

Therapeutic Effects of Providing MMPI-2 Test Feedback to Clients at a University Counseling Service: A Collaborative Approach

Martyn L. Newman
Australian Catholic University

Philip Greenway
Monash University

This study examined the therapeutic effects of sharing Minnesota Multiphasic Personality Inventory-2 (MMPI-2) assessment results with clients. It is based on an earlier study by S. E. Finn and M. E. Tonsager (1992). Participants were 60 university students seeking psychological services from a university counseling service. All participants completed the MMPI-2 and several outcome measures. Within 2 weeks of completing the assessment, clients in the experimental group received test feedback, using a collaborative model developed by S. E. Finn (1996). Clients in the control group received test feedback only after having completed the final outcome measures and following a delay of 1 week. Compared with the control group, those who received test feedback within the time frame of the experimental conditions reported a significant increase in self-esteem immediately following the feedback session and a significant decrease in symptomatic distress at a 2-week follow-up. Overall, the findings provide further evidence for the efficacy of psychological assessment as an effective therapeutic intervention.

Many people who are given psychological tests in counseling and clinical situations expect to receive feedback about their test results (Graham, 1993). Yet many, if not most, psychological evaluations do not include the proviso of test feedback as part of the assessment. Moreover, it appears that many counselors and clinicians are reluctant to discuss test results with clients (Butcher, 1992). According to Butcher (1992), several possible explanations for this apparent reluctance to provide feedback to clients can be offered, including (a) some practitioners are unsure of the propriety of sharing test information with clients, (b) many practitioners are unaware of or have not been trained in test-feedback techniques, (c) some practitioners are unsure of the potential effects that disclosing critical information might have on their clients and are concerned that there will be deleterious consequences from the client's receiving potentially negative feedback.

In contrast to this, there have been those who have claimed

that assessment feedback is itself therapeutic for clients. Graham (1993), for example, claimed that giving feedback about results from the Minnesota Multiphasic Personality Inventory-2 (MMPI-2; Butcher, Dahlstrom, Graham, Tellegen, & Kaemmer, 1989) to clients can be clinically very beneficial. Similarly, Lewak and his colleagues (1990) believed that the sharing of test results can improve clients' mental health when they are encouraged to actively participate in their Minnesota Multiphasic Personality Inventory (MMPI; Hathaway & McKinley, 1942) or MMPI-2 feedback sessions. Furthermore, Duckworth and Anderson (1986, 1995) made positive comments about the therapeutic value of doing test interpretations with clients and encouraged therapists to give test results to clients.

Until recently, however, as Finn and Tonsager (1992) pointed out, these claims have remained "largely impressionistic and anecdotal" (p. 279). There have been only a small number of studies that have researched the effects of honest personality feedback on clients. (For a review of the effects of honest feedback studies, see Dana and Graham, 1976.) However, an important recent study by Finn and Tonsager (1992) provided the first direct evidence that receiving MMPI-2 feedback is associated with significant therapeutic benefits. In their study, Finn and Tonsager investigated the therapeutic impact of providing feedback from the MMPI-2 to college students waiting for mental health services. They reported that the participants who received test feedback showed a significant decline in symptomatic distress and a significant increase in self-esteem.

In Finn and Tonsager's (1992) study, test feedback sessions were conducted according to an approach developed by Finn (1996) that stressed a collaborative model of assessment such as described by Fischer (1986). Although this process was similar to that discussed by Butcher (1990), the overall collaborative assessment model itself is quite distinctive and central to the methodology used in the study. Accordingly, a fuller description of the collaborative model is provided here.

Martyn L. Newman, Department of Psychology, Australian Catholic University, Oakleigh, Victoria, Australia; Philip Greenway, Department of Education, Monash University, Clayton, Victoria, Australia.

Preliminary findings from this study were presented at the 15th International Conference on Personality Assessment, March 30, 1996, Melbourne, Australia. We are grateful to Steve Finn and Mary Tonsager for their support and helpful advice during the project. In addition, we thank the staff of Monash University Counselling Service, especially the administrative and secretarial staff, Gwen Burns and Sandra Gilford, for their help in recruiting clients to the study and for generously allowing us to use their facilities to conduct the interviews and feedback sessions. We particularly thank Robyn Coventry, the director of the service, for his confidence in the value of the project and for his patience and support in demanding conditions. Additional thanks go to Ken Smith for his hard work and sound advice in relation to the descriptive statistics used.

Correspondence concerning this article should be addressed to Martyn L. Newman, Department of Psychology, Australian Catholic University, 17 Castlebar Road, Oakleigh, Victoria 3166, Australia.

In Finn and Tonsager's (1995) model, collaborative assessment is organized around a number of questions that originate in the client's subjective experience and, as such, are "idiographic rather than nomothetic, i.e., individualized and centered on one particular client's changing characteristics over time and place" (p. 17). The client is viewed as a collaborator with the therapist. Thus, "instead of gathering data 'from' a client and then making unilateral interpretations and recommendations," therapist and client engage in a "cooperative ongoing dialogue through which the two of them can explore the client's problems in living and generate new ways of approaching them" (p. 17).

Accordingly, the assessment commonly begins with the client's reasons for agreeing to the testing. According to Finn and Tonsager (1995), "client and assessor work together to develop an individualized set of 'Assessment Questions' that the client wishes the assessment to address. The assessor then contracts with the client to use the assessment—at least in part—to meet these specific personal agendas" (p. 43). Typically, background information is gathered "only when it directly relates to the clients' purposes for participating or when the assessor asks clients' permission to delve into other areas and explains how the additional information relates to clients' goals" (p. 43).

During feedback sessions, an attempt is made to maintain the interpersonal quality established in the initial session by reestablishing the collaborative character of the relationship. The feedback sessions, according to Finn and Tonsager (1995), entail "a dynamic dialogue between assessors and clients, where assessors share their impressions and interpretations of nomothetic tests and clients verify, modify, or reject such findings." Moreover, "clients' input is encouraged and noted by the assessor" (p. 46). The feedback session is an "organized presentation of recurring themes which are systematically tied to clients' goals" (p. 46). The session typically concludes by asking clients to summarize what they have "heard" and to describe their subjectively felt impressions of the feedback session.

Using this model, Finn and Tonsager (1992) demonstrated that receiving MMPI-2 feedback is associated with significant therapeutic benefits. Their results, however, may be contrasted with a similar although much earlier study by Comer (1965). In his study, Comer hypothesized that college students who received MMPI test feedback before beginning 7 weeks of individual psychotherapy would show more change in therapy than would students who did not receive test feedback. On the basis of clients' changed scores on three MMPI supplemental scales, Comer found no significant differences between groups.

Despite Comer's (1965) conclusions, Finn and Tonsager (1992) claimed that his research provided the "first empirical test of personality test feedback as a therapeutic aid to brief-test-limited psychotherapy" (p. 279). Moreover, they suggested that his failure to demonstrate an effect of MMPI feedback may have been due to several limitations in his study.

Accordingly, in the absence of further research, Finn and Tonsager's (1992) conclusions can only be viewed as providing some preliminary data supporting the assertion that test feedback itself is therapeutic to clients. As they themselves pointed out, further research is needed to replicate their findings, to investigate further which aspects of the assessment were beneficial, and to correct some of the limitations in their study's design.

In regard to this latter concern, in Finn and Tonsager's (1992) study only the experimental participants completed the MMPI-2 and received verbal MMPI-2 test feedback, whereas control participants completed only the outcome measures and received examiner attention only. The authors noted that this represented a limitation of the study's design and concluded that, although it is unlikely that merely completing an MMPI-2 in itself would be of therapeutic value, nevertheless it certainly confounded test feedback with the administration of the MMPI-2. The current study tested this explicitly by requiring that all participants complete the MMPI-2.

Moreover, the same four basic questions that guided the Finn and Tonsager (1992) study guided this research: "Does telling clients their test results benefit them? If so, what are the benefits of test feedback and how long do they persist? If benefits occur, which aspect of the feedback session was responsible for the changes? And last, if test feedback is beneficial, which clients benefit most?" (p. 279). Because of flaws in one of the outcome scales used to measure clients' subjective impressions of test feedback sessions, Finn and Tonsager had only a limited opportunity to evaluate therapeutic change in relation to variables that influenced clients' reactions to test feedback. The current study used an empirically refined measure of clients' reaction to psychological assessment and so was potentially able to identify underlying factors in the assessment process as predictors of change.

Purpose of This Study

Considering psychological assessment to be a therapeutic intervention represents "a major paradigm shift in how assessment is typically viewed" (Finn & Tonsager, 1992, p. 286). In view of their preliminary data, a further controlled empirical study of the therapeutic impact of providing test feedback appeared warranted. This study replicated Finn and Tonsager's study, making some fundamental changes to the design and measures used in that study. Accordingly, this study investigated the therapeutic impact of providing feedback from the MMPI-2 to university students considering counseling services.

The study investigated two major hypotheses: Participants receiving MMPI-2 feedback, as compared with the controls who receive attention-only during the experimental time frame, would report (a) significant decrease in symptomatic distress and (b) significant increase in self-esteem.

Method

Participants

The participants were 60 university students drawn from the Monash University Counseling Service. Students who contacted the service over a period of 9 months were offered the opportunity of receiving a psychological assessment as part of the psychological services provided. The participants were assigned randomly to one of two groups: the experimental group, which received MMPI-2 test feedback ($n = 30$), or the control group, which received attention-only and delayed feedback ($n = 30$). There were 23 women and 7 men in the experimental group and 23 women and 7 men in the control group. The groups did not differ significantly in age ($M = 30$, $SD = 11.1$) or sex composition.

After having made contact with the Counseling Service, all participants were told that they could receive free psychological assessment

by participating in an assessment research project. They were also informed that they would be able to meet a licensed psychologist (Martyyn L. Newman) to formulate questions to be answered by the assessment process and that they would have to complete several psychological tests, including the MMPI-2. Participants in the experimental group were told that they would then meet with the assessor on a second occasion to receive verbal test feedback about their MMPI-2 test results. Participants in the control group were told they would meet with the assessor on a second occasion to complete several additional questionnaires and that on the third occasion they would receive verbal test feedback about their MMPI-2 test results.

It was made clear to both groups of participants that their participation was voluntary and that they could withdraw from the study at any time without forfeiting services. Of 62 participants who commenced the study, 2 did not continue past the initial interview with the assessor.

Design and Procedure

The study's design is based on that used by Finn and Tonsager (1992), in which a 2 (Group) × 3 (Time) repeated measures design was used (see Figure 1).

Experimental Condition: Clients Receiving MMPI-2 Feedback at Time 2

After approaching the Counseling Service, clients in the experimental condition were informed that free psychological testing was available

through their participation in an assessment research project. At the first meeting (Time 1), the researcher interviewed the clients for 30 min, discussed the clients' problems, and described how the psychological testing would proceed. The researcher asked clients to suggest questions that they would like answered through the assessment process. The clients then completed all the measures used in the study.

At the second meeting (Time 2), 2 weeks later, each client discussed his or her MMPI-2 test results with the researcher. Test feedback was provided according to Finn and Tonsager's (1995) model described earlier.

In the current study, approximately 2 weeks following the feedback session (Time 3), each client was mailed the dependent measures, a letter thanking them for their participation, and a stamped return envelope.

Control Condition: Clients Receiving Delayed Test Feedback

Clients in the control condition were informed that free psychological testing was available through their participation in an assessment research project. At Time 1, clients in the control group met individually with the researcher, who conducted a 30-min interview focusing on the clients' presenting problems and described how the psychological testing would proceed. As in the experimental condition, the researcher asked clients to suggest questions for the assessment. Following the interview, each client completed the MMPI-2 and the other independent measures used in the study.

At the second meeting (Time 2), 2 weeks later, the researcher met

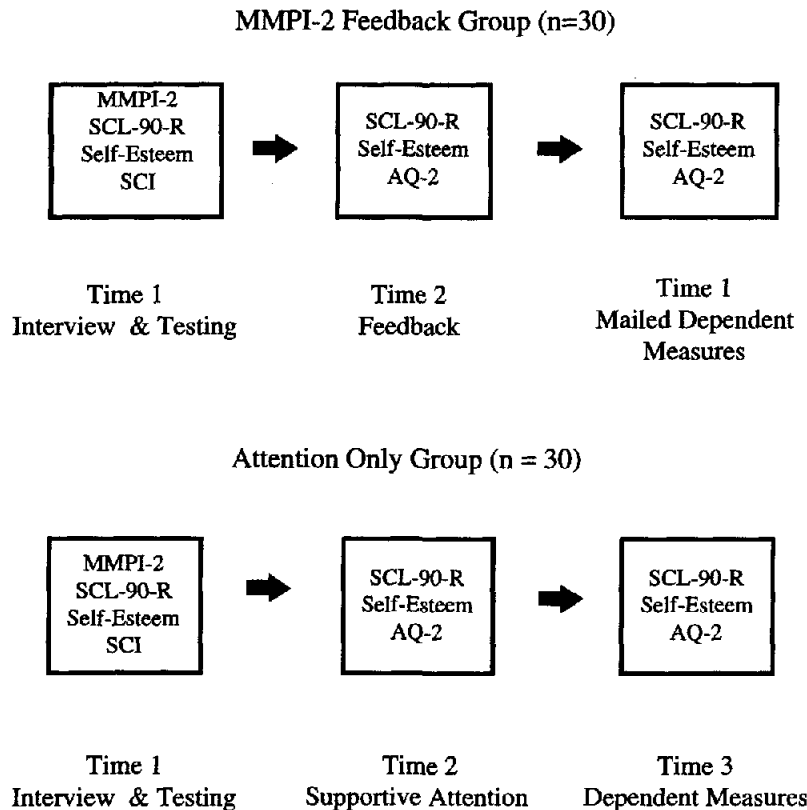


Figure 1. Experimental design: 2 (Group) × 3 (Time). (MMPI-2 = Minnesota Multiphasic Personality Inventory—2; SCL-90-R = Symptom Checklist—90—Revised; SCI = Self-Consciousness Inventory; AQ-2 = Assessment Questionnaire—2; Self-Esteem = Self-Liking/Self-Competency Scale)

briefly with the participants to clarify or add questions to be considered in the assessment. Following this brief interview, clients completed the dependent measures used in the study. At Time 3, approximately 2 weeks later, each client met with the examiner, completed the dependent measures used in the study, and then received feedback according to the collaborative model developed by Finn and Tonsager (1995).

In completing their analysis, Finn and Tonsager (1992) used raw gain (or difference) scores to compute "change." This is probably the most commonly used procedure (Ashcroft, 1971). However, some researchers have suggested that simple change scores are not very reliable. Change scores may be inordinately influenced by pretreatment status. In other words, clients who have had the highest level of pretreatment pathology have the greatest opportunity to show positive changes (Mintz & Kiesler, 1982). In relation to this, Lambert and Hill (1994) suggested that some of the change reflected in predifference-minus-postdifference scores may be the result of regression to the mean (p. 88). Because of the problem of unreliability of difference scores, some researchers have proposed calculation of a true gain score or residual gain score (Cronbach & Furby, 1990, cited in Lambert & Hill, 1994). Accordingly, we decided to use residual gain scores consistently in our analysis, where the initial level of disturbance was controlled or "partialled out."

Measures

MMPI-2

The MMPI-2 was the primary instrument used for this study. Clients' MMPI-2 responses were scored, and profile interpretations were based on information obtained from a number of primary sources for MMPI-2 interpretation (cf. Duckworth & Anderson, 1995; Butcher, 1990; Butcher & Williams, 1992; Graham, 1993; Lewak, Marks, & Nelson, 1990). In addition, each written profile interpretation was arrived at by a consensual process between Martyn L. Newman and Philip Greenway. To determine whether the MMPI-2 profiles of clients were valid, the following raw score exclusion criteria were used: $? > 30$, or L (Lie) > 10 , or F (Frequency) > 21 , or K (Correction) > 26 ; there were no invalid MMPI-2 profiles in the sample.

To assess the current level of maladjustment in the sample, a supplemental scale from the MMPI-2 was used: the College Maladjustment (Mt) scale developed by Kleinmuntz (1961). In addition, a content scale, Negative Treatment Indicators (TRT), was used to assess whether clients who approached the assessment experience with a more positive attitude toward mental health professionals were more likely to benefit from the MMPI-2 assessment.

MMPI-2 profiles of the entire sample indicated that they were experiencing significant psychopathology. As shown in Table 1, a majority of the MMPI-2 profiles for both the experimental and the control group were characterized by clinically significant scale elevations. For example, 87% of the experimental group and 80% of the control group had MMPI-2 profiles with one or more clinical scales above 65T.

Finn and Tonsager (1992) classified MMPI-2 profiles by the type of pathology they indicated, according to the scheme developed by Lachar (1974). Following the same approach, our sample consisted of 13 profiles (22%) that were considered to reflect primarily neurotic pathology, 19 (32%) psychotic, 13 (30%) characterological, and 10 (16%) indeterminate. To determine whether there was a significant difference in the number of profiles in each of the categories of pathology between the experimental and control groups, a chi-square analysis was carried out. The groups did not differ significantly in the number of profiles in each category of pathology, $\chi^2(3, N = 60) = 1.78, ns$.

Self-Liking/Self-Competence Scale (SLCS)

Finn and Tonsager (1992) used the Cheek and Buss (1981) Self-Esteem Questionnaire to measure changes in self-esteem. According to

Table 1

Number of Scales Elevated Within a Minnesota Multiphasic Personality Inventory-2 Profile ($N = 60$)

Number of scales	Cumulative % of profiles with scale elevations			
	Experimental group ($T > 65$)		Control group ($T > 65$)	
	%	n	%	n
9 or more	3	1	0	0
8 or more	3	0	0	0
7 or more	3	0	3	1
6 or more	13	4	13	4
5 or more	33	10	13	4
4 or more	36	11	33	10
3 or more	50	15	43	13
2 or more	67	20	53	16
1 or more	87	26	80	24
0 or more	100	30	100	30

its authors, it has been found to correlate .88 with a well-known questionnaire by Rosenberg (1965). However, recent research on factor-analyzing self-esteem inventories has indicated two underlying factors, Self-Liking and Self-Competence (Tafarodi & Swann, 1995). The Cheek and Buss questionnaire is too short to measure these two factors reliably. Accordingly, this study used the Self-Liking/Self-Competence Scale (SLCS) developed by Tafarodi and Swann (1995). The SLCS is a 20-item scale developed to validate the conceptualization of global self-esteem as a two-dimensional construct consisting of self-liking (a sense of social worth) and self-competence (a sense of personal efficacy). Validity studies have demonstrated good internal and predictive validity (Tafarodi & Swann, 1995). Given the lack of norms for a university sample and the need to compare changes in scores on this measure with changes on another measure, the decision was made to convert clients' scores on the SLCS separately by sex to linear T scores based on the sample's mean and standard deviations at Time 1.

Symptom Checklist-90—Revised (SCL-90-R)

At all three measurement points, all participants in this study completed the SCL-90-R (Derogatis, 1983). According to its authors, it has been proven in a variety of clinical and medical settings to be very sensitive to change, and its global severity index (GSI) score has been recommended as a useful psychotherapy change measure (Derogatis, 1983; Waskow & Parloff, 1975, as quoted in Finn & Tonsager, 1992). Although criticisms have been leveled at briefer multitrait scales such as the SCL-90-R, they do provide some advantages (Lambert & Hill, 1994). The SCL-90-R consists of 90 items that reflect psychopathology in terms of three global indexes of distress, including the GSI.

Finn and Tonsager (1992) pointed out that Derogatis (1983) did not provide a set of norms for college-age students and that in one study women consistently obtained raw scores on the majority of the SCL-90-R scales that were higher than those of the men (Johnson, Ellison, & Heikkinen, 1989, as quoted in Finn & Tonsager, 1992, p. 280). Accordingly, in a judgment similar to that of Finn and Tonsager (1992), the decision was made to convert clients' raw GSI scores, separately by sex, to linear T scores based on the sample's mean and standard deviation at Time 1.

Private and Public Self-Consciousness

The Self-Consciousness Inventory (SCI) (Fenigstein, Scheier, & Buss, 1975) was completed by all participants at Time 1. The SCI is a

23-item self-report questionnaire with three factors: Private Self-Consciousness, Public Self-Consciousness, and Social Anxiety. Fenigstein, Scheier, and Buss described private self-consciousness in terms of the Jungian conception of introversion, but they suggest that the thrust of private self-consciousness is more specific: "Its focus is on thoughts and reflections that deal solely with the self" (p. 525). Public self-consciousness is understood to come about when a person becomes aware of another's perspective, accordingly, "the essence of public self-consciousness is the self as a social object" (p. 525).

This study was particularly interested in the potential effects that public or private self-consciousness might have on change scores. Accordingly, only the 17 items related to self-consciousness were used. Groups in our study did not differ significantly on scores for either private ($M = 35.1$, $SD = 5.8$) or public ($M = 25.6$, $SD = 5.3$) self-consciousness.

Assessment Questionnaire-2 (AQ-2)

In an effort to determine clients' subjectively felt satisfaction with the feedback session, and as an additional measure of the efficacy of the assessment procedure, the AQ-2 (Finn, Schroeder, & Tonsager, 1995) was used to identify variables that influence clients' reactions to psychological assessment. The AQ-2 is a 48-item inventory measuring clients' evaluation of an assessment. According to its authors, it measures four underlying factors, which are moderately intercorrelated, consisting of clients' ratings of (a) how much they learned about themselves from an assessment, (b) how well understood they felt from an assessment, (c) how positively they experienced their relationship with the assessor, and (d) how negatively they experienced an assessment. In addition, a general satisfaction score (GS) is also obtained, which represents clients' overall satisfaction with the assessment. This instrument replaces the original AQ used by Finn and Tonsager (1992). The AQ-2 provides an empirically refined measure of clients' reactions to psychological assessment.

Although clients in the control condition did not participate in an assessment feedback session, they did complete other measures and met with the examiner on several occasions. Accordingly, a subset of items from the AQ-2 were given to clients in the control condition to complete at Time 2 and Time 3. This subset included items from Factor 3, Positive Relationship With the Examiner.

Table 2 shows the alpha consistency coefficients computed on clients' responses on the AQ-2 at Time 2 and Time 3. As shown in the table, all four subscales had excellent internal reliability. The total GS score (computed for the experimental group only) showed adequate reliability for use in both between-subject and within-subject analyses (Helmstader, 1964).

Table 2
The Assessment Questionnaire-2 Subscales

Factor	Subscale	No. of items	Internal consistency ^a	
			F ($n = 30$)	F and A ($n = 59$)
1	New Self-Awareness	13	.84	—
2	Positive Accurate Mirroring	12	.85	—
3	Positive Relationship With Examiner	12	.89	.88
4	Negative Feelings About Assessment	11	.76	—

Note. F = feedback group; A = attention-only group.
^a Cronbach's coefficient alpha computed at Time 2.

Results

As in Finn and Tonsager's (1992) study, the central question of the study was "whether completing an MMPI-2 and receiving feedback about test results produced any significant changes in clients' functioning" (p. 281). The two main hypotheses were that clients receiving MMPI-2 feedback, as compared with the controls who received attention only, would report (a) significant decrease in symptomatic distress and (b) significant increase in self-esteem. In our study the GSI and self-esteem correlated moderately ($N = 60$; Time 1, $r = -.44$; Time 2, $r = -.35$, and Time 3, $r = -.40$), accordingly, two repeated measures analyses of variance (ANOVAs) were conducted: a 2 (Group) \times 3 (Time) with GSI and self-esteem scores as the dependent variables in the respective analyses.

Symptomatology

Using the GSI scores from the SCL-90-R, the ANOVA showed a significant Group \times Time interaction, $F(2, 116) = 7.59$, $p < .01$, and a significant main effect for Time, $F(2, 116) = 4.82$, $p < .05$. As can be seen in Figure 2, clients in the experimental group, who received their MMPI-2 test results, demonstrated a significant decline in their self-reported levels of symptomatic distress compared with the levels of the clients in the control group, who received attention only.

As presented in Table 3, t tests revealed that there were no significant differences between the two groups at Time 1, $t(58) = .74$, ns , or at Time 2, $t(58) = .79$, ns . However, at Time 3 clients in the test feedback group reported significantly less symptomatic distress than did the attention-only group, $t(58) = -1.70$, $p < .01$. In contrast, the GSI scores of the attention-only group showed no significant decrease across time.

Self-Esteem

For self-esteem, the repeated measures ANOVA showed a significant effect for Group \times Time, $F(2, 116) = 12.43$, $p < .001$. However, the two groups of clients differed significantly in self-esteem at the time of the initial interview: Time 1, $t(58) = -2.30$, $p < .05$. As shown in Figure 3, at the initial interview those in the experimental group were experiencing significantly lower levels of self-esteem when compared with those in the control group. However, for those receiving MMPI-2 feedback,

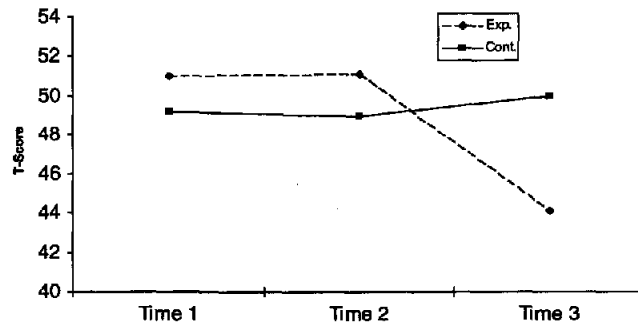


Figure 2. Mean Global Severity Index score between Groups \times Time (Exp. = experimental group; $n = 30$. Cont. = control group; $n = 30$).

the self-reported level of self-esteem rose dramatically at Time 2, virtually equaling the level experienced by the attention-only control group (experimental, $M = 52.1$; control, $M = 52.4$). This rise continued at the 2-week follow-up, with the experimental group showing significantly higher levels of self-esteem than the attention only control group: Time 3, $t(58) = 1.08$, $p < .05$.

This analysis left open the question of whether the improvement in self-esteem shown by the experimental group relative to the control group was inordinately affected by pretreatment status. Clients who had the lowest level of self-esteem before feedback had the greatest opportunity to show positive changes. Thus, some of the changes reflected in the postdifference scores may have been the result of regression to the mean. Although there is not yet a standard procedure in outcome research for deriving unbiased change scores (Lambert & Hill, 1994), the most common procedure is analysis of covariance, with pretreatment performance being the covariate (cf. Judd, Smith, & Kidder, 1991; Kazdin, Bass, Siegel, & Thomas, 1989).

Accordingly, an analysis of covariance (ANCOVA) was conducted in which the preexisting difference between groups at Time 1 on the dependent variable self-esteem was used as the covariate. The ANCOVA revealed a significant Group \times Time interaction, $F(1, 58) = 6.00$, $p < .01$. The results indicated that

the significant improvement in self-esteem demonstrated by the experimental group over the control group at the follow-up, Time 3, was not inordinately affected by pretreatment status. At the follow-up, the MMPI-2 feedback group was within the normal range of self-esteem for nonclient university students ($M = 54$, $SD = 10$). The control group did not demonstrate an increase in self-esteem; rather, they reported a progressive, although not significant, decline in self-esteem across time.

Feelings About the Examiner

Finn and Tonsager (1992) raised the question of whether clients in the experimental group improved relative to the control group because "they felt more attended to or liked by the examiner" (p. 282). In our study, this competing hypothesis was explicitly tested by examining client ratings of the examiner on Subscale 3 of the AQ-2, Positive Relationship With the Examiner. This subscale examines the extent to which a client felt accepted, liked, and respected by the examiner. Given the fact that scores on Subscale 3 of the AQ-2 correlated highly at Time 2 and Time 3 ($N = 57$; Time 2, $r = .83$), a 2 (Group) \times 2 (Time) repeated measures ANOVA was conducted, with Factor 3, Positive Relationship With the Examiner, at Time 2 and Time 3 as the dependent variable in the analysis. The analyses revealed no significant difference in clients' responses between the two conditions. Thus, we concurred with Finn and Tonsager's (1992) finding that "the benefits experienced by clients who receive MMPI-2 feedback do not appear to be simply a function of feeling liked, accepted, or cared for by the examiner" (p. 282).

Predictors of Change in the Experimental Group

Feedback Variables

Finn and Tonsager (1992) found that clients who experienced the MMPI-2 assessment as more positive, as indicated by their higher ratings on the AQ, showed a greater increase in self-esteem following the feedback session and a greater reduction in symptomatology at the follow-up. In our study, clients' AQ-2 General Satisfaction (GS) scores were not found to be correlated with self-esteem change at Time 2 or Time 3, neither was the overall drop in symptomatology related to the GS score. A

Table 3
Mean *T* Scores on Global Symptomatology
and Global Self-Esteem Across Time

Time	Experimental ($n = 30$)		Control ($n = 30$)		<i>t</i>	<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Symptomatology						
Time 1	51.0	10.4	49.2	9.4	0.74	<i>ns</i>
Time 2	51.1	10.43	48.5	9.4	0.79	<i>ns</i>
Time 3	44.2	9.9	49.6	14.2	-1.7	<.01
Self-esteem						
Time 1	47.1	10.1	52.9	8.9	-2.30	<.05
Time 2	52.1	9.5	52.4	10.9	>0.11	<i>ns</i>
Time 3	53.6	10.4	50.7	11.3	1.08	<.05

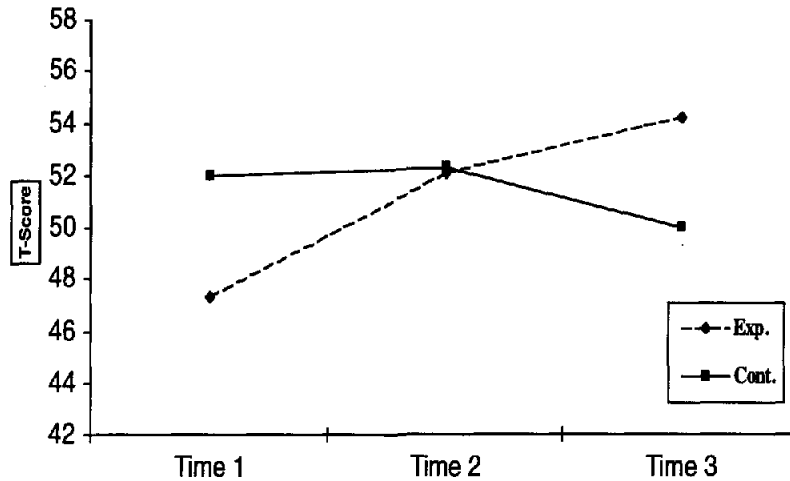


Figure 3. Mean Global Self-Esteem score between Groups \times Time (Exp. = experimental group; $n = 30$. Cont. = control group; $n = 30$).

correlation analysis conducted between the individual scales of the AQ-2 and changes on both symptomatology and self-esteem found no significant relationships.

Client Variables

Self-consciousness. Finn and Tonsager (1992) found that clients' private self-consciousness was strongly related to change in symptomatic distress from Time 2 to 3, feedback to follow-up, whereas public self-consciousness showed no significant relationship to symptomatic distress. This was in contrast to their findings in relation to self-esteem where "no significant relationship was found between clients' increase in self-esteem and their scores on either Private or Public Self-Consciousness" (p. 283). In our study, we found that neither private nor public self-consciousness were related to changes in either symptomatology—private, $r(28) = .15$, *ns*; public, $r(28) = .21$, *ns*—or self-esteem—private, $r(28) = .04$, *ns*; public, $r(28) = .14$, *ns*.

Severity and type of psychopathology. The supplemental scale from the MMPI-2, the College Maladjustment (*Mt*) scale, was used to assess whether the severity and type of psychological disturbance was related to the significant changes in symptomatic distress and self-esteem. Although the *Mt* scale correlated positively with the clients' GSI scores and negatively with self-esteem scores at Time 1—GSI, $r(30) = .49$, $p < .01$; self-esteem, $r(30) = -.43$, $p < .05$ —there was no significant relationship between *Mt* scores and change scores in self-esteem or symptomatology at either Time 2 or Time 3.

To investigate whether clients with certain kinds of problems experienced the MMPI-2 assessment as more or less helpful, two one-way ANOVAs were conducted with the clients' MMPI-2 Lachar code classification (Lachar, 1974) as the independent variable and their overall GSI and self-esteem change scores as the respective dependent variables. There were no significant findings for these analyses: GSI, $F(3, 26) = .29$, *ns*; self-esteem, $F(3, 26) = 1.80$, *ns*.

Attitudes Toward Mental Health Professionals

Last, the study examined the extent to which clients who approached the assessment experience with a more positive attitude toward mental health professionals were more likely to benefit from the MMPI-2 assessment. For this purpose, we used the Negative Treatment Indicators scale (*TRT*) of the MMPI-2. Despite the fact that clients' *TRT* scores correlated negatively with self-esteem at Times 1, 2, and 3, no predictor relationship was observed with either GSI, $r(30) = .06$, *ns*, or self-esteem, $r(30) = -.23$, *ns*.

Discussion

This study provides further empirical support for Finn and Tonsager's (1992) claim for the therapeutic impact of sharing MMPI-2 test results verbally with university clients. Clients who received MMPI-2 test feedback reported an increase in their self-esteem directly following the feedback session and a further increase during the 2-week follow-up interval. Similarly, those same clients experienced a significant decline in their symptomatic distress during the 2-week follow-up period.

In Finn and Tonsager's (1992) study, only the experimental participants completed the MMPI-2 and received verbal MMPI-2 test feedback, whereas control participants received examiner attention only. Those authors noted that this represented a limitation of the study's design and raised the question of whether completing an MMPI-2 would be in itself of therapeutic value. The current study tested this explicitly by requiring that all participants complete the MMPI-2. The results indicate clearly that the therapeutic effects of psychological assessment are not due to the administration of the MMPI-2. Rather, test result feedback seems to be the crucial element contributing to therapeutic effect, at least when offered using the collaborative model.

Although the present study clearly supports the central findings of Finn and Tonsager's (1992) study in relation to changes

in clients' self-esteem and symptomatic distress, it does not, however, provide support for a number of their other findings. Their study found that clients who experienced the MMPI-2 assessment as more positive showed a greater increase in self-esteem following the feedback session and a greater reduction in symptomatology at the follow-up. In our study, clients' general satisfaction scores were not correlated with self-esteem change, neither was the overall drop in symptomatology related to general satisfaction scores. We noted, however, that the earlier AQ used by Finn and Tonsager included items that were related to the Hope and Isolation (loneliness) scales. These items were removed from the AQ-2 because the authors came to view them more as separate outcome areas, conceptually independent of client satisfaction, that were better measured by other, existing scales. It is quite possible that it was the Hope and Isolation items that correlated with self-esteem in the first study. These changes in the AQ-2 may be one possible explanation for the difference in findings between the two studies. Nevertheless, the current study did find that the experimental clients' subjective impressions of the assessment and the MMPI-2 feedback sessions were overwhelmingly positive as measured by the AQ-2.

Moreover, Finn and Tonsager's (1992) study found that a client's level of private self-consciousness was strongly related to a decrease in symptomatic distress and unrelated to an increase in self-esteem. In our study, we did not find any predictor relationship between a client's level of private self-consciousness and changes in either symptomatology or self-esteem.

Furthermore, Finn and Tonsager (1992) predicted that clients who were more trusting and positive toward mental health professionals would report significant changes following the MMPI-2 feedback session. Contrary to their predictions, they observed no such significant relationships. These findings are consistent with the results of our study, in which clients' attitudes toward mental health professionals were found to be unrelated to changes in either symptomatic distress or self-esteem. Finally, in accord with Finn and Tonsager's findings, changes in symptomatic distress or self-esteem were unrelated to the level and type of psychopathology the MMPI-2 revealed.

Apart from the clear support that the study provides for the therapeutic value of sharing MMPI-2 test results with clients, the current study was not able to identify any additional predictors of therapeutic change. The results of this study indicate clearly that, for now, feedback should be offered to all clients.

Like Finn and Tonsager's (1992) study, the current study was limited in its ability to identify specific therapeutic elements about test feedback. The highly specific feedback method used emphasized a collaborative approach that engaged the client's active participation in the assessment process. Further research should evaluate specific components of this method to identify the distinctive therapeutic value of each component. For example, one feature involved an underlying set of questions that guided the process and that came from the client's subjective experience. The process was individualized and centered on the particular client's experience. He or she was engaged in "a cooperative dialogue which explores the client's problems in living" (Finn & Tonsager, 1995). Furthermore, the feedback material was considered within the client's own frame of reference and was aimed at helping the client produce original approaches to solving her or his problems. This raises the question

of how significant the initial collaborative interview was in the effectiveness of the feedback session. This deserves to be tested explicitly.

Furthermore, the study may be criticized for the fact that only one assessor was used in the study. Given the demanding and sensitive nature of the assessor's role in relating the feedback to the specific questions and goals of the client, much of the therapeutic value of the feedback session may be related to the particular examiner's skill in applying a range of microskills required to make the feedback effective. Moreover, the assessor was not unaware of the participants' group membership, raising a further question regarding the potential of the assessor to influence final outcomes. Further research should test these concerns by using both a wider range of examiners trained in the collaborative method and examiners using a noncollaborative approach. In addition, the study may be criticized because the client's evaluation of the assessment experience was reported directly to the assessor conducting the interviews. This raises the possibility that clients may not have felt completely free to report their experience objectively. In the future, the assessment experience should be assessed, not only by self-report measures that the client gives to the assessor, but also by ratings obtained by an outside interviewer.

Given the very small numbers of clients and the wide standard deviations in some of the Lachar classifications, we were unable to check for the effect of codetype on therapeutic change. A larger sample size may identify whether different levels and types of psychological disturbance are related to changes in treatment outcome.

Our sample tended to be slightly more disturbed than Finn and Tonsager's (1992), with 36.7% of clients from the experimental group with profiles reflecting primarily psychotic pathology. Furthermore, 33% of our experimental sample exhibited clinically significant elevations ($T = 65$) on five or more clinical scales, compared with 28% in Finn and Tonsager's study. Although the number of elevated profiles is remarkable in both studies, especially given the nonmedical settings, a number of older studies support the position that college students tend to have scale scores on the MMPI that are higher than average and also frequently have more positive personality characteristics (Goodstein, 1954; Norman & Redlo, 1952; Rosen, 1956). However, a more recent study by Butcher, Graham, Dahlstrom, and Bowman (1990) indicated that college students respond to the MMPI-2 in a manner highly similar to that of the MMPI-2 normative sample.

It was also noted that the control group commenced the study with higher levels of self-esteem than did the experimental group. This left open the question of whether the improvement in self-esteem shown by the experimental group relative to the control group was inordinately affected by pretreatment status. Although the analysis of covariance ruled this out, it raises the question of why this should have occurred between randomly selected groups. The most obvious explanation appears to lie in the small sample size. Alternatively, the process of sample selection may not have been fully randomized. On occasions, the assessor, in seeking to be responsive to the needs of the client, may have been inordinately affected by certain clients' anxiety and perceived crises, thus opting to provide feedback in the shorter time period represented by the experimental condi-

tion. Accordingly, clients who had lower levels of self-esteem and who were experiencing a significant crisis may have influenced their group membership on compassionate grounds. Although there was no significant difference between groups in their initial levels of symptomatology, nevertheless, future research needs to ensure that clients are adequately screened for their levels of presenting distress.

It appears clear from our study that providing assessment feedback represents a therapeutic modality relevant to populations in counseling. However, given the level of psychological disturbance in our sample and the effectiveness of feedback as a therapeutic intervention, a question is raised about the potential adaptiveness of this modality to inpatient settings.

In a recent study by Finn and Bunner (1993), feedback of assessment results had a significant impact on psychiatric inpatients' satisfaction with clinical services. The majority of patients were hospitalized for affective disorders or substance abuse. Thirty-four patients completed the AQ-2. Patients who received verbal feedback about their assessment results ($n = 14$) were more satisfied with their assessment experiences than were those who did not receive feedback ($n = 20$). This study appears to support the value of providing feedback to clinical populations, at least as far as satisfaction with clinical services is concerned. It does not, however, provide further evidence for the therapeutic effectiveness of feedback with such populations. In relation to the desire for feedback itself, an earlier study by Snyder, Ingram, Handelsman, Wells, and Huwieler (1982) examined the potential adaptiveness of simply wanting feedback in itself and the negative motivational therapeutic consequences associated with a low desire for feedback. The study found that a higher proportion of individuals in nonclinical as compared with clinical samples reported a strong desire to receive feedback about themselves. Subsequent findings revealed that the individuals with higher desire for feedback (a) were more willing to seek psychological help and to participate in therapy once in treatment, (b) exhibited more positive expectancies for change at the beginning of therapy, and (c) were more "responsive" to diagnostic feedback (p. 328). In the light of both these studies and the question raised by the findings of this current study, a further controlled investigation using a larger sample size and an inpatient population appears warranted.

While discussing theoretical systems that may offer possible explanations for the positive therapeutic change, Finn and Tonsager (1992) referred to two schools of psychology that examine client motives for change, including, from social psychology, Swann's (1983) self-verification theory and from psychoanalytic theory, Kohut's (1977) psychoanalytic self psychology. According to Finn and Tonsager, this latter theory would explain the therapeutic effects in terms of "an intense experience of 'positive accurate mirroring'" and that the feedback procedure is likely to "stabilize and strengthen clients' 'self-structures'" (p. 285). Taking this position, we would argue that it may not be the symptomatology itself that is directly affected by the feedback process but rather the client's view of it. In other words, the decrease in symptomatology may not reflect a fall in the actual occurrence of symptoms but the reported symptoms. In this case, how the client actually views his or her symptoms as a result of the feedback is changed. This change in perspective is also likely to be consistent with changes in self-

esteem. As self-esteem increases, as a result of the feedback, the self structures are supported and enhanced, leading to increased client efficacy in managing his or her pathology.

Drawing on Harry Stack Sullivan's ideas about what may maintain or change the self-system, Finn and Tonsager (1992) concluded that the self-system of the client is "most likely to change through an experience of 'closeness' and 'good will' between therapist and client" (p. 285). In principle, this theory would be supported by a number of current psychotherapy schools; however, few would hold that self-structures are likely to change that quickly.

Along with Finn and Tonsager (1992), we have observed that following a feedback session, clients appear relieved at being able to "name" and "explain" their experiences (p. 285). It may well be that this process helps organize personal identity, or it may simply be that giving clients a new vocabulary with which to talk about their experiences and symptoms makes them feel better. In both cases, what appears salient is that clients gain a new understanding of their problems and feel better about dealing with them.

Certainly, the assessment methodology used in this study, in which the assessment relationship is collaborative, appears to fit well with aspects of cognitive therapy. Through the process of cognitive restructuring and self-talk, the individual is enabled to clarify and define the problem and identify the maladaptive thoughts and assumptions behind the behaviors. In Finn and Tonsager's (1995) model, the assessor is instrumental in evaluating the origin of the distress and assists the client in determining the goals to be achieved. Moreover, the assessor facilitates the client's understanding of the beliefs, assumptions, and behaviors that perpetuate their maladaptive self-expression. The client is actively encouraged by the assessor to begin problem solving, initially by defining the questions for the assessment, then by deciding whether the interpretation is relevant or not, and finally, by being involved in developing strategies for change.

In conclusion, the present study provides further empirical support for Finn and Tonsager's (1992) claim for the therapeutic impact of sharing of test results with clients. Further research needs to examine the various components of the collaborative assessment model separately to determine the potency of each component in bringing about client change. In any future research, the number of assessors used needs to be expanded and any therapeutic changes observed should be assessed, not only by self-report measures but also by ratings of an outside interviewer. In addition, further studies should investigate the potential adaptiveness of this procedure to different population groups and contexts.

According to Finn and Tonsager (1992), "the notion of psychological assessment as a therapeutic intervention is a major paradigm shift in how assessment is typically viewed" (p. 286). Although research in this area is still in its initial stages, if assessment techniques continue to prove useful as a way of changing patients' self-esteem and distress levels, this may provide psychotherapy with a brief, yet potent, therapeutic intervention. More particularly, if it can be demonstrated that a brief approach such as a therapeutic assessment can be as effectual as other long-term therapies, it may prove a cost-effective option and thereby make clinical services available to a wider range of people.

References

- Ashcroft, C. (1971). The latest school achievement of treated and untreated emotionally handicapped children. *Journal of School Psychology, 9*, 338-342.
- Butcher, J. N. (1990). *MMPI-2 in psychological treatment*. New York: Oxford University Press.
- Butcher, J. N. (1992). Introduction to the special section: Providing psychological test feedback to clients. *Psychological Assessment, 4*, 3, 267.
- Butcher, J. N., Dahlstrom, W. G., Graham, J. R., Tellegen, A., & Kaemmer, B. (1989). *Minnesota Multiphasic Personality Inventory-2 (MMPI-2). Manual for administration and scoring*. Minneapolis: University of Minnesota Press.
- Butcher, J. N., Graham, J. R., Dahlstrom, W. G., & Bowman, E. (1990). The MMPI-2 with college students. *Journal of Personality Assessment, 54*, 115.
- Butcher, J. N., & Williams, C. L. (1992). *Essentials of MMPI-2 and MMPI-A interpretation*. Minneapolis: University of Minnesota Press.
- Cheek, J. M., & Buss, A. H. (1981). Shyness and sociability. *Journal of Personality and Social Psychology, 41*, 330-339.
- Comer, P. E. (1965). *Initially test structured short term psychotherapy in a college student counseling setting*. Unpublished doctoral dissertation, West Virginia University.
- Cronbach, L. J., & Furby, L. (1970). How should we measure "change" or should we? *Psychology Bulletin, 74*, 68-80.
- Dana, R. H., & Graham, E. D. (1976). Feedback of client-relevant information and clinical practice. *Journal of Personality Assessment, 40*, 464-468.
- Derogatis, L. R. (1983). *SCL-90-R: Administration, scoring, and procedures manual-II for the R (revised) Version*. Towson, MD: Clinical Psychometric Research.
- Duckworth, J. C., & Anderson, W. P. (1986). *MMPI: Interpretation manual for counselors and clinicians* (3rd ed.). Muncie, IN: Accelerated Development.
- Duckworth, J. C., & Anderson, W. P. (1995). *MMPI & MMPI-2: Interpretation manual for counselors and clinicians* (4th ed.). Bristol, PA: Accelerated Development.
- Fenigstein, A., Scheier, M. F., & Buss, A. H. (1975). Public and private self-consciousness: Assessment and theory. *Journal of Consulting and Clinical Psychology, 43*, 522-527.
- Finn, S. E. (1996). *Using the MMPI-2 as a therapeutic intervention*. Minneapolis: University of Minnesota Press.
- Finn, S. E., & Bunner, M. (1993, March). *Impact of test feedback on psychiatric inpatients' satisfaction with assessment*. Paper presented at the 28th Annual Symposium on Recent Developments in the Use of the MMPI, St. Petersburg Beach, FL.
- Finn, S. E., Schroeder, D. G., & Tonsager, M. E. (1995). *The Assessment Questionnaire-2 (AQ-2): A measure of clients' experiences with psychological assessment*. Unpublished manuscript, Center for Therapeutic Assessment, Austin, TX.
- Finn, S. E., & Tonsager, M. E. (1992). Therapeutic effects of providing MMPI-2 test feedback to college students awaiting therapy. *Psychological Assessment, 4*, 278-287.
- Finn, S. E., & Tonsager, M. E. (1995). *Therapeutic assessment: Using psychological testing to help clients change*. Unpublished manuscript. Austin, TX: Center for Therapeutic Assessment.
- Fischer, C. T. (1986). *Individualizing psychological assessment*. Monterey, CA: Brooks-Cole.
- Goodstein, L. D. (1954). Regional differences in MMPI responses among male college students. *Journal of Consulting Psychology, 18*, 437-441.
- Graham, J. R. (1993). *MMPI-2: Assessing personality and psychopathology* (2nd ed.). New York: Oxford University Press.
- Hathaway, S. R., & McKinley, J. C. (1942). *Minnesota Multiphasic Personality Inventory*. Minneapolis: University of Minnesota Press.
- Helmstadter, G. C. (1964). *Principles of psychological measurement*. Englewood Cliffs, NJ: Prentice Hall.
- Johnson, R. W., Ellison, R. A., & Heikkinen, C. A. (1989). Psychological symptoms of counseling center clients. *Journal of Counseling Psychology, 3*, 110-114.
- Judd, C. M., Smith, E. R., & Kidder, L. H. (1991). *Research methods in social relations* (6th ed.). Chicago: Holt, Rinehart & Winston.
- Kazdin, A. E., Bass, D., Siegel, T., & Thomas, C. (1989). Cognitive-behavioral therapy and relationship therapy in treatment of children referred for antisocial behavior. *Journal of Consulting and Clinical Psychology, 57*, 522-535.
- Kleinmuntz, B. (1961). The college maladjustment scale (*Mt*): Norms and predictive validity. *Educational and Psychological Measurement, 21*, 1029-1033.
- Kohut, H. (1977). *The restoration of the self*. New York: International Universities Press.
- Lachar, D. (1974). *The MMPI: Clinical assessment and automated interpretations*. Los Angeles, CA: Western Psychological Services.
- Lambert, M. J., & Hill, C. E. (1994). Assessing psychotherapy outcomes measures and processes. In A. E. Bergin & S. L. Garfield (Eds.), *Handbook of psychotherapy and behavior change* (4th ed.; pp. 72-113). New York: Wiley.
- Lewak, R. W., Marks, P. A., & Nelson, G. E. (1990). *Therapist guide to the MMPI and MMPI-2*. Muncie, IN: Accelerated Development.
- Mintz, J., & Kiesler, D. J. (1982). Individualized measures of psychotherapy outcome. In P. C. Kendall & J. N. Butcher (Eds.), *Handbook of research methods in clinical psychology* (pp. 491-534). New York: Wiley.
- Norman, R. D., & Redlo, M. (1952). MMPI personality patterns for various college age groups. *Journal of Applied Psychology, 36*, 404-409.
- Rosen, E. (1956). Self-appraisal and perceived desirability of MMPI personality traits. *Journal of Counseling Psychology, 5*, 44-51.
- Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton, NJ: Princeton University Press.
- Snyder, C. R., Ingram, R. E., Handelsman, M. M., Wells, D. S., & Huwiler, R. (1982). Desire for personal feedback: Who wants it and what does it mean for psychotherapy? *Journal of Personality, 50*, 316-330.
- Swann, W. B., Jr. (1983). Self-verification: Bringing social reality into harmony with the self. In J. Suls & A. G. Greenwald (Eds.), *Social psychological perspectives on the self* (Vol. 2). Hillsdale, NJ: Erlbaum.
- Tafarodi, R. W., & Swann, W. B., Jr. (1995). Self-liking and self-competence as dimensions of global self-esteem: Initial validation of a measure. *Journal of Personality Assessment, 65*, 322-342.
- Waskow, I. E., & Parloff, M. B. (1975). *Psychotherapy change measures* (NIMH Publication No. ADM 74-120). Rockville, MD: U.S. Department of Health and Human Services.

Received July 17, 1996

Revision received October 20, 1996

Accepted November 4, 1996 ■