A Comparison of Two BHI Measures of Faking

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Abstract

Personality inventories that are commonly used in psychological assessment of medical patients rely on measure of faking good or bad. Due to the need for the assessment of faking in clinical settings, this study constructed and compared two different approaches to the assessment of faking using the Battery for Health Improvement (BHI), the Defensiveness scale and the Disclosure index. Subjects for this study were 214 physical rehabilitation patients, who were paid to subtlely fake the BHI good or bad. The BHI patient sample and the BHI community sample were used as control groups. The Disclosure Index significantly differentiated all four groups (subtle fake good, community, patient, subtle fake bad) except the fake good and community, using an ANOVA with a Scheffe post hoc test at the $p < .05$ level (see Table 1). The Defensiveness scale was able to make the same significant discriminations (see Table 2). The Defensiveness scale appeared to be more sensitive in making these comparisons, however. Both scales did produce the same pattern of scores, with the four group mean scores arranged in the predicted order. Both the Defensive scale and Disclosure Index correlated significantly as predicted with all of the validity indices on the MMPI-2 and MCMI-III ($p < .0001$). In general, however, the BHI Disclosure Index had substantially higher correlations with the target measures than did the BHI Defensiveness scale. The mean scores of actual patients who were represented by an attorney (N=149) or those who were not represented (N=450) were also compared using these two scales using an ANOVA (see Tables 4 and 5). The Defensiveness scale discriminated significantly ($p < .0001$) between these groups, as did the Disclosure Index ($p < .005$).

Introduction

There are many circumstances under which an individual may intentionally distort responses to obtain certain results. Positive malingering (faking bad) is often a concern when a psychological evaluation is being performed as part of a disability evaluation, or for other financial remuneration (Binder & Rohling, 1996; Rohling, Binder & Langhinrichsen-Rohling, 1995). Conversely, in other situations individuals may be motivated toward negative malingering (faking good), when having a low incidence of psychological difficulties is to their advantage. Overall, the assessment of validity is strongly indicated whenever the patient being assessed is in litigation (Fox, Gerson & Lees-Haley, 1995; Lees-Haley, English, & Glenn, 1991). The DSM-IV also states that the diagnosis of malingering must be considered when a patient is in litigation, or when there is clear secondary gain for biasing one's answers (American Psychological Association, 1994).

There is considerable support in the research literature for the notion that compensation involvement adversely influences the report of pain and disability (Burns, Sherman, Devine, Mahoney, & Pawlr, 1995; Carron, DeGood, & Tait, 1985; Greenlugh, & Fraser, 1989; Hammonds, Brena & Unikel, 1978; Jamison, Matt & Parris, 1988; Kleinke, & Spangler, 1988; Krusen, & Ford, 1958; Leavitt, Garron, McNeill & Whisler,

1982; Talo, Hendler & Brodie, 1989; Trief & Stein, 1985; Griffin, Normington, May & Glassmire, 1966). Although the findings in this area are somewhat controversial, meta-analytic studies indicate that there seems to be a significant effect between the presence of compensation and reports of disability and symptomatic complaints (Binder & Rohling, 1996; Rohling, Binder & Langhinrichsen-Rohling, 1995).

Personality inventories that are commonly used in psychological assessment of medical patients rely on measure of faking good or bad (Butcher, Dahlstrom, Graham, Tellegen & Kaemmer, 1989; Millon, 1994). The Battery for Health Improvement (BHI) was initially published without any defensiveness measure (Bruns, Disorbio, & Copeland-Disorbio, 1996). Due to the need for the assessment of faking in clinical settings, this study constructed and compared two different approaches to the assessment of faking using this instrument.

Method

Subjects

Subjects for this study were physical rehabilitation patients undergoing treatment or evaluation for orthopedic injury or chronic pain. Patients were recruited through newspaper advertisements and through several rehabilitation clinics. All subjects were between the ages of 18 and 65, and they could read English at a 6th grade level. Overall, a total of 214 subjects were obtained. The BHI patient sample and the BHI community sample were used as control groups.

Instrumentation

BHI: The primary measure used in this study was the Battery for Health Improvement (BHI). It was normed using both patient and community samples (Bruns, Disorbio and Copeland-Disorbio, 1996). The BHI was derived from the Research version of this test, which was referred to as the BHI-R. The BHI-R was comprised of 600 items sampling a wide range of psychological and medical symptoms. It was used to develop the BHI.

The BHI is a 202-item inventory designed for the psychological assessment of persons with both psychological and physical symptoms. The 14 BHI scales are also contained within the BHI-R. These 14 scales assess factors related to psychological and medical factors associated with illness, injury, and delayed recovery

MMPI-2: The Minnesota Multiphasic Personality Inventory Second Edition (MMPI-2) is a 567 item psychological inventory designed to measure a wide range of psychological disorders. It was administered to part of the patient sample. The MMPI-2's validity and reliability have been extensively studied.

MCMI-III: The Millon Clinical Multiaxial Inventory Third Edition (MCMI-III) is a 175 item psychological inventory designed for the assessment of psychological disorders. Its scales are keyed to DSM-IV criteria. The MCMI-III's validity and reliability well established. It was administered to part of the patient sample.

Procedure

Of the 214 subjects obtained, 109 were assigned to a fake bad group, while 105 were assigned to a fake good group. Subjects in the fake bad group were asked to magnify their complaints on the BHI. They were provided alternate scenarios for why they might be willing to do this, such as involvement in litigation. They were also supplied with the following admonition: "Be careful though; you want your test results to be believable. If you exaggerate too much or claim to have too many problems, the therapist looking at your results may suspect that you are not being truthful. This was intended to produce a subtle fake bad effect.

Similarly, the patients in the fake good group were asked to attempt to produce an unrealistically positive self-portrait on the BHI. Plausible rationales were offered for this, such as applying for health insurance, with the suggestion that they might be denied coverage if they did not appear healthy. These subjects were supplied with the same admonition as above, producing a subtle fake good condition.

<u>Study I</u>

It was hypothesized that the fake bad group should produce profiles with the highest somatic reports, followed by the patient group, the community group and the subtle fake good group. In the construction aspect of this study, 50 fake good subjects, 50 fake bad subjects and the BHI Community and Patient development samples were employed to construct a defensiveness scale. Items were then identified which could significantly discriminate between these four groups using an ANOVA. These items were later subjected to a scale construction procedure that first eliminated items with redundant content, after which items were chosen which optimized internal consistency. This produced a 14-item defensiveness scale. The remaining fake good and fake bad subjects along with the BHI Community and Patient cross-validation samples were employed for subsequent analyses.

<u>Study II</u>

A second BHI faking measure was developed using a clinical theoretical approach. One of the MCMI-III's faking measure is the "disclosure" scale (Millon, 1994). This scale is essentially an index of overall profile elevation, which is conceptually quite similar to the MMPI-2 Profile Elevation score (Butcher et al., 1989). A similar BHI defensiveness measure was constructed, using the average of the eight psychological scale factor Patient T-scores. As the first seven BHI scales represent negative traits (depression, anxiety, hostility, borderline, symptoms dependency, chronic maladjustment, and substance abuse), while the eighth scale is a positive trait (perseverance), the 8th scale was reversed prior to calculating the average T-score. This produced an average T-score with a mean of 50.0 and a standard deviation of 7.8 with the Patient cross-validation sample, and a mean of 47.3 and a standard deviation of 7.9 with the Community cross-validation sample. This measure was referred to as the Disclosure Index.

Results and Discussion

The Disclosure Index significantly differentiated all four groups (subtle fake good, community, patient, subtle fake bad) except the fake good and community, using an ANOVA with a Scheffe post hoc test at the p < .05 level (see Table 1). The Defensiveness scale was able to make the same significant discriminations (see Table 2). The Defensiveness scale appeared to be more sensitive in making these comparisons, however. Both scales did produce the same pattern of scores, with the four group mean scores arranged in the predicted order.

Both the Defensive scale and Disclosure Index correlated significantly as predicted with all of the validity indices on the MMPI-2 and MCMI-III (p < .0001). The one exception to this was that the BHI Defensiveness scale did not correlate significantly with the MMPI-2 L scale (see Table 3). In general, however, the BHI Disclosure Index had substantially higher correlations with the target measures than did the BHI Defensiveness scale. A subsequent unpublished study utilized 255 patients in a clinical setting who were exhibiting delayed recovery, and who were undergoing psychological evaluations. With this group, the Disclosure Index was found to correlate .74 with the MCMI-III Disclosure scale, and .71 with the MCMI-III Debasement Scale (Bruns and Disorbio, 2000).

Despite the constraint of asking subjects to subtly fake good or bad, both scales were able to discriminate significantly between the four groups in question. Had the constraint of requesting subtle responses not been imposed on the subjects in this study, the effect's size would likely have been larger.

The mean scores of actual patients who were represented by an attorney (N=149) or those who were not represented (N=450) were also compared using these two scales using an ANOVA (see Tables 4 and 5). The Defensiveness scale discriminated significantly (p < .0001) between these groups, as did the Disclosure Index (p < .005).

The internal consistency of the Defensiveness scale was assessed using Cronbach's Alpha. Using the development sample, the internal consistency was assessed at .84. Upon cross validation, the internal consistency across all four combined groups was .90. The alpha scores generated by individual groups ranged from .77 to .88. Due to the nature of the Disclosure Index, an Alpha coefficient could not be calculated.

While both scales were significantly related to validity criteria, neither scale proved to be clearly superior to the other. Although the Defensiveness scale had greater sensitivity in detecting differences between target groups, the Disclosure Index demonstrated higher correlations with criterion measures. The Disclosure Index had the additional advantage of not adding any additional times to the BHI, while the Defensiveness scale added an additional 14 items.

Table 1

ANOVA Table for BHI Disclosure

	DF	Sum of Squares	Mean Square	F-Value	P-Value	Lambda	Power
Subject Group	3	6414.882	2138.294	34.498	<.0001	103.494	1.000
Residual	1347	83491.020	61.983				

Means Table for BHI Disclosure

	Count	Mean	Std. Dev.	Std. Err.
Census	716	47.302	7.933	.296
Patient	521	49.995	7.795	.342
Fake Bad	54	56.988	7.153	.973
Fake Good	60	46.015	8.428	1.088

Scheffe for BHI Disclosure
Effect: Subject Group

	Mean Diff.	Crit. Diff.	P-Value	
Census, Patient	-2.693	1.269	<.0001	S
Census, Fake Bad	-9.687	3.110	<.0001	S
Census, Fake Good	1.287	2.962	.6871	
Patient, Fake Bad	-6.994	3.150	<.0001	S
Patient, Fake Good	3.980	3.004	.0034	S
Fake Bad, Fake Good	10.974	4.134	<.0001	S

Table 2

ANOVA Table for Defensiveness

	DF	Sum of Squares	Mean Square	F-Value	P-Value	Lambda	Power
Subject Group	3	31449.671	10483.224	118.955	<.0001	356.865	1.000
Residual	1347	118707.881	88.128				

Means Table for Defensiveness
Effect: Subject Group

	Count	Mean	Std. Dev.	Std. Err.
Census	716	56.658	9.133	.341
Patient	521	49.879	10.020	.439
Fake Bad	54	36.111	7.200	.980
Fake Good	60	58.000	8.348	1.078

Scheffe for Defensiveness
Effect: Subject Group

	Mean Diff.	Crit. Diff.	P-Value	
Census, Patient	6.779	1.513	<.0001	S
Census, Fake Bad	20.547	3.708	<.0001	S
Census, Fake Good	-1.342	3.532	.7695	
Patient, Fake Bad	13.768	3.756	<.0001	S
Patient, Fake Good	-8.121	3.582	<.0001	S
Fake Bad, Fake Good	-21.889	4.929	<.0001	S