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Does a clinical psychology education moderate relationships between personality or
emotional adjustment and performance as a clinical psychologist?

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Abstract

Does an education in clinical psychology affect relationships between personality or emotional adjustment and clinical knowledge or clinical practice ability? Two groups were assessed at the beginning of their professional development and one year later. The first group was studying clinical psychology, and the second group was obtaining training under a workplace supervision model. At pre-test, measures of 'defensiveness' were correlated with practice ability, and participants who had 'emotional adjustment problems' obtained lower practice ability scores. At post-test, neither pre-test personality nor emotional adjustment was correlated with clinical performance. An interaction between education group and problem group suggests that a clinical education enhances the performance of students with emotional problems at the onset of their education.

Some psychotherapists consistently achieve better outcomes than others (Lambert, 1989; Lafferty, Beutler & Crago, 1989; Luborsky, McLellan, Woody, O'Brien & Auerbach, 1985; Luborsky, Crits-Christoph, Alexander, Margolis & Cohen, 1986), even when researchers go to great lengths to ensure the uniformity of the treatments provided by psychotherapists (Elkin, Shea, Watkins et al., 1989; Hupert, Bufka, Barlow, Gorman, Shear & Woods, 2001). For teachers of psychotherapy, individual differences in therapist effectiveness have implications for what we teach about psychotherapy (i.e., what conditions facilitate good outcomes), and for whom we select into our programs. For educators, the problem is more complex than understanding which therapist characteristics affect performance as a psychotherapist. We need to know how therapist characteristics *interact* with a clinical education to affect performance as a psychotherapist. Even if psychotherapists with the lowest levels of emotional disturbance are the most effective psychotherapists (Garfield & Bergin, 1971), it need not follow that prospective clinical students with the lowest levels of emotional disturbance will become the most effective psychotherapists, as some directors of clinical training suggest (Johnson & Campbell, 2004).

Almost nothing is known about how individual differences in therapist personality or emotional adjustment affect performance as a psychotherapist. As early as 1954, Wolberg (cited in Knobel, 1990) suggested that clinical students needed to be free of serious emotional problems, and several authors (e.g., Dryden & Spurling, 1987; Kottler, 1986; McConaughy, 1987) have suggested that more attention needs to be paid to the personalities of clinical students. But reviews by Beutler and colleagues indicate that there is scant evidence to back these claims (Beutler, Machado & Neufeldt, 1994; Beutler, Malik, Alimohamed et al., 2004). We are aware of no research directly assessing the relationship between a clinical student's emotional adjustment (presence and severity of symptoms of psychological disorder; Beutler, Crago & Arizmendi, 1986) and the student's clinical performance, and research on the

relationship between personality (relatively stable ways of responding to people and events; Lafferty et al., 1989; Rosenberg, Gerrein, Manohar & Liftik, 1976) and performance has produced conflicting, largely uninterpretable results. For example, Berry and Sipps (1991) reported that similarity between client and therapist personalities predicted premature drop-out (with a small effect size) while Herman (1998) reported that personality similarity predicted a positive therapeutic relationship (with a large effect size).

The reason for expecting a psychotherapist's personality and emotional adjustment to affect treatment outcomes is that these characteristics are likely to affect how therapeutic relationships develop. Personal/emotional characteristics equate to whether a person is more or less friendly, more or less hostile, more or less critical, and so on, and whether and how these characteristics are expressed in psychotherapy will affect how a client responds to the psychotherapist. Interactions in which a psychotherapist's friendly behavior is reciprocated by clients (e.g., Andrews, 1990; Tracey, 1986) or in which a psychotherapist's hostile behavior elicits client self-criticism (a dominance-submission pattern; Henry, Schacht & Strupp, 1990) are common in psychotherapy. These patterns, in turn, appear to affect treatment outcome (Lambert, 1998; Mohr, 1995).

What is observed among psychotherapists may not generalize to clinical students. A clinical education is designed, among other things, to increase students' clinical knowledge, that is, knowledge of the conditions that cause, maintain and change maladaptive patterns of behavior. It is also designed to increase students' practice ability, that is, the ability to apply clinical knowledge effectively in their work with clients (Mayne, Norcross & Dayett, 1994; Raimy, 1950). This means that a clinical education can be construed as a treatment that aims to change the interpersonal behavior of students in professional contexts, including the context of psychotherapy. In particular, it aims to reduce the extent to which students respond to clients in the students' typical ways and to increase the extent to which students respond to

clients in ways that facilitate achievement of their clients' goals. Because the goals, problems, interests and needs of clients differ markedly from one client to the next, clinical education aims to help students learn to engage with different clients differently. This means that regardless of theoretical orientation, one function of a clinical education is to help students to replace their typical patterns of interpersonal engagement with client-focused patterns of behavior. For this reason, one index of the effectiveness of a clinical education should be that characteristic ways of relating to others are less evident among advanced students than among beginning students.

In this article, we use data collected as part of an assessment of the effectiveness of clinical education (O'Donovan, Bain & Dyck, in press) to assess relationships between measures of personality or emotional adjustment and measures of clinical knowledge and clinical practice ability. Based on previous research, we can make no prediction about relationships between personality and performance, but we do expect that better emotional adjustment will be associated with better performance at the *beginning* of a clinical education (Beutler et al., 1986). Pre-education, students with emotional adjustment problems are expected to obtain lower scores on clinical knowledge and clinical practice ability measures than students without adjustment problems. However, if a clinical education is effective in changing the interpersonal behavior of students, then the emotional adjustment of students at the beginning of their clinical education should not be related to how they perform following that education. If these expected changes in relationships between personality/adjustment and clinical performance are attributable to a clinical education, then these effects should not be evident in a comparable group of psychologists who are pursuing some other form of professional development (workplace supervision). Post-education, the clinical knowledge and clinical practice ability of clinical students with emotional problems at pre-education should exceed that of workplace supervisees with emotional problems.

Method

Design

O'Donovan et al. (in press) made use of unique Australian legislation governing the registration of psychologists to conduct a pseudo-experiment. In Australia, there are 2 paths to becoming a registered psychologist. The first path involves pursuing at least 2 more years of education (to masters level; 3 years for a professional doctorate; 4 years for a professional research doctorate) in applied psychology following completion of a 4 year degree in psychology. The first year of a masters course in clinical psychology typically involves coursework in child and adult psychopathology, child and adult assessment, child and adult psychotherapy, and a supervised placement of 300 to 400 hours duration. The second path involves pursuing a professional apprenticeship in psychology. Apprenticeships involve at least 2 years of approved, supervised workplace experience. The first year of the apprenticeship would typically involve much less supervision, exposure to structured teaching (lectures, seminars, workshops), and skills training (counseling micro-skills, report writing), but a great deal more time devoted to working with clients and completing other professional tasks than would a graduate education in applied psychology.

What determines a person's choice of one career path over the other is mainly unknown. For persons who are denied admission to a graduate course, supervised workplace experience is the only option. Other factors that may influence the choice include financial status (the need to earn an income; reluctance to assume debt), beliefs about the relative value of a graduate education, beliefs about one's professional efficacy, the support of spouses or other family members and friends for a decision to prolong the student role, or awareness of research indicating that psychotherapists regard experience with clients as the most important way of learning about psychotherapy (Orlinksy, Botermans & Ronnestad, 2001) or research

indicating that paraprofessionals are about as effective as professionals (Atkins & Christensen, 2001).

The performance of students enrolled in clinical psychology courses was compared with that of psychologists who were pursuing full registration under the workplace supervision model. Both groups were assessed near the beginning of their education or training and then reassessed one year later. At pre-test, assessment included measures of personality and emotional adjustment, the demographic, prior academic or professional attainment and experience measures needed to ensure the pre-test equivalence of the groups on key indices, and clinical knowledge and practice ability measures. At post-test, assessment included only the clinical knowledge and practice ability measures. Detailed descriptions of participants, procedures, and measures of clinical knowledge and practice ability are available in O'Donovan et al. (in press) and are summarized below.

Participants

Participants in the Clinical Education Group (CEG) were 32 persons who had completed 4 years of education in psychology and were commencing graduate study in clinical psychology. Of these, 31 persons (22 women) completed the study. Participants in the Workplace Supervision Group (WSG) were 38 persons who had completed 4 years of education in psychology and were commencing workplace training in psychology. Of these, 30 persons (19 women) completed the study. The groups did not differ in sex, ethnic origin (all participants were Caucasian), fourth-year grade point average, or relevant experience (including type of experience, number of client contact hours, and amount of supervision). The two groups did not differ in age at pre-test, but completers in the CEG were younger (mean = 29 years) than completers in the WSG [mean = 34 years; $t(59) = 2.32, p < .05$].

Measures

Personality and emotional adjustment were assessed with the Eysenck Personality Questionnaire—Revised (EPQ; Eysenck & Eysenck, 1991) and the second edition of the Millon Clinical Multiaxial Index (MCMI), respectively. The short form of the EPQ has 12-item indices of Extraversion, Neuroticism (or ‘emotionality’), Psychoticism (or ‘tough mindedness’) and a Lie scale. Eysenck (1967) has proposed that these scales relate to individual differences in autonomic nervous system lability (neuroticism), to the level of cortical arousal in the central nervous system (extraversion) and to other basic biological processes. For our purposes, what is more important is that these scales are reliable measures of the higher-order dimensions that characterize most personality measures (Eysenck, 1991). Eysenck, Eysenck and Barrett (1985) report reliabilities on the scales for males and females, respectively, of .84 and .80 for Neuroticism, .88 and .84 for Extraversion, .62 and .61 for Psychoticism, and .77 and .73 for the Lie Scale.

The MCMI is designed to screen for the presence of personality disorders and clinical syndromes (Millon, 1987). It has 175 true/false items and yields 22 clinical scales and 3 validity scales. Clinical personality patterns are measured with the Aggressive, Antisocial, Avoidant, Compulsive, Dependent, Depressive, Histrionic, Narcissistic, Passive-Aggressive, Schizoid, and Self-Defeating scales. Severe personality pathology is assessed with the Schizotypal, Borderline, and Paranoid scales. Clinical syndromes are assessed with the Anxiety Disorder, Somatoform Disorder, Bipolar Disorder, Dysthymic Disorder, Alcohol Dependence, Drug Dependence, and Posttraumatic Stress scales. Severe clinical syndromes are assessed with the Thought Disorder, Major Depression and Delusional Disorder scales.

The MCMI uses base rate (BR) scores that select the point in the distribution of scores where a participant has all the features of a disorder or syndrome (the requirements for a diagnosis; Craig, 1999a). Scores of 85 or more are deemed diagnostic, and scores between 75

and 84 are considered elevated. MCMI scales have adequate reliability (Craig, 1997; Choca & Van Denberg, 1996) and, for most scales other than the Compulsive scale, adequate convergent/discriminant validity (Rogers, Salekin & Sewell, 1999).

Although the MCMI has been used with non-clinical populations (Grillo et al., 1994; King, 1994; McKee & Klohn, 1994; Retzlaff, Lorr, Hyer & Ofman, 1991), recent research indicates that in non-clinical samples, high scores on some scales are not associated with psychological problems and may reflect a personality style rather than a personality disturbance (Craig, 1999a; Strack, 1999). Also, women are more likely to achieve scores in the elevated range on some scales (Hynan, 2004). This means that if MCMI scales are found to relate to clinical performance measures, the meaning of the results will need to be qualified according to which MCMI scales are involved. In other words, although we used the scales to obtain dimensional measures of ‘emotional adjustment’ and to identify individuals with ‘emotional adjustment problems,’ the dimensions and putative problems may have different connotations in these participants than they would have in a clinical sample and we will need to take care not to over-pathologize persons with score elevations (Craig, 1999b).

Clinical knowledge was assessed with three new tests designed to measure knowledge of *assessment*, *treatment* and treatment outcome *evaluation* (ATE), clinical diagnosis (DIAG), and the ability to develop individual *case conceptualizations* (CASE). The ATE was modeled on conventional written examinations used to assess academic knowledge. There were 2 forms of the ATE (for pre-test and post-test) and each form had 3 items or problems. Each item consisted of a clinical problem or disorder (e.g., Panic Disorder) for which participants had to indicate: (a) how the disorder should be assessed; (b) how the disorder should be treated; and (c) how the effectiveness of treatment should be evaluated. The items were intended to range in difficulty from problems that were: (a) frequently encountered, with relatively well-understood etiologies, and for which there are well-established treatments

(e.g., Panic Disorder), through (b) problems that were less frequently encountered and/or with less well-understood etiologies, and/or less well established treatments (e.g., Anorexia Nervosa), to (c) problems that are relatively uncommon and/or with etiologies that are not well-understood and/or for which there are no well-established treatments (e.g., Schizoid Personality Disorder). One item at each difficulty level was randomly assigned to the pre-test and the remaining item at each difficulty level was assigned to the post-test.

The DIAG also was modeled on traditional examination procedures. There were 2 forms of the DIAG (for pre-test and post-test) and each form consisted of 3 case vignettes. For each vignette, participants were required to indicate, in descending order of likelihood, the 3 DSM-IV diagnoses that best described the characteristics of the individuals depicted in the vignettes. The case vignettes represented progressively difficult problems in differential diagnosis (overlapping symptoms of decreasing syndrome specificity). The 3 correct diagnoses in rank order were used as the basis for scoring the DIAG.

The CASE was completed following an intake interview (see below) and required participants to identify the client's presenting problem(s) and to describe their formulation of the problem. Following Sperry, Brill, Howard and Grissom (1996), identification of relevant predisposing, precipitating and perpetuating factors was regarded as the most important component of the formulation. Participants were also asked to indicate what additional information they would need for the development of an appropriate treatment plan. In scoring the CASE, points were given for accurate problem identification, for the conceptualisation *per se*, and for accurate identification of topics where additional assessment was indicated. Although inter-rater reliability of scoring was not measured, the CASE, ATE, and DIAG were scored by the first author, and the accuracy of scoring was reviewed by the second author.

Clinical practice ability was assessed with client and observer ratings of each participant's ability to develop a *working alliance* (Working Alliance Inventory; WAI;

Horvath & Greenberg, 1986, 1989), and client ratings of each participant's ability to communicate accurate *empathy* (Barrett-Lennard Relationship Inventory; BLRI; Barrett-Lennard, 1986). The WAI is based on Bordin's (1979) pan-theoretical definition of the alliance. It includes three main components: (a) a bond between therapist and client, (b) agreement between therapist and client on treatment goals, and (c) agreement between the therapist and client on treatment tasks. The WAI is a 36-item measure using a 7-point, fully anchored response scale (1 = never and 7 = always). Each of the subscales (Bond, Goal, Task) consists of 12 items. Internal consistencies (Cronbach's α) range from .88 to .93 for therapist ratings and from .88 to .91 for client ratings (Kokotovic & Tracey, 1990). Multitrait-multimethod analysis has established the construct validity (Horvath & Greenberg, 1986) and the distinctiveness of the different WAI scales (Tracey & Kokotovic, 1989).

The BLRI is a 64-item inventory that was designed to measure a therapist's empathy, congruence, positive regard and unconditionality as perceived by the client. Each of the 4 scales consists of 8 positively and 8 negatively scored items. All 4 scales are reliable (Gurman, 1977) and valid (Horvath & Greenberg, 1989; see also Barrett-Lennard, 1986). Lambert and Ogles (1997) claim that the BLRI is the best available measure of the client's perception of the therapeutic relationship. We used the empathy scale from the BLRI as a second index of the quality of the therapeutic alliance.

Case conceptualizations and ratings of working alliance and empathy were all based on 30-minute initial interviews conducted with a *standardized client* (Sharpley, Guidara & Rowley, 1994; Sharpley & Ridgway, 1992). Standardized clients present with real problems that are affecting their wellbeing and are sufficiently worrisome that they would consider obtaining help in dealing with the problem. Two clients were used, one at pre-test and the other at post-test. Both were female, aged 23, had similar problems (relationship concerns with common law spouses), education and profession. Both clients demonstrated a range of

emotional responses to their concerns, including anger, disappointment, sadness, anxiety and frustration. However, they differed in how they responded to their problems, in the extent of social support they experienced, and in their motivation to remain in their relationship.

Following each interview, the client was also asked to provide a *drop-out rating*, that is, to rate whether or not (yes/no) she would return for an additional session with the therapist.

Procedure

Participants were individually assessed at the beginning of the first year of their clinical education/work experience and 1 year later. Participants were typically assessed at the university from which they were recruited (the university from which they had graduated for the WSG), but were occasionally assessed at some other site (e.g., home, office) when circumstances required it.

Before beginning their interviews, participants were told that it was to be an *intake* interview and that it would have to be completed within 30 minutes. Participants were reminded that intake interviews commonly include building rapport, learning about the client and the problem, and establishing goals. Participants were also told that there was no set format for the interview and so they were to conduct the session as they would any first contact with a client, and to use whatever skills and processes they would normally use.

Data Transformations

O'Donovan et al. (in press) used principal component analysis to assess the latent structure of the clinical performance variables, specifically to assess whether 'clinical knowledge' tests shared high loadings on one component and 'practice ability' tests shared high loadings on a second component. They reported 2 components with characteristic roots greater than 1 which accounted for 80% of the total variance. These components were rotated with the oblimin procedure, and it was evident that the 2 components corresponded to the *a priori* difference between clinical knowledge and practice ability. Clinical knowledge was

defined by the second principal component on which ATE, DIAG and CASE had loadings ranging from .62 to .88. Practice ability was defined by the first principal component on which WAI task, bond, and goal scales and the BLRI had loadings ranging from .85 to .98. The correlation between the two principal components was .44. In order to reduce the number of dependent variables in this report, we have used component scores to define 2 composite variables: clinical knowledge and clinical practice ability.

Results

Preliminary Analyses

Before testing hypotheses, we conducted a series of correlation analyses to estimate the convergent and discriminant validity of our clinical knowledge and clinical practice measures. The set of clinical knowledge measures was expected to intercorrelate more strongly with each other than with clinical practice measures. With the exception of the correlation between DIAG and CASE at pre-test, all clinical knowledge measures were positively and significantly correlated with each other at pre-test ($r_s = .37$ to $.42$) and at post-test ($r_s = .35$ to $.56$), but correlations among clinical knowledge measures were not stronger (Fisher's r to z transform) than correlations with practice ability measures. The set of practice ability measures was also expected to intercorrelate more strongly with each other than with clinical knowledge measures. Among clinical practice measures, all correlations were very strong and significant at both pre-test ($r_s = .87$ to $.96$) and post-test ($r_s = .81$ to $.92$), and were in each case substantially and significantly (Fisher's r to z transform, all $p < .001$) stronger than correlations with clinical knowledge measures. Criterion validity was tested by assessing point-biserial relationships between clinical knowledge or clinical practice measures and the post-test client's ratings of whether or not she would return for a second session with the student therapist. All clinical knowledge measures were weakly ($r_s = .32$ to $.43$) but significantly related to client ratings, and all clinical practice measures were strongly ($r_s = .85$

to .89) and significantly related to client ratings. These results provide strong support for the validity of the clinical practice measures, and much less strong support for the clinical knowledge measures.

Relationships at Pre-test

We assessed whether personality dimensions or emotional adjustment were related to clinical knowledge or clinical practice ability at pre-test by calculating Pearson correlation coefficients. With alpha set at .05, clinical knowledge was significantly related to only 1 measure of emotional adjustment, MCMI-Anxiety. In a vector of 29 correlations, 1 or 2 spuriously significant correlations are expected, and so this result is likely due to chance. By contrast, clinical practice ability was weakly related to 6 variables: 3 MCMI personality scales (compulsiveness, $r = -.34$, $p = .008$; narcissism, $r = -.29$, $p = .026$; negativity, $r = .28$, $p = .029$), 2 MCMI validity scales (social desirability, $r = -.34$, $p = .007$; self-debasement, $r = .32$, $p = .012$), and the EPQ-Lie scale ($r = -.28$, $p = .032$). In 2 cases, the sign of the correlation is positive, suggesting that greater negativity or self-debasement is associated with better clinical practice ability at pre-test.

We also examined whether participants who obtained high scores on measures of emotional adjustment differ from lower scoring peers on clinical performance tasks. Participants who scored in the elevated or clinical range on any MCMI personality, clinical syndrome or validity scale were categorized as having an ‘emotional adjustment problem’ (see Table 1). Analysis of variance showed that the 30 participants classified as having a problem did not differ from their 31 peers in clinical knowledge at pre-test [$F(1, 59) = 1.21$, ns ; partial $\epsilon^2 = .021$], but obtained significantly lower scores on clinical practice ability [$F(1, 59) = 9.39$, $p < .01$; partial $\epsilon^2 = .142$; see Table 2 for group means].

Relationships at post-test

We repeated these analyses using post-test clinical knowledge and clinical practice ability scores. In no case was clinical knowledge or clinical practice ability significantly correlated with a personality or emotional adjustment measure. Similarly, participants with emotional adjustment problems at pre-test did not differ from participants without problems in clinical knowledge or clinical practice ability at post-test.

Between-group effects

Prior to assessing for interactions related to receiving a clinical education, we first assessed whether participants in the clinical education and workplace supervision groups differed in emotional adjustment. Fourteen persons in the clinical education group and 16 persons in the workplace supervision group had been classified as having an emotional adjustment problem, a non-significant difference.

We then used analyses of variance to test for possible interactions between receiving a clinical education (clinical education group vs. workplace supervision group) and emotional adjustment (emotional adjustment problem vs. no problem). For clinical knowledge at post-test, a significant main effect (partial $\epsilon^2 = .119$) for education status [$F(1, 57) = 7.68, p < .01$] and a marginally significant effect (partial $\epsilon^2 = .065$) for the interaction [$F(1, 57) = 3.93, p = .052$] were observed. For clinical practice ability at post-test, a significant main effect (partial $\epsilon^2 = .083$) for education status [$F(1, 57) = 5.16, p < .05$] and a significant effect (partial $\epsilon^2 = .090$) for the interaction [$F(1, 57) = 5.65, p < .05$] were observed. The interactions are illustrated in Figure 1, which shows that the main effect for educational group is almost entirely due to differences in outcome for participants who had an emotional adjustment problem at pre-test. Participants with problems who received a clinical education performed significantly better at post-test than did participants with problems who received workplace supervision.

Discussion

Among students who are beginning their clinical education and among psychologists who are beginning their professional apprenticeship, the ability to engage effectively with a client during the first session is related to the adjustment of the student or apprentice. Following one year of study or supervised practice, this linear relationship between clinical performance and adjustment has disappeared and the relationship depends on whether or not a person has received a clinical education. For persons who have received a clinical education, the initial adjustment problems appear, if anything, to have enhanced the ability to engage with a client in an initial session. For persons who have not received a clinical education, the initial adjustment problems are associated with a relatively poor ability to engage with a new client. These results may explain why research on the relationship between psychotherapist personality and performance as a psychotherapist have been inconsistent and uninterpretable.

At pre-test, several personality/emotional adjustment measures were related to clinical practice ability, but not to clinical knowledge. Three of the significant relationships were with validity scales rather than personality/clinical scales, and two of the relationships were positive. It is possible to make sense of this pattern of results in terms of psychotherapist defensiveness. Higher scores on the EPQ Lie scale, MCMI social desirability scale, and MCMI narcissism scale (all negatively correlated with practice ability) suggest a need to present an unrealistically positive image of oneself, while higher scores on the MCMI negativity and self-debasement scales (both positively correlated with practice ability) suggest a willingness to recognize and disclose negative information about oneself. Although speculative, it is reasonable to suppose that more defensive psychotherapists will be relatively more concerned about how clients may perceive them than with how well they understand their clients. However, because the correlations are consistently weak and, given the large number of correlations that were calculated some may be spuriously significant, a more

cautious conclusion is that few substantial linear relationships between personality or emotional adjustment measures and clinical performance measures were observed.

When MCMI scores are used to classify participants as having or not having an emotional adjustment problem, a different picture emerges. About half of the participants had scores on one or more MCMI scales that were ‘elevated’ or ‘diagnostic,’ and these participants were less able to engage effectively with the client at pre-test than were other participants. Many of the elevated scores were on scales like ‘histrionic’ which were not significantly correlated with clinical performance measures. This suggests a threshold effect in which increases in histrionic characteristics do not affect clinical performance until some severity criterion has been passed. A threshold effect would explain the relative absence of significant correlations between MCMI scales and clinical performance measures.

In suggesting that some severity threshold must be exceeded before performance is affected, we are not suggesting that this threshold indicates a clinically significant problem or a personality style that is broadly dysfunctional. The MCMI scales on which elevations were most commonly observed—the Histrionic, Narcissistic, and Compulsive scales—are ones that are thought *not* to be indicative of personal pathology in non-clinical samples (Craig, 1997, 1999a; Strack, 1999). But our results prompt the question: if elevations on these scales do not indicate a problem, why do people with elevations on these scales relate less effectively with their clients? Hyman (2004) suggests that these high scores indicate defensive responding, which, citing Millon (1994, p. 21), represent an attempt “to appear as psychologically healthy as possible.” This concern with appearances may not be broadly dysfunctional, but as we have already suggested, concern with how one is perceived by another person may be dysfunctional when the primary interpersonal task is to understand the other person.

Taken on their own, our pre-test results would imply that clinical students should be rigorously screened for emotional problems so that applicants with such problems could be

excluded from the course (Johnson & Campbell, 2004). Our post-test results indicate that excluding such students would be a mistake. They suggest that a clinical education changes the relationship between emotional adjustment and clinical performance. Among participants who are not receiving a clinical education, results at post-test are identical to those at pre-test: people with emotional problems perform less well. But among participants receiving a clinical education, the clinical performance of persons with emotional problems at least matches that of their untroubled peers. Far from indicating that persons with emotional problems should be excluded from a clinical education, our results suggest that these are the people who most clearly, and perhaps uniquely, benefit from a clinical education.

What educational processes might account for this result? One possibility is that the so-called common factors of effective psychological therapies are also to be found in clinical education (Goldfried & Padawer, 1982). Students have positive expectations about what they will learn and what they will experience in their studies; they develop a better understanding of others (and themselves); they develop trusting and confiding relationships (with clinical supervisors); they experience strong emotions—performance anxiety and sadness/guilt following self-criticism—when working with challenging clients; they experience new ways of relating to others; and then engage in ongoing reality testing. Students who have some maladaptive characteristics at the beginning of their education are the ones who have most to learn personally from the course, and it may be that developing an understanding of one's own emotional problems facilitates an understanding of other people's problems as well. But then, we don't know if clinical students did develop an understanding of their problems, nor can we deduce from this research what educational processes were responsible for the specific effectiveness of a clinical education for students with emotional problems.

Figure 1 suggests that for people who were well-adjusted at pre-test, there were no benefits in clinical performance to be gained by pursuing a clinical education rather than

workplace supervision. What is more, Table 2 suggests that for people who were well-adjusted at pre-test, the only possible benefit of their education was to prevent the decline in absolute clinical performance experienced by their peers in workplace supervision. This is an unexpected result, and one that we cannot readily explain. We would like to think that the problem lies with our measures, that we have not sampled the domains in which the benefits for these students chiefly lie (i.e., that these students benefit in different ways from those with emotional problems). One disconcerting possibility is that some of the characteristics associated with emotional problems are in fact necessary to benefit from a formal clinical psychology education. Perhaps the people who learn most are those who are strongly motivated to avoid failure, humiliation or rejection, or are strongly motivated to earn approval or admiration.

The fact that receiving a clinical education appeared to change the relationship between emotional adjustment and clinical performance may explain why previous studies have produced inconsistent results. Just as beginning psychotherapists do not constitute a single population, it is very likely that experienced psychotherapists are also drawn from different populations in which different relations between variables are to be expected. Had we studied only psychologists receiving workplace supervision, we might have concluded that the initial negative impact of emotional problems clinical performance is not affected by supervision, experience or non-specific training effects. Or if we had taken only a single cross-section (e.g., pre-test only), we might have concluded that the clinical performance of students with emotional problems is inferior to that of other students and that applicants with emotional problems should be excluded from clinical courses. Instead, we can see that just as the relationship between emotional problems and clinical performance in students who have emotional problems and are receiving a clinical education alters across time, experienced psychotherapists are unlikely to be static entities whose performance never changes. Our

results suggest that some history of emotional problems may either facilitate or hinder performance, depending on other conditions.

Limitations and Conclusions

Because we did not administer the EPQ or MCMI at post-test, we do not know whether psychotherapist defensiveness or *current* emotional problems would continue to be related to clinical performance. For the same reason, we don't know whether participants receiving a clinical education had fewer emotional problems at post-test than participants receiving workplace supervision. Indeed, because the MCMI is a less than ideal measure of emotional problems in non-clinical samples, we cannot even conclude that participants with elevated MCMI scores had emotional problems.

Our clinical performance measures sampled a very narrow range of clinical knowledge and interpersonal behavior, and it remains to be seen whether these results will generalize to more comprehensive clinical psychology work samples. Because we sampled from a large minority of Australian clinical psychology courses, we are fairly confident that our results will generalize to other Australian universities, but they may generalize less well to beginning psychologists in other countries.

We regard a clinical education as a treatment that is designed to change the behavior, including the interpersonal behavior, of students in professional contexts, including in psychotherapy. The results of this study indicate that clinical education is an effective treatment for students who obtain relatively high scores on indices of emotional maladjustment at the beginning of their clinical course. For students who do not obtain elevated scores on any index of emotional maladjustment, a clinical education is no more effective than receiving workplace supervision.

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Table 1

Number of participants who have MCMI scores in the normal, elevated, and clinical ranges

MCMI Scale	Normal	Elevated	Clinical
	range	range	range
Alcohol Dep	60	1	0
Antisocial	60	1	0
Anxiety	53	8	0
Avoidant	58	3	0
Borderline	59	2	0
Compulsive	44	14	3
Dependant	59	2	0
Depressive	58	1	2
Desirability	46	10	5
Dysthymia	60	1	0
Histrionic	26	11	24
Narcissism	41	16	4
Self Defeating	58	1	2

Table 2

Mean (*sd*) component scores on clinical performance measures by education and problem group at pre-test and post-test

	Pre-test Clinical Knowledge	Post-test Clinical Knowledge	Pre-test Practice Ability	Post-test Practice Ability
CEG				
Problem	.037 (.836)	.511 (.830)	-.211 (.990)	.484 (.670)
No Problem	.065 (.735)	.093 (.716)	.209 (.572)	.069 (.704)
WSG				
Problem	-.266 (.728)	-.483 (.857)	-.486 (1.277)	-.579 (1.076)
No Problem	.186 (1.084)	-.072 (.855)	.512 (.536)	.093 (1.038)

Abbreviations: CEG = Clinical Education Group, WSG = Workplace Supervision Group

Figure 1

Interactions between clinical education and emotional problems for clinical knowledge (top) and clinical practice ability (bottom)