SUPERVISORS, TRAINEES, AND CLIENT OUTCOMES IN THE TRAINING CLINIC:

TOWARD AN UNDERSTANDING OF RELATIONAL FACTORS

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Estimates of healthy years of life lost due to mental illness are increasing, calling greater attention to the provision of effective psychotherapy services. Hypothesized to be the key mechanism through which competencies are developed in trainee clinicians and subsequent client outcomes, clinical supervision is deserving of greater attention. Drawing on a sample of supervisors, trainees, and clients from a training clinic, the present study sought to clarify the relational factors that could facilitate the asserted supervisor-client outcome link and to better understand if, and how, clinical supervisors influence client outcomes. With the exception of supervisor openness to experience, supervisor factors did not predict meaningful variance in client outcomes. Trainee extraversion and openness to experience predicted significant variance in leader-member exchange and supervisory working alliance. Dispositional trainee factors (e.g., personality) appear to impact trainee perceptions of the supervisory relationship. Implications for training and development are discussed, in addition to directions for future research.

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INTRODUCTION

According to the World Health Organization (WHO; 2004), mental illness (e.g., mood disorders) will account for more healthy years of life lost due to disability than any other type of illness in developed countries. Prevalence estimates of mental illness among adults in the U.S. suggest that approximately one in every four Americans experience some form mental illness at any given time with an incidence of nearly 50% in their lifetime (Kessler, Berglund, Demler, Jin, Merikangas, & Walters, 2005; Kessler, Chiu, Demler, & Walter, 2005; Kessler et al., 2006). Psychotherapy is a well-documented effective treatment for the relief of common symptoms of distress associated with mental illness (for a review, see Horvath, 2013). As such, it is imperative that researchers attend to elucidating how trainee clinicians may best develop psychotherapy competencies that result in the effective treatment of mental health problems.

Clinical supervision has been described as, and is considered to be, the "cornerstone" of the training process and has further been understood as the most important means by which to develop psychotherapy competencies in trainee clinicians (Falender et al., 2004; Milne & James, 2002; Stoltenberg, 2005). In concert with an increased push for competency-based approaches to training and development of psychology professionals (DeMers, Van Horne, & Rodolfa, 2008; Kaslow et al., 2004; Nelson, 2007), greater attention is being directed toward the importance of competency-based supervision (Falender & Shafranske, 2007; Kaslow, Falender, & Grus, 2012; Watkins, 2011). However, empirical studies of supervision and psychotherapy outcomes remain relatively rare (Callahan, Almstrom, Swift, Borja, & Heath, 2009; Watkins, 2011).

In this brief review of the existing literature, I describe the empirical studies that have focused on the association between supervision and psychotherapy outcomes. These studies form the basis from which the need to examine and identify relational (common) factors that could

facilitate the asserted supervisor to psychotherapy outcome interface are clarified. More specifically, with insights from a leadership-oriented framework (see Kaslow, Falender, & Grus, 2012), the potential value and relevance of emotional intelligence (EI; Mayer & Salovey, 1997), supervisory alliance (Bordin, 1983), leader-member exchange (LMX; Graen & Uhl-Bien, 1995), personality, and attachment dynamics (see Watkins & Riggs, 2012) are reviewed in the context of both supervisors and trainee clinicians.

Supervision and Client Outcomes

Supervision, defined as "an intervention by a more senior member to a more junior member embodying an evaluative relationship that extends over time," includes active participation of the senior member in order to facilitate trainee self-assessment, knowledge and skill development, and to provide role-modeling, support, feedback, and evaluation (p. 48, Kaslow, Falender, & Grus, 2012). Through various, ideally transparent, interpersonal dynamics (e.g., self-disclosure, reflection, collaborative setting of tasks, goals, and expectations, and trust), supervision is expected to play a pivotal role in the training and development of competent psychology professionals (Bernard & Goodyear, 2009; Falender & Shafranske, 2004). As identified by Watkins (2011), research examining the relation between supervisors and trainees has demonstrated positive benefits. For example, supervision has been associated with trainee competency development including: increased trainee self-awareness and reflection, knowledge, psychotherapy skill acquisition, trainee self-efficacy, and stronger client-trainee relationships (Buetler & Kendall, 1995; Goodyear & Guzzardo, 2000; Holloway & Neufeldt, 1995; Inman & Ladany, 2008; Lambert & Ogles, 1997; Wheeler & Richards, 2007). Unfortunately, research examining the relationship between supervision and client outcomes (i.e., the "acid test" of

supervision; Ellis & Ladany, 1997) has been extremely limited and attempts thus far have suffered methodological limitations (Watkins, 2011).

In his review of the extant research pertaining to relations between supervision and client outcomes, Watkins (2011) identified three studies that shed some light on supervision-client outcomes: Bambling et al. (2006), Bradshaw et al. (2007), and White and Winstanley (2010). Both Bradshaw et al. (2007) and White and Winstanley (2010) drew upon psychiatric nursing samples for their respective studies. Bradshaw and colleagues found evidence to suggest that supervision increased not only the respective nurses' knowledge about psychological intervention, but also that their affiliated clients demonstrated a greater reduction in symptoms than the clients of unsupervised nurses. In terms of limitations, nurses who were in the supervised condition were significantly older and had more experience than those in the control group and the study was ambiguous as to some of the processes in supervisor training and adherence to the researchers' prescribed model of supervision (Watkins, 2011). White and Winstanley failed to find any significant effect of supervision on their outcome measures: quality of care and client satisfaction. Notably supervision took place in the context of small groups of six nurses with a single supervisor for approximately 45-60 minutes on a monthly basis. Despite its value as a randomized control trial (RCT) study, their sample appeared to struggle with issues of management that may have impeded the execution of the supervision intended and could have ultimately impacted their outcomes (Watkins, 2011).

Using a sample of community therapists with graduate qualifications in a mental health field (average years of experience = 8.8 years, SD = 5.8) and clients experiencing depression, Bambling and colleagues (2006) found evidence to suggest that clients receiving treatment from a therapist assigned to a supervision condition rated the working alliance with their therapists as

higher, experienced a greater reduction in their symptoms, rated their satisfaction with treatment higher, and were more likely to stay in treatment than clients being treated by a therapist assigned to the no supervision condition. Therapists had graduate level training in a mental health field and a minimum of one-year experience providing psychotherapy services. Although an exemplary study examining the impact of supervision on client outcomes, overall, the researchers' explicit focus on clients experiencing depression restricts the broader applicability of the study's findings. Further, the use of experienced therapists, rather than novice trainees, obscures some comparisons. However, this study does have strong heuristic value and suggests future directions for research. In particular, Bambling et al. suggest the possibility that common factors may be responsible for the effect of supervision on client processes (i.e., working alliance) and outcomes (e.g., decreased Beck Depression Inventory [BDI] scores). If so, then it could be useful to conduct more in-depth examination of supervisor-specific factors that could explain these supervisory effects (e.g., Emotional Intelligence [EI], personality, supervisory alliance, attachment style, Leader-Member Exchange [LMX]).

In response to Freitas' (2002) recommendations concerning supervision and psychotherapy outcome research, Callahan et al. (2009) sought to generalize their findings more specifically to training clinics. That is, a setting in which supervision is intuitively thought to be of most importance due to its association with the development of trainee therapeutic competencies (Falender et al., 2004; Stoltenberg, 2005). The results of their study demonstrated that supervisors accounted for approximately 16% of the client outcomes (i.e., BDI-II) beyond variance accounted for by initial severity of symptoms and therapist attributes rated by the client. Similar to Bambling et al.'s (2006) suggestion that future research examine "nonspecific" supervisor factors, so too do Callahan and colleagues assert that future research examine

supervisory factors that may be associated with client outcomes - client outcomes that could be better assessed using other widely accepted outcome measures (e.g., OQ-45.2) other than the BDI-II.

In their review of the literature examining who makes the "best" supervisors, from a competency-based perspective, Falender and Shafranske (2004) specifically highlighted the importance of the supervisory relationship. Of particular importance was a mutual sense of trust, respect, and facilitation between the trainee and supervisor, sensitivity to developmental needs, encouragement, disclosures of discomfort, openness to disclosure of perceived errors (however, it was the role of the supervisor to identify discomfort and conflict), clear expectations and feedback, and a lack of defensive responding to trainees that note areas of disagreement. Although Falender and Shafranske (2004) offer inferred supervisor competencies based on their review (see p. 58) such competencies are not empirically founded, which further necessitates research examining supervisor factors that may be reflective of the relationship competencies - competencies that are affiliated with "nonspecific" factors (common factors) and are indicative of postulated supervision processes that impact client outcomes. Reviewed below are some relationally organized psychological constructs that are anticipated to help provide a framework from which to better understand common factors and measure associated competencies that could help clarify the relation between supervisors and client outcomes – supervisory alliance, LMX, supervisor and trainee personality, supervisor and trainee attachment, supervisory attachment, and EI.

<center>EI, Supervisors, and Trainees</center>

An area of research that continues to build empirical support and practical value is that of EI. EI can be defined as the ability to perceive emotions, use emotions to facilitate thought,

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understand emotions, and to manage emotions (Mayer & Salovey, 1997). Initial research concerning EI seems to have first exploded in the field of Industrial/Organizational (I/O) psychology (re: leadership qualities [see Rajah, Song, & Arvey, 2011 for a review]), but has since expanded into professional healthcare fields based on its association with necessary relationship competencies. Notably, in healthcare settings (including medical school), EI has been found to correlate with an increased sense of empathy, more positive doctor-client relationships, improved teamwork and communication, stress management, organizational commitment, and leadership (see Arora et al., 2010 for a review). Arora and colleagues' (2010) review further demonstrated links between the Accreditation Council for Graduate Medical Education's (ACGME) established six core competencies (client care, professionalism, systems-based practice, interpersonal and communication skills, medical knowledge, and practice-based learning and improvement) and EI. They concluded that, given EI's correlation with factors that underpin the ACGME core competencies, EI has the potential to improve both educational and clinical outcomes.

Similarly, researchers have begun examining the relationship between EI and therapist factors, elucidating the potential value of EI in psychotherapy settings (see Kaplowitz, Safran, & Muran, 2011, for an excellent conceptual overview of potential overlap between EI and therapist qualities; Rieck & Callahan, 2013). For example, Kaplowitz, Safran, & Muran (2011) conceptually link EI and the ability to empathize, employ emotionality openly and non-defensively, attend to potential ruptures in relationships, disclose emotions in a context-sensitive manner, and to effectively regulate emotions in self and others. There are evident links between those relational factors identified by Arora and colleagues (2010) as valuable for doctor-client relationships and subsequent outcomes, which further influence psychotherapist-client relations

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and outcomes. Unfortunately, the research examining the association between EI and client outcomes in therapeutic settings is very limited. In particular, there is limited research examining EI using Mayer and Salovey's (1997) ability-based model of EI, which has been identified as the most empirically valuable EI measure to date (see Antonakis, Ashkanasy, & Dasborough, 2009, for a discussion), with preferred client outcome measures (e.g., OQ45.2; Lambert et al., 1996). Despite the promising results from Kaplowitz and colleagues and Rieck and Callahan, additional research examining the value of EI, and related therapist factors, warrants further research. Only through additional research could we better understand the value of EI and its potential to impact training and development and, ultimately, psychotherapy outcomes.

Supervision researchers have suggested that master supervisors embody and employ similar qualities and competencies in the process of supervision (e.g., empathy, genuineness, affect regulation) as ideally used in the process of therapy (Carifio & Hess, 1987; Stout, 1987). As Kaplowitz, Safran, & Muran (2011) have associated the therapist's relational competency of being able to accurately perceive, process, understand, and manage emotions and the relationship between the therapist and client (i.e., EI), so too could this competency be vital for supervisors of trainee clinicians. After all, the process of supervision is a collaborative relational process (Falender & Shafranske, 2004). To the best of the author's knowledge, no study has yet been conducted that clarifies the conceptualized value of EI in regards to clinical supervision or as a supervisor factor that could influence client outcomes.

The leader-follower framework, from which EI has garnered the most empirical attention, has recently been identified as a valuable framework from which to understand supervisory relationships and associated trainee competency development (e.g., Kaslow, Falender, & Grus, 2012; Watkins & Riggs, 2012). As described by Watkins and Riggs (2012) a leader-follower

framework is of particular value in understanding supervisory relationships. In many ways, supervision and leadership are synonymous activities; for example, they both require social skills that are personalized to the trainee/follower in order to develop competencies and, ultimately, accomplish performance goals (Bass, 1998; Kaslow, Falender, & Grus, 2012). This framework appears especially relevant regarding trainee clinicians early in their development (Watkins & Riggs, 2012). From this framework the central role of emotions in the leadership process has been identified and reviewed in terms of facilitating essential elements for leadership effectiveness (e.g., collaborating on establishment of goals and objectives, maintaining cooperation and trust, promoting flexibility and change in decision-making, and engendering a sense of appreciation and relevance of the work; see George, 2000). As reviewed by Rajah, Song, and Arvey (2011), following George's (2000) theoretical work, various studies have provided a general understanding that EI is a valid predictor of leader performance (e.g., Rosete & Ciarrochi, 2005; Sy, Tram, & O'Hara, 2006; Wong & Law, 2002). Interestingly, Wong and Law (2002) found that EI for leaders was more important for follower satisfaction and citizenship behaviors and that follower EI predicted job performance and satisfaction. To the knowledge of the author there are no empirical studies that have clarified the potentially differential impact of supervisor and trainee EI, respectively, on supervisory processes or client outcomes.

To ignore that leaders elicit emotional responses from their followers that could impact performance would be foolish (Dasborough, 2006). Naturally a better understanding of how EI could enhance the supervisory relationship, as it has in the leadership literature (e.g., supervisory alliance and LMX) is of particular importance regarding clinical supervision (see Prati, Douglas, Ferris, Ammeter, & Buckley, 2003, for a theoretical review of the relationship between leader EI

and motivation and different leadership styles). Furthermore, an understanding of the differential effects of supervisor and trainee clinician EI on process factors (e.g., supervisory alliance and attachment) and subsequent client outcomes (i.e., OQ45.2) would prove beneficial.

<center>Supervisory Alliance and Leader-Member Exchange (LMX)</center>

A large body of research has described and provided evidence for the impact of the working alliance between clinician and client and the client's outcomes (e.g., Busseri & Tyler, 2003; Hatcher & Gillaspy, 2006; Rieck & Callahan, 2013; Safran & Muran, 2006). Bordin's (1979) conceptualization of the working alliance is comprised of three components: tasks (in-session behaviors and activities), bond (personal relationship between the clinician and client), and goals (collaborative agreement of the desired outcome from therapy). Similar to the working alliance, Bordin's (1983) conceptualization of the supervisory working alliance is comprised of the same three components and has been described as the foundation on which effective versus ineffective supervision is based (Ladany & Inman, 2012). Despite the widely accepted value of the supervisory working alliance, particularly related to trainee satisfaction (Sterner, 2009), its value in terms of understanding how supervision impacts client outcomes has yet to be ascertained.

Although practitioners and researchers alike have hypothesized a link between EI and working alliance and supervisory alliance (Cooper & Ng, 2009; Kaplowitz, Safran, & Muran, 2011; Summers & Barber, 2010), there is limited research to support or refute this relationship. Using a measure of trait emotional intelligence (TEI), Cooper and Ng (2009) found evidence to suggest that TEI of trainees predicted the supervisory alliance as perceived by the trainees and that the TEI of the supervisor predicted the supervisors perception of the supervisory alliance (note: they failed to find an interaction between supervisor and trainee TEI and supervisory

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alliance). As for working alliance, both Kaplowitz and colleagues (2011) and Rieck and Callahan (2013) failed to identify a correlation between trainee clinician EI and working alliance, which suggests that EI and working alliance, separately, serve to explain potentially unique variance in client outcomes. Taken together, given the dearth of research in this regard and these preliminary findings, additional research is warranted to better understand the relation between EI and supervisory alliance. In particular, research is needed that incorporates the use of an ability-based measure of EI to help clarify the relationship between EI and the supervisory alliance (Antonakis, Ashkanasy, & Dasborough, 2009).

As supervisory alliance is consistent with relationship-based approaches to therapeutic and supervisory processes (Cooper & Ng, 2009; Kaplowitz et al., 2011), LMX is representative of a relationship-based approach to leadership. In keeping with connecting supervisory and leadership frameworks, and the established importance of the supervisory relationship (see Kaslow, Falender, & Grus, 2012), LMX warrants greater attention when examining supervisor-trainee clinician relationships and associated outcomes. After all, according to Gerstner and Day (1997), LMX "has evolved into one of the more interesting and useful approaches for studying hypothesized linkages between leadership processes and outcomes (p. 827)."

LMX theory emphasizes the dyadic relationship between the leader and the follower. According to Graen and Uhl-Bien (1991), the central concept of LMX is that effective leadership interactions and associated outcomes take place when both the leader and the follower (i.e., supervisor and trainee) are capable of developing mature relationships (i.e., those involving mutual trust, respect, and obligation; Graen & Uhl-Bien, 1995). Notably, supervision researchers have predicted that supervisory relationship functions are predicted based on such a trust-filled relationship (Bernard & Goodyear, 2009; Falender & Shafranske, 2004). Outcomes associated

with LMX have included increased job performance, organizational commitment, and job satisfaction (Cogliser, Schriesheim, Scandura, & Gardner, 2009), which appear to be similar in nature to some of the outcomes associated with the supervisory working alliance (e.g., trainee performance and satisfaction). To date, to the best of the author's knowledge, there are no studies examining the potential association between LMX and supervisory alliance. However, in light of understanding supervisory factors that could explain the posited relationship between supervision and client outcomes, and LMX's identified relationship with employee job performance, LMX may be a supervisory construct that sheds further light on this connection.

<div align="center">Trainee and Supervisor Attachment</div>

Examination of supervisory factors, particularly those implicating the supervisory relationship and associated emotionality would be incomplete without consideration of the attachment-leadership interface (Mikulincer & Shaver, 2007; Watkins & Riggs, 2012). As described by Watkins and Riggs (2012), Bowlby's (1969, 1973, 1980, 1988) attachment theory has been identified as an integrative framework from which to understand and explain relationships (see Cassidy & Shaver, 2008, for a review). In particular, an understanding of how different attachment patterns/styles are associated with the supervisory experience could prove beneficial (Boatwright et al., 2010; Dickson, Moberly, Marshall, & Reilly, 2011; Fitch, Pistole, & Gunn, 2010; Pistole & Watkins, 1995; Watkins & Riggs, 2012).

The two orthogonal dimensions of anxiety and avoidance in relationships have been used to define and understand attachment patterns (Brennan, Clark, & Shaver, 1998; Fraley et al., 2011). These attachment patterns are derivatives of an individual's internal working model of the self and others, which are based on personal experiences and serve to influence the individual's understanding and subsequent behaviors in their social world (Bowlby, 1977; Fraley et al., 2011;

Harris, 2004). Associated with the anxiety and avoidance dimensions, Bartholomew and Horowitz (1991) identify four adult attachment styles: secure, dismissive, preoccupied, and fearful (see Boatwright et al., 2010, for a description of each attachment style in relation to followers).

Given that a theoretical review of the supervisor and trainee attachment association is beyond the scope of the present paper, and Watkins and Riggs (2012) have already provided an excellent review of the literature and provide support for the "fruitfulness" of examining the attachment-supervision interface (Mikulincer & Shaver, 2007), our attention would be better directed toward how the five published studies (identified by Watkins and Riggs that have explored this relationship: Bennett, Brintzenhofeszoc, Mohr, & Saks, 2008; Dickson, Moberly, Marshall, & Reilly, 2011; Foster, Lichtenberg, & Peyton, 2007; Riggs & Bretz, 2006; White & Queener, 2003) could be expanded. Watkins and Riggs summarize these five studies by stating they collectively provide preliminary support for the attachment-supervision interface. First, attachment history can influence the supervisory relationship and can impact perceptions of the relationship. Second, trainee attachment style has been found to influence their perceptions of the supervisory relationship (e.g., alliance) as expected (e.g., insecurely attached trainees rated supervisory relationship as worse than those who are more securely attached). Third, the supervisor's attachment style impacts the supervisory experience (secure supervisors provide a better supervisory experience). Notably, none of these studies examined supervisory attachment in relation to client outcomes. Although measures of supervisory alliance were included in the majority of the studies, none of them included a measure of LMX, which could provide a richer understanding of the attachment-supervision relationship. As Watkins and Riggs state, it appears that the empirical study of the attachment-supervision interface is "wide open territory (p. 272)."

Hypotheses

Taken together, given the dearth of research examining the relationship between supervision and client outcomes (Callahan et al., 2009; Watkins, 2011), the specific aim of the study presented herein was to elucidate if, and how, clinical supervisors influence client outcomes. Based on the existing literature, the following hypotheses were proposed:

1.   It was predicted that supervisor EI would account for a small, significant, amount of variance in client scores on the OQ45.2.

2.   It was hypothesized that trainee EI would mediate the relationship between supervisor EI and client outcomes.

3.   It was expected that supervisor EI would be positively associated with supervisor perceptions of the supervisory alliance.

4.   Similarly, it was also postulated that trainee EI would be positively associated with trainee perceptions of the supervisory alliance.

5.   Supervisory attachment and general attachment styles were expected to predict perceptions of the supervisory alliance from both the trainee and supervisor perspectives.

In addition to the above hypotheses, exploratory correlation analyses were planned to elucidate associations among supervisor and trainee variables (i.e., EI, supervisory alliance, LMX, personality, adult attachment style, and supervisory attachment).

METHOD

Participants

Supervisors. Supervisors ($N = 13$) were licensed psychologists, consisting of faculty

members (e.g., professor, associate professor, assistant professor), and psychologists from the

local community who provided supervision services for pre-intern doctoral students in the

targeted department of psychology. The psychology department is located in a traditional bricks

and mortar, public, university. Although the targeted department of psychology is home to three

accredited programs, each of the programs uses the same training clinic for required practica.

Supervisors in the present study consisted of 7 (54%) men and 6 (46%) women, with an average

age of 49 years ($SD = 8.40$). Eleven (85%) supervisors identified as white/Caucasian. Sixty-nine

percent ($n = 9$) of the supervisors represented the clinical psychology program and

approximately 15% ($n = 2$), respectively, represented the counseling psychology program and the

clinical health psychology (accredited as clinical) programs. Supervisor therapeutic orientations

were diverse, including empirical/integrationist, psychodynamic, interpersonal, eclectic,

behavioral, solution-focused, and psychoanalytic[1]. Notably, of the 24 supervisors solicited to

participate in the present study, 13 participated, yielding a response rate of 54%. Anecdotal

information suggested that the other 11 supervisors did not participate because of a lack of

available time ($n = 2$) and concerns about being identified as a participant in the present study (n

$= 2$), with the remaining seven being non-responsive to requests for participation.

Trainees. Trainee clinicians ($N = 32$) were doctoral students enrolled in scientist-

practitioner, doctor of philosophy (Ph.D.), programs in the targeted department of psychology. In

this training clinic, trainee clinicians individually meet with supervisors for one hour on a weekly

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[1] Specific n is not being reported due to the small sample size, which raises the possibility of identification.

basis. Additionally, each trainee is part of a practicum team that meets with their supervisor for two hours of weekly group supervision. The standard procedure at this clinic is for the clinic director to make all caseload assignments. Supervisors do not select either students or cases for supervision. Trainee clinicians self-identified the following therapeutic orientations: 28% ($n = 9$) psychodynamic, 25% ($n = 8$) integrated (e.g., psychodynamic with emotion-focused therapy, cognitive behavioral therapy with acceptance and commitment therapy, interpersonal with cognitive behavioral therapy), 13% ($n = 4$) cognitive-behavioral therapy (CBT), 9% ($n = 3$) acceptance and commitment therapy, and 25% ($n = 8$) as other orientations (e.g., eclectic, interpersonal, emotion-focused, existential) or unanswered. It should be noted, however, that these labels might be somewhat misleading; as pre-internship trainees completing internal practicum, most clinicians are largely working on developing common, baseline, competencies rather than demonstrating skills uniquely associated with specific orientations.

One hundred fourteen trainee clinicians were eligible for participation in the study. Eligibility was based on whether the trainee clinician was completing, or has completed, psychotherapy practica and routinely gathered client outcome data. Of the eligible trainee clinicians, 81 (71%) consented to participate in this study. The sample of 81 was further reduced to 32 after the removal of 49 trainee clinicians, due to incomplete data (e.g., missing relational factors, EI, and/or client outcome data). The remaining 33 trainee clinicians chose not to participate for various anecdotal reasons including time availability to complete the measures, transitioning to new practicum sites/internship locations, or various life circumstance reasons. The final sample included trainee clinicians from each of the three programs: clinical ($n = 18$), counseling ($n = 10$), and clinical health ($n = 4$). Twenty-one (66%) of the trainee clinicians were women and 11 (34%) were men, with an average age of 26.41 years (range = 23 – 32; $SD =$

2.15); 23 (72%) self-identified as white/Caucasian, five (16%) as Hispanic/Latino/a, three (9%) as Asian/Pacific Islander, and one (3%) as biracial. Twenty-five (78%) were single/not married and seven (22%) were married.

Clients. Archival data from 256 clients (49% women, 28% men, 23% missing data) in the training clinic were accessed based on their respective trainee clinician and trainee clinicians' supervisor in the study. All clients consented to the use of their archival data for research purposes. Clients' ages ranged from 18 to 61 ($M = 30.73$, $SD = 10.75$), with 38% ($n = 97$) self-identifying as European American/white, 6% ($n = 15$) as Hispanic/Latino/a, 4% ($n = 10$) as African American/black, 2% ($n = 5$) as Asian/Pacific Islander, 6% ($n = 15$) as other (e.g., Native American, Middle Eastern), and 44% ($n = 113$) unknown due to missing data. Forty-six percent of the participants were single ($n = 118$), 11% married ($n = 28$), 3% separated ($n = 8$), 7% divorced ($n = 18$), 6% ($n = 15$) living with a committed partner, 1% ($n = 3$) widowed, and 26% ($n = 67$) unknown due to missing data. According to the clinic's report, adjustment disorders and substance abuse disorders are diagnosed in 5.3% and 5.2% of clinic clients, respectively. Other less common diagnoses included disorders generally first diagnosed in childhood (4.6%), personality disorders (3.7%), and schizophreniform disorders (1.5%), with the remaining diagnoses comprising less than 1% of clinic clients. Client diagnoses are determined during treatment as usual and were not specific to this research study.

Measures

Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT). The MSCEIT (Mayer et al., 2002) is an ability-based measure of EI that consists 141 items. Eight different tasks are used to measure four abilities, which, when combined, provide a total estimate of EI. The four abilities include: the ability to perceive emotions, the ability to use emotions to facilitate thought,

the ability to understand emotions, and the ability to manage emotions (Mayer et al., 2003). The eight tasks vary from having the respondent rate the degree to which a face is representative of specific feelings (ability to perceive emotions), on a five-point scale, to having the respondent evaluate a specific emotional situation and selecting the most effective way of eliciting a desired emotional response (ability to manage emotions). Two scoring methods are identified and made available from the test publishers (general and expert consensus). Caruso (2005) recommends the expert scoring method that involves comparison of the respondent's response to a scoring key generated by a panel of 21 international emotion experts. Consequently, the expert consensus method was used in the present study. MSCEIT authors, notably, have failed to identify any significant differences between the two scoring methods (Mayer et al., 2002).

Mayer and colleagues (2002) reported adequate internal consistency estimates (Cronbach's alpha = .91) for expert scoring of total EI and further acceptable estimates for each of the four abilities measured (α = .90 for perceiving emotions, α = .76 for facilitating emotions, α = .77 for understanding emotions, and α = .81 for managing emotions). Other researchers have found further evidence supporting the content validity (e.g., Brackett & Mayer, 2003; Mayer et al., 2002), discriminant validity (e.g., Brackett & Mayer, 2003; Mayer et al., 1999; Pellitteri, 2002; Salovey et al., 2003), and predictive validity (e.g., Brackett & Mayer, 2003; Mayer et al., 2002; Jausovec, Jausovec, & Gerlic, 2001; Salovey et al., 2003) of the MSCEIT. In the present sample, internal consistency estimates (Cronbach's alpha) for the total EI score for trainee clinicians and supervisors was .86 and .93, respectively.

NEO-Five Factor Inventory (NEO-FFI). The Revised NEO Personality Inventory is a psychometrically robust measure characterizing adult personality along the "Big 5" constructs. Derived from the Revised NEO Personality Inventory (NEO-PI-R; Costa & McCrae, 1992), the

NEO-Five Factor Inventory (NEO-FFI) is a short form consisting of 60 items. Similar to the NEO-PI-R, the NEO-FFI items reflect the same five major domains (i.e., neuroticism, extraversion, openness, agreeableness, and conscientiousness). It is highly correlated with the full NEO-PI-R (rs = .92, .90, .77, .87, and .87 for N, E, O, A, and C domains, respectively). Internal consistencies for the scales of this measure were acceptable in the current sample of trainee clinicians (Chronbach's alpha = .85, .82, .73, .78, and .78 for N, E, O, A, and C, respectively).

Experiences in Close Relationships – Relationship Structures (ECR-RS). Addressing a variety of methodological problems existing in the attachment and assessment literature, the ECR-RS is a questionnaire that has been designed to assess an individual's attachment in a fashion adaptable to a variety of relational contexts (Fraley, Heffernan, Vicary, & Brumbaugh, 2011). The ECR-RS has been modified from the Experiences in Close Relationships – Revised (ECR-R; Fraley, Waller, & Brennan, 2000) measure. The authors note that the ECR-RS has been intentionally designed to be adapted to different relational contexts and specified targets (e.g., supervisors), for which a measure of attachment-related avoidance and a measure of attachment-related anxiety are computed. On a 7-point Likert-type scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*), participants answer statements about the specified individual. In the present study, trainee clinicians were instructed to rate their level of agreement to the statements with their clinical supervisor in mind. Example statements include: "It helps me to turn to this person in times of need, I don't feel comfortable opening up to this person," and "I often worry that this person doesn't really care for me." Fraley and colleagues (2011) report good internal consistency (alphas > .80) and validity. In the present sample, internal consistency estimates (Cronbach's alpha) for trainee attachment-related avoidance and anxiety were .25 and .35,

respectively. Due to poor reliability, perceptions of ECR-RS were removed from subsequent analyses.

Relationships Questionnaire (RQ). Bartholomew and Horowitz's (1991) RQ is a brief self-classification measure of attachment. Participants are asked to select one statement that best characterizes their feelings about close relationships. The four statements correspond to the four-prototypical adult attachment styles (i.e., secure, dismissive, preoccupied, fearful). A variety of researchers provide evidence concerning the measure's test-retest reliability (ranging from 8 months to 4 years; Kirkpatrick & Hazan, 1994; Scharfe & Bartholomew, 1998), as well as construct, convergent, and discriminant validity (Brennan, Clark, & Shaver, 1998; Griffin & Bartholomew, 1994).

Working Alliance Inventory- Short Version (Supervisory Alliance). The WAI-SV was originally adapted from Horvath and Greenberg's (1989) Working Alliance Inventory (WAI) to provide a short-version of the WAI, which examines the relationship (i.e., goals, tasks, bond) between a clinician and client. In studies of supervisory working alliance, Tracey and Kokotovic's (1989) 12-item measure of the WAI has been adapted, with minor wording revisions, to emphasize the relationship between a clinician/trainee and their respective supervisor (e.g., Bennett, Mohr, BrintzenhofeSzoc, & Saks, 2008; Deal, Bennett, Mohr, & Hwang, 2011; Marmarosh et al., 2013). More specifically, the words client/therapist were substituted with the words trainee/supervisor, while keeping true to the conceptualization of the working alliance by measuring the three alliance factors (goal, task, and bond). Participants respond on a 7-point Likert scale, ranging from 1 (*never*) to 7 (*always*). Example items include, "I appreciate my trainee (supervisor) as a person" and "We are working towards mutually agreed upon goals." Studies using this modified version have reported acceptable internal consistency

estimates for the total scale (e.g., alpha coefficients ranging from .92 to .95; Bennett, Mohr, Deal, & Hwang, 2013). Evidence for predictive validity has been demonstrated through comparisons with measures of supervisory style and attachment to supervisor (e.g., Bennett et al., 2008). In the present sample, internal consistency estimates (Cronbach's alpha) for trainee clinician perceived supervisory alliance and supervisor perceived alliance were .94 and .88, respectively.

Leader-Member Exchange (LMX). LMX emphasizes the quality of the dyadic relationship between the leader and the follower. According to Graen and Uhl-Bien (1995), LMX contains three dimensions (respect, trust, and obligation) that are so highly correlated that they can be tapped within a single measure of LMX. Based on Graen and Uhl-Bien's recommendations, their 7-item measure of LMX was used in the present study. Both supervisors and trainee clinicians rated the quality of their relationship using the same measure with slight differences in language depending on whether they were the supervisor (i.e., leader) or trainee (i.e., follower). Sample items include: "How would you characterize your working relationship with your supervisor (or your trainee)?" and "How would you characterize your working relationship with your supervisor (or your trainee)?" Items are rated on a continuous 5-point scale that is slightly different depending on the question. For example, for the first sample item response options range from 1 = "extremely ineffective" to 5 = "extremely effective." LMX has been found to be predictive of a variety of work-related outcomes, including: job satisfaction, organizational citizenship behaviors, organizational commitment, supervisor satisfaction, work productivity and performance, and inversely related to turnover intentions in the workplace. Internal consistency estimates have been reported to range between .80 and .90 (e.g., .86, Chen, Lam, & Zhong, 2010). In the present study, internal consistency (i.e., Cronbach's alpha) ranged

from .87 (for trainee clinicians) to .46 (for supervisors). Due to poor reliability, supervisor perceptions of LMX were removed from subsequent analyses.

Outcome Questionnaire 45.2 (OQ45.2). The OQ45.2 is a 45-item, self-report measure intended to measure client progress in three domains: subjective distress, interpersonal functioning, and social role performance (Lambert et al., 1996). Clients respond to the items on a continuum ranging from *never* to *almost always* as to how they were feeling or functioning in the preceding week. Total scores can range in value from 0 to 180, with a score of 63 or higher falling in the clinical range. The mean total score at the start of treatment was 73.98 (n = 257, *SD* = 24.56), which falls within the clinical range for this measure. The OQ45.2 administration manual reports that no differences exist between male and female samples. Test–retest and internal consistency reliability studies as well as concurrent validity studies have yielded robust findings. No significant differences have been found as a function of client ethnicity (Nebeker, Lambert, & Huefner, 1995). Vermeersch, Lambert, and Burlingame (2000) examined specificity and sensitivity to change and found the OQ45.2 to perform adequately. Reliability analyses for the current sample were unavailable as only total scores were available in the available archival dataset.

<div align="center">Procedure</div>

Trainee clinicians and supervisors were recruited using individual emails and verbal follow-ups in the training clinic and psychology department at-large. Recruitment materials informed trainee clinicians and supervisors of the study's purpose, value, and, should they so desire, be provided with the results obtained from their completion of the MSCEIT and NEO-FFI measures as compensation for participation in this study. Both trainee clinicians and supervisors were further informed during recruitment that personally identifiable information will not be

shared with other faculty members, supervisors, training directors, the department chair, and will not be available in any program or department files regarding specific trainees/faculty, and will not be accessible for trainee/faculty annual reviews/evaluations.

Consenting trainee clinicians and supervisors were provided a project-specific password, which they used to complete the MSCEIT online via the test publisher's secure website, password protected electronic forms of the NEO-FFI, ECR-RS, and WAI-SV protocols were provided via email (or other medium, as requested) and returned in the same medium to the test administrator upon completion. The administrator retrieved the scored and compiled MSCEIT responses in spreadsheet format from the test publishers secure website.

As part of the standard operating procedures of the training clinic, clients completed the OQ45.2 prior to each psychotherapy session, in a quiet setting, prior to meeting with their trainee clinician. Both trainee clinicians and supervisors have access to the OQ45.2 data and may have utilized this information during supervision, in keeping with recommended clinical usage (Hawkins, Lambert, Vermeersch, Slade, & Tuttle, 2004; Lambert et al., 2002; Okiishi et al., 2006). Clients were previously informed that completion of clinic measures (e.g., OQ.45.2) are a requirement to receiving treatment in the training clinic and have previously consented to the use of their de-identified data in clinic-approved research studies. All participants and their data were treated in accordance with the American Psychological Association ethical code (American Psychological Association, 2010), the Institutional Review Board, and the executive oversight committee for the training clinic.

Analyses Plan

Client outcomes were first examined to establish that client outcomes were variable. To quantify client change, the difference between each client's initial OQ45.2 score and their end of

treatment OQ45.2 score was computed (see Table 1 for treatment outcome classification of the difference scores). Next, descriptive statistics (e.g., means and standard deviations) were calculated for all supervisor (Table 2) and trainee (Table 3) measures (i.e., MSCEIT, NEO-FFI, LMX, WAI-SV, ECR-RS). Trainee perceptions of supervisor attachment (ECR-RS) and supervisor perceptions of LMX were removed from further analyses due to poor reliability, as identified above. Having been differentiated as "early ($n = 5$)" vs. "established ($n = 27$)" trainees in their amount of instruction (i.e., 2nd year in the program or earlier vs. greater than 2nd year), bias corrected and accelerated bootstrapped[2] independent samples t-tests were used to examine whether there were training group differences on any of these measures. Bootstrapped one-way ANOVA was then used to examine whether there were differences across the measures by self-reported attachment style (RQ), or by training program, for either trainees or supervisors.

Additionally, bootstrapped correlation analyses were conducted in order to explore the relationships among all variables of interest for trainees (Table 4) and supervisors (Table 5). Bootstrapped hierarchical regression analyses were used to examine the relationship between trainee variables of interest and client outcomes. Similar analyses were conducted with supervisor measures. Exploratory (secondary) analyses, extending beyond the hypothesized relationships among the variables were further conducted to better understand the data and the relationship among supervisors, trainees, and their clients.

Throughout the results, the sample size for supervisors, trainees, and clients may be different then previously presented in the Methods section. This decision was made in an effort to maintain the largest sample size possible for the associated analyses, despite not having a 1:1:1 (supervisor, trainee, client) match among all participants.

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[2] 1000 samples were specified for each bias-corrected and accelerated (BCa) bootstrap.

RESULTS

Primary Analyses

Hypothesis 1 predicted that supervisor Emotional Intelligence (EI) would account for a small, significant, amount of variance in client scores on the Outcome Questionnaire 45.2 (OQ45.2 [i.e., client change]). However, the results of bootstrapped regression analyses indicated that supervisor EI failed to predict significant variance in client change scores ($B = .25$, $SE = .22$, $p = .301$, 95% CI [-.11 - .98]). Hypothesis 1 was therefore not supported.

Hypothesis 2 predicted that trainee EI would mediate the relationship between supervisor EI and client outcomes. The results of bootstrapped regression analyses failed to support the expectation that trainee EI would mediate the relationship between supervisor EI and client outcomes. That is, drawing upon Baron and Kenny's (1986) approach to testing mediation, the first step (regress the outcome onto the predictor) was not significant, as demonstrated in hypothesis one. Significance when regressing the outcome onto the predictor is necessary prior to identification a potential mediator. Notably, the second step (regress the outcome onto the mediator) revealed that trainee EI failed to predict significant variance in client outcomes ($B = -.08$, $SE = .09$, $p = .381$, 95% CI [-.27 - .09]).

Hypothesis 3 predicted that supervisor EI would be positively associated with supervisor perceptions of the supervisory alliance. The results of correlation analysis were not significant (see Table 5), failing to support hypothesis 3 (although the correlation was in a positive direction).

Hypothesis 4 postulated that trainee EI would be positively associated with trainee perceptions of the supervisory alliance. The results of bootstrapped correlation analysis were not

significant (see Table 4) indicating that trainee EI was not significantly associated with trainee perceptions of the supervisory alliance.

Hypothesis 5 predicted that supervisory attachment and general attachment styles would account for a significant amount of variance in perceptions of the supervisory alliance from both the trainee and supervisor perspectives. Trainee attachment with their supervisor was previously removed from analyses due to poor reliability. Regarding general adult attachment styles, using one-way ANOVA, no significant differences were identified across the four trainee general adult attachment styles and supervisory alliance (secure [$n = 19$], fearful-avoidant [$n = 7$], preoccupied [$n = 4$], and dismissing-avoidant [$n = 2$]). Similarly, no significant differences were identified across supervisor general adult attachment styles and supervisor perceived supervisory alliance. Hypothesis 5 therefore was not supported.

<div align="center">Secondary Analyses</div>

Trainees. No significant differences on any dependent variables were found among trainees as a function of their accredited program. Early trainees endorsed more avoidant attachment than established trainees ($t(30) = 2.17$, $p = .04$), but no other significant differences were found between early and established trainees across the study measures. With the exception of B1 (the ability to perceive emotions), in which trainees who self-identified with generally secure adult attachment demonstrated higher mean B1 scores than those who self-identified with fearful-avoidant attachment ($F(3, 28) = 3.82$, $p = .02$), no significant differences were identified across the four trainee general attachment styles.

Bootstrapped correlation analyses (Table 4) indicated no significant associations among trainee variables and client change scores. Significant correlations of interest were observed between trainee perceptions of Leader-Member Exchange (LMX) and trainee extraversion ($r =$

.36, $p = .046$) and trainee LMX with trainee openness to experience ($r = .58$, $p = .001$). Similarly, significant correlations were noted between trainee perceptions of supervisory alliance and trainee extraversion ($r = .44$, $p = .014$), and trainee openness to experience ($r = .38$, $p = .037$). In addition, trainee perceptions of supervisory alliance and trainee perceptions of LMX were significantly correlated ($r = .87$, $p = .000$).

None of the trainee variables predicted variance in client outcomes, using bootstrapped hierarchical regression analyses. EI failed to predict significant variance in LMX ($B = -.02$, $SE = .04$, $p = .58$, 95% CI [-.12 - .07]) and supervisory alliance scores ($B = -.02$, $SE = .11$, $p = .87$, 95% CI [-.24 - .19]). Based on significant correlations among trainee extraversion and openness to experience and LMX, these personality variables were regressed (bootstrapped) onto LMX, revealing that both trainees' openness to experience ($B = .46$, $SE = .10$, $p = .001$, 95% CI [.29 - .66]) and extraversion ($B = .26$, $SE = .12$, $p = .047$, 95% CI [.00 - .54]) predict significant variance in LMX. Similarly, trainees' extraversion ($B = .68$, $SE = .27$, $p = .018$, 95% CI [.16 - 1.15]) and openness to experience ($B = .65$, $SE = .24$, $p = .009$, 95% CI [.16 – 1.21]) predicted significant variance in trainee perceptions of supervisory alliance.

Supervisors. No significant differences were observed among supervisors from different accredited programs. The majority of the sample of supervisors ($n = 10$) endorsed a secure attachment style in general. Supervisors who self-identified as securely attached endorsed a lower degree of neuroticism than supervisors who self-identified as fearful-avoidant ($t(4.657) = -2.73$, $p = .045$ [equal variances not assumed]), but no other significant differences were observed across general attachment styles.

Bootstrapped correlation analyses (Table 5) revealed significant correlations between supervisor openness to experience and agreeableness with client change scores ($r = .77$, $p =$

.006, and $r = .71$, $p = .015$, respectively). Additional correlations regarding variables of interest were not significant (e.g., EI and LMX). Although both openness to experience and agreeableness were highly correlated with client outcomes, bootstrapped hierarchical regression analysis revealed that only openness to experience of the supervisor predicted significant variance in client outcomes ($B = 2.11$, $SE = .94$, $p = .027$, 95% CI [.04 – 2.85]).

Matched Supervisors and Trainees. Supervisors and corresponding trainees were matched, yielding a total of six supervisors who had corresponding trainee participants (trainees per supervisor ranged from one to nine). Where available, trainee scores were averaged on each dependent variable. No significant associations were identified.

DISCUSSION

The primary purpose of this study was to clarify the association between supervision and psychotherapy outcomes with additional emphasis on relational factors among supervisors and trainees that contribute to an effective supervisor-trainee dynamic. To the knowledge of the author, this is the first study to examine supervisor and trainee clinician common relational factors in an effort to better understand the association between supervision and client outcomes, in addition to the relationship among supervisors their respective trainee clinicians.

Current Participants Compared to Established Literature

In keeping with the desire to emphasize and characterize relational factors hypothesized to impact the supervisor-trainee dynamic, it is useful to consider the present sample in conjunction with previous samples. Regarding personality, in comparison to the NEO-Five Factor Inventory's (NEO-FFI) normative data, supervisors in the present sample demonstrated mean scores that were similar for neuroticism (17.60 in the normative sample; 17.77 among supervisors), extraversion (27.22 in the normative sample; 27.00 among supervisors), and openness to experience (27.09 in the normative sample; 25.00 among supervisors). The supervisors were slightly lower than the normative sample on agreeableness (31.93 in the normative sample; 24.62 among supervisors) and conscientiousness (34.10 in the normative sample; 29.77 among supervisors). In comparison to the normative sample, trainee clinicians' mean personality scores were slightly higher for neuroticism (19.29), extraversion (29.81), openness to experience (32.13), and agreeableness (35.90), and similar regarding conscientiousness (33.42).

The test authors of the Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT) designed their results so that the total, and branch, scores are positioned within a normal

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distribution that has an average of 100 and a standard deviation of 15 (Mayer, Salovey, & Caruso, 2002). Drawing on the authors' guidelines for interpreting the MSCEIT, supervisors demonstrated average total EI scores in the high average range (i.e., 100-109), with a mean of 101.80 (SD = 15.51). Trainee clinicians, on average, demonstrated total Emotional Intelligence (EI) scores in the competent range (i.e., 110-119), with a mean of 112.83 (SD = 16.58). Independent samples t-test indicated a significant difference between supervisor EI and trainee clinician EI (t(58) = -2.50, p = .022). That is, the trainee clinicians from the present sample had significantly higher EI than their supervisors. The trainee clinician scores are somewhat higher than the means reported by Kaplowitz, Safran, and Muran (2011) and very similar to those previously reported by Rieck and Callahan (2013) using data from the same psychology clinic (103.62 and 106.09, respectively).

In terms of client outcomes, findings from the present study were consistent with the existing literature examining single-site training clinics that identify the most common client outcome as one of no reliable change (Callahan et al., 2009; Callahan & Hynan, 2005; Hansen, Lambert, & Forman, 2002; Nyman, Nafziger, & Smith, 2010; Okiishi et al., 2006; Rieck & Callahan, 2013; Shimokawa, Lambert, & Smart, 2010; Wrape, Callahan, Ruggero, & Watkins, in press). Additional support for this finding is further portrayed in Callahan et al.'s (under review) recent multi-site training clinic study.

As for supervisors, although Watkins (2011) noted that typically 75% of supervisors are women and 25% are men, the supervisors in the present study consisted of 54% men and 46% women. Such a near even split among supervisor sexes in a sample is not expected to be the norm given the prevalence of women working in healthcare fields, however, the context/setting may impact this distribution. For example, supervision research often includes empirical studies

from a variety of mental health service providers including nurses and counselors from graduate-level education programs. However, the split of men and women in the present sample is consistent with the larger distribution of sexes of supervisors in the targeted training clinic.

<center>Supervisors and Client Outcomes – The "Acid Test"</center>

The present study failed to provide evidence in support of the hypothesized association between supervision and client outcomes. The common, relational, supervisor factors examined in the present study (i.e., EI, supervisory alliance, adult attachment) did not account for meaningful variance in client change, suggesting that supervision does not pass the "acid test" concerning the effectiveness of supervision. Due to poor reliability of the supervisor-rated Leader-Member Exchange (LMX) scale was removed from analyses. Although unanticipated, discussed in more detail below, supervisor personality (i.e., openness to experience) predicted significant variance in client change, providing evidence for how supervision may pass the "acid test." Unfortunately, the present study was not a randomized control trial (RCT) study in design, thus it is unclear whether or not trainee clinicians would have achieved similar client outcomes without supervision. As the present research was conducted within the context of a training clinic, such a RCT would not be appropriate unless incorporated with more senior graduate-level students.

One major difference between previous studies providing support for the effectiveness of supervision on client outcomes was that previous studies measured client outcomes using a version of the Beck Depression Inventory (e.g., BDI-II). The present study incorporated the use of the widely accepted OQ45.2, which measures subjective distress, interpersonal functioning, and social role performance (Lambert et al., 1996). It is possible that the incorporation of additional areas of outcome beyond symptoms of depression (or distress) dilutes the amount of

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change observed in each respective area, thus decreasing the variance in total scores across clients. It is further possible that the present-focus of the OQ45.2 impacts client perceptions of outcomes differentially from measures that ask the client to judge their experience over the past week or longer. Future research examining the association among supervisors and client outcomes may gain additional insights by incorporating multiple client-outcome measures.

Emotional Intelligence and Supervisors

Supervisor EI was expected to predict variance in client outcomes, in addition to various trainee clinician perceptions (e.g., LMX, supervisory alliance). The definition of EI, which incorporates the ability to perceive emotions, use emotions to facilitate thought, understand emotions, and manage emotions in oneself and others (Mayer & Salovey, 1997), intuitively implies an association between supervisors and client outcomes, which could be mediated by the relationship between supervisors and trainee clinicians (e.g., supervisory alliance, LMX, supervisory attachment). Results from hypothesis testing failed to support such expectations. It was particularly surprising to note that trainee EI did not predict client outcomes, as identified in a previous study with similar trainee clinician EI scores (Rieck & Callahan, 2013). It is possible that the clients in the present sample received fewer treatment sessions than those in Rieck and Callahan's study or the trainees from the present sample worked with clients who experienced more difficult/enduring psychological problems.

Interestingly, supervisor EI was significantly lower than trainee clinician EI. As discussed by Rieck and Callahan (2013) and postulated by the authors of the MSCEIT, EI is an ability that can be developed, yet may have a range of stability. Hurley (2008) suggests that it is a foundation upon which other technical skills are developed. But what does this mean for the supervisor-trainee relationship? Would these trainee clinicians have been more successful in

achieving client outcomes had their supervisors had higher EI? Many of the supervisors in the present study manage multiple roles and are faculty members in the targeted psychology department. Would licensed psychologists whose emphasis is on practice have higher EI levels than their academic counterparts? The answers to these questions are unclear and warranting of future research. For example, given that it is not typical of faculty members to maintain personal psychological practice (i.e., provide psychological services) outside of their university obligations (e.g., research, teaching, supervision, administration), do they experience diminished opportunities to foster increases in EI relevant to client outcomes that they could pass on to their trainees?

Supervisor Personality

Results from secondary correlation analyses revealed that supervisor openness to experience and agreeableness were associated with client outcomes, with openness to experience predicting significant variance in client outcomes. Openness to experience refers to the seeking and appreciation of novel experiences. It has been associated with a heightened level of intellectual curiosity, openness to re-examine values and evaluate actions, openness to feelings and emotions, and being receptive to the world of imagination. Intuitively it makes sense that supervisor openness to experience predicts client change scores. For example, it is possible that supervisors who are higher in openness to experience are able to conceptualize clients from a variety of angles, be open to reviewing their personal reactions to clients and trainees, and be open to examining different ways in which they might support the treatment of their clients. In the present sample, supervisor personality variables were not correlated with trainee clinician variables. Future research could serve to clarify the association between supervisor openness to

experience and client outcomes. Additionally, future research could explore potential mediators/moderators of this supervisor-client outcome link.

<div align="center">Alliance and LMX</div>

EI was hypothesized to be associated with supervisory alliance for both supervisors and trainees. These expectations were not supported, which is not consistent with the limited previous research examining the association between trainee clinician trait EI and supervisory alliance with clients (Cooper & Ng, 2009). Notably, trait EI identifies EI as more of a personality trait of sorts rather than ability. It is possible that different frameworks of EI impact supervisory alliance differently, although there is no research addressing this possibility to date. Notably, among the trainee clinicians, perceptions of supervisory alliance and LMX were associated with trainee clinician personality variables (i.e., extraversion and openness to experience). Trainees who are gregarious and prefer the company of others in addition to those who are open to different perspectives and their emotions perceive stronger supervisory alliances and more positive LMX. It appears that process variables, from the trainee clinician's perspective, such as alliance and LMX are more associated with personality factors than EI. Notably LMX and supervisory alliance, as perceived by the trainee clinician, were significantly correlated providing evidence that these measures may measure similar constructs with respect to the perceived relationship between the supervisor and trainee clinician.

From the perspective of the supervisor, however, evidence for these same relationships was not present. Although supervisor personality factors were significantly correlated with client outcomes, they were not significantly associated with supervisor perceptions of the supervisory alliance. Notably, supervisor perceptions of LMX were removed from analyses due to poor reliability. Had this scale proven appropriate for use in the present study, it is unclear how

supervisor perceptions of LMX may be associated with supervisory alliance and supervisor personality.

Notably, personality variables appear to impact supervisor perceptions of the supervisory relationship differently than trainee clinician perceptions. It is unclear as to why such a stark difference exists. One possibility is that supervisors do not give their relationship with their trainees as much thought/attention as do trainees. This does not necessarily imply that supervisors are not providing adequate attention to their supervisory relationship(s). Anecdotally, supervisor-trainee relationships are a frequent topic among trainees who have regular interaction with each other throughout their graduate coursework and practicum teams, and can be concerned about the evaluative nature of the relationship. Supervisors, on the other hand, are not necessarily in as frequent interaction with their colleagues and may be more likely to discuss their supervisor-trainee relationship more reactively in the context of a concern that has been raised or at a yearly progress review. Additional research would prove beneficial in this regard. For example, it is unclear whether or not trainees and supervisors differ with respect to the amount of emotional energy they subscribe to their respective supervisory relationship(s).

Limitations

Although the present study was intended to address some major gaps in the literature examining supervision and client outcomes, a variety of limitations have impacted the potential findings. The study was greatly limited by the small sample size of supervisors and matching trainee clinicians. This limitation has been persistent throughout many studies attempting to quantify the supervisor-trainee and client hierarchical relationship (Watkins, 2011). Supervisors who provided anecdotal feedback concerning their participation in the present study reported having limited time to complete the measures and concerns about anonymity. Despite concerted

care and attention to ensure confidentiality of the data, there were supervisors who chose not to participate for this reason. Future research in this area is recommended to include multi-site data collection, which may serve to reduce concerns about confidentiality. Data concerning the content/process of supervisor-trainee and trainee-client interactions was not collected, which limits the possibility of drawing conclusions about the mechanisms of change, and other potential common factors, influence these relationships. Supervisory relationship data completed by supervisors were based on a request to complete the measures with a typical trainee in mind, as opposed to explicit attention to rating the relationship with specific trainees. At minimum, a 1:1 ratio among supervisors and trainee clinicians would prove beneficial, with specific ratings. For example, if a supervisor experienced a poor relationship with one trainee and a great relationship with another, the average could be viewed as a neutral relationship with trainees. Consequently, important details and insights concern supervisor perceptions of the supervisory relationship could be lost due to a lack of specificity. Unfortunately, a large number of participants were removed from analyses due to missing data and/or missing a match (e.g., the trainee clinician completed measures rating their relationship with a supervisor who did not participate).

Although this study provides some groundwork for additional examination of how supervisor and trainee factors, and the supervisory relationship, impact client outcomes, additional replication is needed. Such replications studies would benefit from larger sample sizes and more specific matching among supervisors and trainees.

Implications and Conclusions

The present study provides additional insights into the continuing need to understand if and how supervision impacts client outcomes. The results from the present study provide some

evidence that supervisor personality impacts client outcome, which was unexpected. More specifically, supervisor openness to experience predicted significant variance in client outcome. This personality factor incorporates openness to new experiences and personality reappraisal, examination of personal emotions, appreciation of beauty, receptivity to imagination, and a sense of intellectual curiosity. Intuitively, it makes sense that supervisor personality impacts client outcome through its effect on the trainee's experience of the supervisory relationship. In the present study, however, no significant association was identified among trainee factors and client outcomes. Consequently, the mechanism(s) through which supervisor openness to experience impacts client outcomes is unclear. Supervisors are encouraged to attend to how their personality pattern might be impacting their desired outcomes and their desired supervisor relationship.

Drawing upon results from trainee clinician analyses, LMX appears to be a variable of interest in considering the relationship among supervisors and trainees. More specifically, LMX and supervisory alliance were highly correlated although developed through different research streams. Evidence of this relationship provides support for examining the supervisor-trainee relationship from a leader-follower framework.

In conclusion, there remains a great deal of research needed to clarify the impact of supervision on client outcomes. As identified throughout the discussion there are a variety of ways in which future studies might improve upon the present study in terms of sample size, multi-site data, matching, and, where possible, the use of RCT designs. The present study extends beyond the previously established literature by identifying the potential value of examining supervisor personality factors (i.e., openness to experience) that significantly impact subsequent client outcomes. In addition, regarding trainees, trainee personality significantly predicted their perceptions of the supervisory relationship and LMX. Trainees who are higher in

extraversion and openness to experience appear to perceive their relationship with their supervisor as more trustworthy, less obligatory, and more respectful, with clearer goals, tasks, and bond. It is unclear whether or not trainees higher on these personality traits have a more positive disposition toward supervision or if positive supervisor relationships foster more openness and extraverted tendencies among supervisors. Future research is necessary to clarify this dynamic, although psychology programs may consider these personality characteristics as beneficial for the training and development of their trainees.

Beyond personality, LMX, a construct derived from Industrial/Organizational Psychology and leadership literature (more broadly) appears to hold relevance in regards to the training of psychologists. It is a construct that provides evidence for the previously proposed leader-follower framework from which to understand the supervisor-trainee relationship (e.g., Kaslow, Falender, & Grus, 2012; Watkins & Riggs, 2012). The present study was the first, to the author's knowledge, that has attempted to examine the link between supervisors and client outcomes with a specified emphasis on common relational factors that could potentially facilitate client change. Results confirm earlier research reporting that supervisors exert small, but significant, effects on client outcomes. Additionally, the present study was successful in identifying specific meaningful areas of future research (e.g., supervisor openness to experience and client outcomes), incorporating LMX as supervisory relationship variable that supports a leader-follower framework, and trainee personality factors that have a meaningful impact on how their supervisory relationship is perceived.

Table 1

Client Outcomes at the End of Treatment

Results of Treatment	Initial OQ45.2 Score Mean (*SD*)	Number of Sessions Mean (*SD*)
No change *n* = 155 (60.3%)	69.80* (25.42)	9.75 (8.36)
Reliably improved *n* = 32 (12.5%)	100.25* (11.22)	11.78 (9.67)
Recovered *n* = 51 (19.8%)	71.76* (14.42)	12.00 (7.37)
Deteriorated *n* = 19 (7.4%)	69.79* (29.13)	9.26 (7.17)

Notes: * = mean falls within the clinical range. No change = no reliable change in score between initial OQ45.2 and end of treatment OQ45.2; Reliably improved = end of treatment OQ45.2 is reliably decreased from initial OQ45.2; Recovered = OQ45.2 score reliably decreased from the first session to the end of treatment AND declined from the clinical range to within the non-clinical range at termination; Deteriorated = end of treatment OQ45.2 reliably increased from initial OQ45.2, indicating a worsening. With the exception of three trainee clinicians who saw two deteriorated clients, a different trainee clinician saw each of the deteriorated clients.

Table 2

Description of Trainee MSCEIT, NEO-FFI, LMX, ECR-RS, and WAI-SV

Sample	Measure	Scale	*M*	*SD*
Total Sample (*N* = 32)	MSCEIT			
		Total EI	112.83	16.58
		B1	108.74	17.59
		B2	103.59	16.54
		B3	116.21	11.42
		B4	103.06	11.31
	NEO-FFI			
		Neuroticism	19.29	7.99
		Extraversion	29.81	6.25
		Openness to Experience	32.13	5.60
		Agreeableness	35.90	6.07
		Conscientiousness	33.42	5.71
	LMX			
		Total LMX	28.94	4.51
	WAI-SV			
		Total Supervisory Alliance	68.63	9.49
	ECR-RS			
		Anxious attachment	1.47	.52
		Avoidant attachment	4.82	.77

Note. B1 = the ability to perceive emotions. B2 = the ability use emotions to facilitate thoughts. B3 = the ability to understand emotions. B4 = the ability to manage emotions. LMX = Leader-Member Exchange. WAI-SV = Working Alliance Inventory – Short Version for supervisory alliance. ANOVA results from program comparisons were not significant.

Table 3

Description of Supervisor MSCEIT, NEO-FFI, LMX, and WAI-SV

Sample	Measure	Scale	*M*	*SD*
Total Sample (*N* = 13)	MSCEIT			
		Total EI	101.80	15.51
		B1	94.78	19.96
		B2	101.09	16.24
		B3	114.88	16.89
		B4	99.84	12.92
	NEO-FFI			
		Neuroticism	17.77	4.46
		Extraversion	27.00	3.19
		Openness to Experience	25.00	4.16
		Agreeableness	24.62	6.73
		Conscientiousness	29.77	2.74
	LMX			
		Total LMX	26.85	2.30
	WAI-SV			
		Total Supervisory Alliance	64.92	5.22

Note. B1 = the ability to perceive emotions. B2 = the ability use emotions to facilitate thoughts. B3 = the ability to understand emotions. B4 = the ability to manage emotions. LMX = Leader-Member Exchange. WAI-SV = Working Alliance Inventory – Short Version for supervisory alliance. ANOVA results from program comparisons were not significant.

Table 4

Bootstrapped Correlation Matrix of Trainee Study Variables

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. OQ Change	--														
2. Neuroticism	.18	--													
3. Extraversion	-.06	-.15	--												
4. Openness	.10	.06	.11	--											
5. Agreeableness	-.06	-.02	.15	.12	--										
6. Conscientious	-.04	-.31	.32	-.12	.02	--									
7. B1	-.05	-.07	-.34	.09	.06	-.39*	--								
8. B2	-.25	.01	-.32	.12	.13	-.31	.59***	--							
9. B3	-.24	-.14	-.24	.04	.14	-.16	.22	.31	--						
10. B4	.23	-.04	-.01	-.16	.05	.21	-.00	.22	-.12	--					
11. EI Total	-.17	-.08	-.41*	.05	.14	-.34	.83***	.81***	.48**	.32	--				
12. LMX	.12	.14	.36*	.58**	.06	.16	-.09	-.01	.01	.09	-.03	--			
13. WAI-SV	.18	.08	.44*	.38*	.03	.33	-.03	.01	-.19	.19	-.02	.87***	--		

Notes. *p < .05. **p < .01. ***p <.001. B1 = the ability to perceive emotions. B2 = the ability use emotions to facilitate thoughts. B3 = the ability to understand emotions. B4 = the ability to manage emotions.

Table 5

Bootstrapped Correlation Matrix of Supervisor Study Variables

Variable	1	2	3	4	5	6	7	8	9	10	11	12
1. OQ Change	--											
2. Neuroticism	-.24	--										
3. Extraversion	-.10	-.27	--									
4. Openness	.77**	-.14	.08	--								
5. Agreeableness	.71**	.02	-.04	.49	--							
6. Conscientious	.38	.46	-.41	.53	.45	--						
7. B1	.48	-.13	-.42	.12	.32	.07	--					
8. B2	.06	-.14	.27	.16	-.25	-.18	.44	--				
9. B3	-.00	-.01	-.19	.05	-.16	-.08	-.15	-.20	--			
10. B4	-.22	.38	-.13	.02	.12	.22	.21	.16	-.19	--		
11. EI Total	.37	-.01	-.38	.13	.19	.03	.89***	.48	.23	.33	--	
12. WAI-SV	-.23	.12	-.02	-.14	-.05	-.16	-.16	-.04	-.62*	.38	-.35	--

Notes. *p < .05. **p < .01. ***p < .001. B1 = the ability to perceive emotions. B2 = the ability use emotions to facilitate thoughts. B3 = the ability to understand emotions. B4 = the ability to manage emotions.

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