional regression models to test whether clinical supervision was associated with both types of commitment (Table 3). Strong positive associations were found between clinical supervision and the two types of commitment. Counselors reporting more positive relationships with the supervisors also reported higher levels of occupational commitment ( $\beta = .30$ ) and organizational commitment ( $\beta = .48$ ). In additional analyses (not shown), each model was revised to include the other type of commitment; even under this condition, clinical supervision was still positively associated with both types of commitment.

In addition to the positive association for clinical supervision, several of the control variables were associated with commitment to the SUD counseling occupation. Age was positively associated with occupational commitment, indicating that older counselors were more committed to the counseling occupation than younger counselors. Counselors who had attained at least a master's level degree were less committed to the occupation of SUD counseling than those with lower levels of educational attainment. However, significantly greater occupational commitment was reported by counselors who were certified as addictions counselors or were personally in recovery.

Results for the model of organizational commitment shared some similarities with the model of occupational commitment in terms of significant professional characteristics. Greater organizational commitment was reported by counselors who were certified as addictions counselors, were personally in recovery, and had attained less than a master's level degree. In addition, there was a positive association between tenure and organizational commitment such that counselors who had been employed at the treatment program for a longer length of time reported greater organizational commitment.

#### 4. Discussion

Although clinical supervision has been recommended as a method for strengthening the stability and performance of the SUD treatment workforce, empirical examinations of the benefits of clinical supervision have been limited. Our study expands the existing literature by considering the relationships between the quality of clinical supervision, organizational commitment, commitment to the SUD counseling occupation, and emotional exhaustion. Similar to our prior research (Knudsen, et al., 2008), we found that clinical supervision was negatively associated with emotional exhaustion in a model that only included control variables. However, clinical supervision was no longer associated with exhaustion once organizational and occupational commitment were added to the model, suggesting that these forms of commitment may be potential mechanisms through which clinical supervision's benefits may operate.

It was expected that the quality of clinical supervision would be correlated with organizational commitment based on prior research in other employment contexts showing that employees' perceptions of their supervisor tend to color their affective perceptions of the larger organization (Eisenberger, et al., 2002; Maertz, et al., 2007). However, the finding that the quality of clinical supervision may also strengthen occupational commitment to the SUD counseling occupation is particularly significant, given its implications for retaining counselors in the field of SUD treatment. This association was not quite as large as the relationship between supervision and organizational commitment, but it still was considerable in size. Taken together, these findings point to the potential value of high-quality clinical supervision in contributing to counselor commitment to specific organizations as well as the broader treatment field.

Many important questions remain about the importance of clinical supervision for both treatment organizations and the larger field. First and foremost, future research should draw upon panel longitudinal data to examine whether the findings in this paper are supported using causal modeling. Integrating data measuring the quality of clinical supervision, the two types of commitment, and emotional exhaustion from at least three waves of longitudinal data would provide a rigorous test of our model. In particular, such a study would be able to establish temporal precedence by considering whether changes in supervision are indeed associated with subsequent changes in levels of commitment and exhaustion. Furthermore, this type of longitudinal research could also consider additional mediators, including variables examined in our prior work as well as other mediators, such

as job satisfaction. A number of statistical methods have been developed for testing such models, including autoregressive and latent growth modeling (MacKinnon, Fairchild, & Fritz, 2007).

An additional question is whether and how the quality of clinical supervision can be enhanced. As described above, our measure of clinical supervision includes multiple components but analyses showed that the scale had a strong degree of internal consistency. It is not yet clear whether the elements of high-quality supervision reflect certain personality traits of supervisors, expertise based upon their own clinical experiences and training, or simply the right “fit” between a given supervisor and his or her subordinates. Disentangling the factors that lead to high quality supervision is important since there are unique implications. For example, if effective supervision were largely personality-based, then a key implication would be that treatment organizations would benefit from being able to identify and hire supervisors with these personality characteristics. In contrast, if effective supervision skills can be taught, then training becomes a critical workforce issue.

Several limitations of this study should be noted. First, these analyses are based on cross-sectional data, which means that we cannot establish causality between these variables. Future research should consider recruiting counselors into a longitudinal study in order to elucidate the relationships between changes in clinical supervision, commitment, and emotional exhaustion. Second, these counselors were not recruited from a random sample of treatment programs, but rather are affiliated with treatment programs in NIDA’s CTN. Programs affiliated with the CTN are not representative of the US treatment system (Ducharme, Knudsen, Roman, & Johnson, 2007; Ducharme & Roman, 2009), but all of the major modalities of treatment are included within the Network (McCarty, et al., 2008). We have previously found some differences in professional and socio-demographic characteristics between counselors in CTN-affiliated programs and counselors who work for non-CTN programs (Knudsen, Ducharme, & Roman, 2007). However, our findings with regard to associations between emotional exhaustion and the control variables are similar to our prior workforce research outside the CTN (Ducharme, Knudsen, & Roman, 2008); these similarities suggest that our substantive findings may not have been unduly impacted by conducting this research within the CTN.

Quality clinical supervision appears to be a significant element in building ties between counselors and their employing treatment programs as well as the broader treatment field, which may protect against emotional exhaustion. Future research, using longitudinal data, is needed to test the causal relationships between the quality of clinical supervision, commitment, and emotional exhaustion. Identifying potential methods for protecting counselors from emotional exhaustion is important given its negative consequences for both organizations’ and counselors’ health.

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**Table 1**

Descriptive statistics of counselors working in SUD treatment programs affiliated with the Clinical Trials Network in 2008–2009

	Mean (SD) or % (N)	Available N
Emotional exhaustion	2.69 (1.30)	884
Clinical supervision	4.85 (1.68)	871
Occupational commitment	5.77 (1.00)	906
Organizational commitment	4.52 (1.28)	913
Age in years	45.42 (12.13)	917
Female	66.7% (616)	923
Hispanic ethnicity	9.8% (90)	916
Race		884
White	73.1% (646)	
African American	22.6% (200)	
Other	4.3% (38)	
Master's level degree or greater	48.3% (447)	926
Tenure in years	5.35 (5.70)	927
Licensed as counseling professional	45.8% (421)	919
Certified as addictions counselor	54.0% (490)	908
Personally in recovery	41.1% (379)	923

Notes: Available N refers to the number of respondents who provided data for each measure. For multi-item scales, the available N reflects the number of respondents who provided data for all items within a given scale.

**Table 2**

Regression models of counselor emotional exhaustion on clinical supervision, commitment, and control variables

	Emotional Exhaustion	
	Model 1 b (95% CI) $\beta$	Model 2 b (95% CI) $\beta$
Clinical supervision	-.204 (-.257; -.152) -.265***	-.032 (-.095; .030) -.042
Occupational commitment	---	-.363 (-.457; -.270) -.278***
Organizational commitment	---	-.299 (-.382; -.215) -.293***
Age	-.014 (-.021; -.006) -.129*	-.010 (-.017; -.003) -.094**
Female (vs. male)	.073 (-.101; .247) .026	.112 (-.042; .265) .040
Hispanic ethnicity (vs. non-Hispanic)	-.204 (-.454; .045) -.047	-.168 (-.385; .050) -.038
Race		
White	Reference	Reference
African American	-.224 (-.420; -.028) -.072*	-.239 (-.415; -.064) -.077**
Other	-.099 (-.481; .283) -.016	-.117 (-.452; .217) -.019
Master's level degree	.143 (-.055; .342) .055	.026 (-.145; .197) .010
Tenure	.014 (-.004; .031) .060	.019 (.003; .034) .081*
Licensed as counseling professional (vs. not licensed)	-.038 (-.205; .129) -.015	-.042 (-.191; .107) -.016
Certified as addictions counselor (vs. not certified)	-.190 (-.383; .003) -.073	-.057 (-.229; .115) -.022
Personally in recovery (vs. not in recovery)	-.051 (-.260; .158) -.019	.066 (-.131; .263) .025
Constant	4.360 (3.911; 4.809)***	6.691 (6.152; 7.230)***
Adjusted R <sup>2</sup>	.112	.279

Notes: Results obtained from 20 imputed datasets (n = 934) using the "cluster" option to generate robust standard errors that account for clustering of counselors within 175 treatment programs. Standardized coefficients and R<sup>2</sup> were calculated based on Fisher's z transformation, as recommended by Harel (2009).

b = unstandardized coefficient; CI = confidence interval;  $\beta$  = standardized coefficient.

\*  $p < .05$ ,

\*\*  $p < .01$ ,

\*\*\*  $p < .001$  (two-tailed tests).

**Table 3**

Regression models of occupational commitment and organizational commitment on clinical supervision

	Occupational Commitment Model b (95% CI) $\beta$	Organizational Commitment Model b (95% CI) $\beta$
Clinical supervision	.176 (.133; .219) .298***	.361 (.314; .409) .479***
Age	.008 (.002; .015) .103*	.002 (-.005; .010) .021
Female (vs. male)	.115 (-.013; .243) .054	-.010 (-.170; .150) -.004
Hispanic ethnicity (vs. non-Hispanic)	-.032 (-.222; .157) -.010	.163 (-.092; .418) .038
Race		
White	Reference	Reference
African American	.008 (-.122; .137) .003	-.061 (-.231; .110) -.020
Other	.037 (-.249; .324) .008	-.107 (-.426; .212) -.018
Master's level degree	-.172 (-.305; -.038) -.086*	-.185 (-.359; -.012) -.073*
Tenure	-.007 (-.018; .003) -.042	.025 (.012; .039) .113***
Licensed as counseling professional (vs. not licensed)	-.022 (-.166; .122) -.011	.015 (-.157; .186) .006
Certified as addictions counselor (vs. not certified)	.192 (.040; .344) .096*	.212 (.043; .381) .083*
Personally in recovery (vs. not in recovery)	.146 (.002; .290) .072*	.214 (.047; .381) .082*
Constant	4.430 (4.077; 4.783)***	2.416 (2.027; 2.806)***
Adjusted R <sup>2</sup>	.136	.286

Notes: Results obtained from 20 imputed datasets (n = 934) using the "cluster" option to generate robust standard errors that account for clustering of counselors within 175 treatment programs. Standardized coefficients and R<sup>2</sup> were calculated based on Fisher's z transformation, as recommended by Harel (2009).

b = unstandardized coefficient; CI = confidence interval;  $\beta$  = standardized coefficient.

\*  
 $p < .05$ ;

\*\*  
 $p < .01$ ;

\*\*\*  
 $p < .001$  (two-tailed tests).