

Personality Simulation As a Response Set On The MMPI

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The ability of the validity scales to detect a personality simulation response set and the accuracy of that simulation on the Minnesota Multiphasic Personality Inventory (MMPI) was examined. One hundred two undergraduate students took the MMPI in an honest condition and again in one of three conditions: faking good, faking bad, or simulating another person. Results indicate no difference between the honest and simulation conditions, but significant differences between both the faking good and faking bad and the honest conditions. Further analysis revealed that those individuals with slightly abnormal honest profiles were most effective and most accurate simulating a normal profile. Additional research is needed regarding personality simulation and its implications for all practitioners who utilize the MMPI.

There are many contexts in which psychological tests are used in industry. For example, every state requires that all police applicants undergo a psychological evaluation, which most often begins with the administration of a test such as the MMPI. Because obtaining a job is based on passing these psychological evaluations, applicants often attempt to fake these tests. As a result of these attempts to fake, psychologists have worked to identify ways of determining those applicants who did not complete the tests honestly.

The Minnesota Multiphasic Personality Inventory (MMPI), along with being the most frequently employed personality inventory in the field of psychological testing, is the most extensively researched personality inventory with over 8,000 references published to date (Anastasi, 1988). A major reason for the extent of its use is the test's validity scales.

The four validity scales of the MMPI separate this test from most other personality inventories. These scales represent checks on carelessness, misunderstanding, malingering, and the operation of special response sets and test-taking attitudes (Greene, 1980). In spite of the vast amount of research regarding the validity scales of the MMPI, many questions still remain regarding the fakability of the test. A large number of studies have been conducted to determine if faking is consistently and reliably detected by the validity scales (e.g. Grow, McVaugh & Eno, 1980; Harvey & Sippelle, 1976; Kroger & Turnbull, 1975; Posey & Hess, 1984; Worthington & Schlottmann, 1986). Response sets of faking good or faking bad by subjects have yielded a variety of validity as well as clinical scores. Still, there is no unanimous agreement among researchers that faking in either direction can be positively and consistently determined. This is evident in a review by Turnbull (cited in Kroger & Turnbull, 1975) in which 18 studies of faking on the MMPI were examined. Only 14 of these reported successful employment of the validity scales to determine faking.

Previous literature regarding faking

Techniques to detect faking bad are many and varied (Grow *et al.*, 1980). The method most consistently cited in the literature is the F-K index. This is calculated by subtracting the raw K scale score from the raw F scale score. The F (frequency or confusion) Scale was constructed to detect deviant or atypical ways of responding to the test. This scale measures the degree to which a person's thoughts or approach to taking the test are different from those of the general population.

The K (correction) Scale is a more subtle and effective index of attempts by the examinee to either deny psychopathology and to present him/herself in a favorable light or to exaggerate psychopathology (Graham, 1977). This scale is designed to measure psychological defensiveness or guardedness, especially in psychologically sophisticated people (Duckworth & Anderson, 1986).

F minus K raw score values of either 7 or 9 seem to be the most frequently quoted cutting scores for making a fake bad interpretation (Dahlstrom, Welsh & Dahlstrom, 1972; Gough, 1950). In other words, an F-K index score above 7 or 9 can be interpreted as a fake bad response set in which the examinee is attempting to present a pathological profile.

Grow *et al.* (1980) tested four techniques to detect faking bad and four

procedures to detect faking good. Although Grow and his colleagues determined that it is generally easier to identify those who are faking bad, they suggest the use of the F-K raw scores to determine faking in either direction. However, in his original article on the F-K index, Gough (1950) concluded that the index can readily determine fake bad profiles, but is less efficient in determining fake good profiles. Subsequent research, however, has accepted this index as an acceptable means of determining fake good as well as fake bad profiles (Grow *et al.*, 1980). Grow *et al.* suggest that the best measure to identify faking good is the use of $F-K < -11$, although it only accounts for 36% of the variance associated with that response set. For the fake bad response set, $F-K \geq 7$ or $F \geq 15$ are suggested, accounting for 79% and 80%, respectively, of the variance (Grow *et al.*, 1980).

In contrast to the literature reviewed thus far, Duckworth and Anderson (1986) warn that it is usually grossly inaccurate to use the F-K index to determine faking good among university and mental health clients. They recommend the use of this index ($F-K > 7$) to determine faking bad, but caution the interpreter that the client may, in fact, be feeling bad and thus, the scales are accurately reflecting that feeling.

Kroger and Turnbull (1975) took a slightly different approach in a study of faking on the MMPI. They used the term "role faking" to describe the method employed. The term referred to responding to the MMPI as if one were in a particular social role. In other words, they did not ask subjects to fake bad or fake good, but instead to answer the questions as a person in a particular role would answer them. The roles used were those of an air force pilot and a creative artist. The simulated profiles were compared to actual profiles of people in those respective roles. Results indicated that the simulated profiles could not be detected on the basis of the validity scale patterns, as the individual validity scores were all in the normal range and the F-K index was also within the acceptable range.

The existing literature on simulation in terms of role-playing (Kroger & Turnbull, 1975) indicates that when a specific description of the role to be played is given, two consistent results have emerged: 1) persons are better able to simulate the roles when very specific descriptions are given, and 2) the validity scales are unlikely to detect this type of simulation (Greene, 1980). The first of these two findings lends support to the observation that if the person attempting to simulate someone else's profile knows that individual well enough, the validity scales most likely

will be unable to detect the simulation.

Need for research

The Kroger and Turnbull (1975) study just cited above leads one to question other kinds of "role faking" approaches not addressed in the literature. Specifically, can a person simulate an MMPI profile of someone he/she knows well without the validity scales detecting that attempt? For example, job applicants taking the MMPI may not feel as though their personality characteristics will gain them employment in the company to which they are applying. Each applicant may know somebody, such as a current employee, whose personality characteristics have already been viewed positively by the employer. Or, if police applicants know somebody who is currently employed as a police officer, can the applicants accurately simulate the MMPI profile of the officer they know? Can the applicants answer the questions on the MMPI as their acquaintance would answer them and have validity scores and the F-K index in the normal range? Research has indicated, for instance, that supervisors have used this simulation strategy to beat "unfakeable" forced choice performance appraisal scales (e.g. Cascio, 1978).

Anastasi (1985) noted that when personality inventories are used in industrial settings for screening of applicants or evaluation of job incumbents, faking is a possibility that cannot be ignored. She emphasized that under these circumstances, examinees are highly motivated to present themselves in a favorable light to employers, either deliberately or through more subtle, unrecognized response sets. In addition, anecdotal evidence indicates that prospective employees utilize this method of simulation when using the MMPI for screening procedures (Buchner, 1990). Greene (1980) addressed the topic of simulation and cites only the study by Kroger and Turnbull (1975). This indicates the lack of attention that this response set has received in the scholarly literature as well as the need for empirical studies directed at unraveling the process of simulation on the MMPI.

Purpose and hypotheses

If the validity scales of the MMPI are unable to detect the simulation response set, the implications in the fields of personnel selection as well as clinical, counseling and forensic psychology are significant. This study

will address the ability of the MMPI validity scales and the F-K index to detect a simulated profile by comparing the profiles of subjects completing the MMPI honestly with the profiles of the same subjects who were asked to either fake good, fake bad, or simulate a friend.

It is hypothesized that the mean validity scale scores of simulated profiles will be within the normal range. It is also predicted that the validity scale scores of honest and simulated profiles will not be significantly different. Finally, we expected the mean validity scale scores of fake good and fake bad profiles would be detectable in the predicted direction.

METHOD

Participants

Participants were 102 volunteer undergraduate students from a medium sized Southeastern university. The majority of subjects were enrolled in an introductory psychology course and received extra credit for participating in the study. The age of subjects ranged from 17 to 24 years old with a mean age of 18.12. Eighty-two females and 20 males participated in the study.

Procedure

Subjects were asked to sign up for the experiment in pairs, specifically with a roommate or a friend they knew well. They were informed that the experiment consisted of two appointments, each taking approximately an hour to an hour and a half. At the first appointment, subjects were placed in separate rooms and each given the MMPI Form R (Hathaway & McKinley, 1951). Subjects were told to answer the first 399 questions (for the validity and clinical scales) and to take the test "honestly and seriously." As an incentive to do so, each subject was told that he/she would receive an interpretation of his/her profile. Each subject was assured confidentiality and subjects were asked to not write their names on the answer sheet, but to write a code number which was the last four numbers of their social security number. Subjects were also asked to fill out the information requested on the answer sheets (birth date, age, sex, date of test). Each subject was given as long as needed to complete the 399 questions.

Three weeks later, subjects were contacted again to set up a second

appointment. At the second administration, subjects were given instructions to read before beginning the test. One of the three passages located in Appendix A was given to each subject instructing him/her to fake good, fake bad, or simulate his/her friend. Both subjects of a pair received the same passage. Subjects were assigned to one of the three conditions on the basis of the random order in which they were contacted (i.e. first 34 subjects were assigned to fake good, second 34 subjects were assigned to fake bad, and the final 34 subjects were assigned to simulate). Subjects were given ample time to read the passage, asked if they understood what they were expected to do, separated once again, and given as much time as needed to complete the same 399 questions. When subjects were finished, they were given a confidential (according to the code number) "non-clinical" interpretation of the first administration of the MMPI. This interpretation consisted of a short description of what the scales measured and what their individual scores meant.

RESULTS

As shown in Table 1, for the first test administration in which subjects were asked to take the test honestly, 18 out of the total 102 profiles (17.65%) indicated faking on the validity scales. Faking was determined by an F scale raw score greater than 15 or by an F-K score greater than 7 or less than -11.

At the second administration, 34 subjects were instructed to "fake bad." Of these 34, 100% of the F raw scores were above 15 ($M = 52.68$) and 100% of the F-K raw scores were greater than 7 ($M = 42.97$). Of the 34 subjects instructed to "fake good," 28 (82.35%) of the F-K raw scores were less than -11 ($M = -16.91$). Of the 34 subjects who were asked to simulate their friends, only three profiles revealed F raw scores greater than 15 (8.8%) with the mean F raw score being 8.29. This is not significantly different from the mean F raw score of the honest administration which was 8.33 ($n = 102$). Seven of the 34 simulations (20.6%) revealed F-K raw scores of less than -11 or greater than 7. Again, the mean is not significantly different from the mean F-K raw score of the honest administration with the simulation condition mean being -4.26 and the honest condition mean being -2.69.

Four Chi-square analyses were conducted to determine if the frequency of "failing" each validity measure was different from the expected frequency. Each profile was examined to determine which, if any, of the

validity measures were outside of the acceptable range. Specifically, the four categories examined were "failing" (being outside of the acceptable range) only the F scale, "failing" only the F-K scale, "failing" both the F scale and the F-K scale, and total percent "failing." As shown in Table 1, all of the categories except percent "failing" only the F scale differed from the expected frequency at the .005 level of significance. The category of percent "failing" only F scale was not significantly different from the expected frequency.

Table 1

Percent "Failing" Validity Measures For Each Condition

	<u>% Failing only F</u>	<u>% Failing only F-K</u>	<u>% Failing F & F-K</u>	<u>Total % Failing</u>
Honest	1.96	11.76	3.92	17.65
Fake Bad	0.00	0.00	100.00	100.00
Fake Good	0.00	82.35	0.00	82.35
Simulation	2.94	14.71	5.89	23.53
Chi-Square	1.69	88.87	166.91	98.46

Four separate repeated measure ANOVA's were conducted, one for each of the three validity scales (L scale, F scale, and K scale) and one for the F-K validity measure. This was done to determine if, in fact, the fake good and fake bad response sets were significantly different on the individual scales and to determine if the simulation and honest conditions differed. The Cannot Say scale was not analyzed in the data as all of the 204 profiles had raw scores on that scale of less than five. The results indicate significant differences between the conditions on each of the four measures (see Table 2).

Table 2**Means, Standard Deviations, and F values for Each Condition**

Condition	SCALE			
	L	F	K	F-K
Honest	1.98 _b (1.65)	8.33 _b (4.27)	11.02 _a (3.79)	- 2.69 _c (6.94)
Fake Bad	3.38 _{ab} (2.24)	52.68 _c (5.82)	9.70 _a (4.00)	42.97 _a (7.77)
Fake Good	8.88 _a (3.92)	2.88 _a (2.52)	19.79 _b (3.44)	-16.91 _b (5.20)
Simulation	2.50 _b (2.07)	8.29 _b (4.34)	12.56 _a (3.69)	- 4.26 _c (6.61)
F Test	89.55	446.89	32.5	108.57

NOTE: Standard deviations are in parentheses.

Means sharing the same subscript in the columns are not significantly different from one another

Pearson Product Moment correlation coefficients (r 's) were calculated on the clinical scales of the 34 subjects who were in the simulation condition to determine the accuracy of the simulations. Each subject's honest profile scales were correlated with his/her friend's simulation of him/her to determine how accurately the subjects were able to simulate their friends. To determine mean correlations, the correlation coefficients were converted into Z scores and a mean Z was calculated. The mean Z was then converted back to an r . The process resulted in a mean r of .78 ($p < .01$) indicating that subjects were able to accurately simulate their friends.

The profiles for the subjects in the simulation condition were then separated into one of four categories: normal simulating normal ($n = 8$), normal simulating abnormal ($n = 10$), abnormal simulating normal ($n = 10$), and abnormal simulating abnormal ($n = 6$). A profile was considered to be "abnormal" if there was at least one clinical scale above 70 T corrected points. The classification of a profile with at least one scale in the clinically significant range (more than 70 T corrected points) is sometimes used as the criterion for screening when using the MMPI for this purpose.

For each of the four cells, the mean F raw score and the mean F-K raw scores were computed. The percentage of each cell that had acceptable validity scales was also computed (see Table 3). These scores were obtained to address the question of who, because of motivation or other factors, would be most able to effectively simulate a specifically normal or abnormal profile. The abnormal simulating normal cell showed 100% of the validity checks within the acceptable range. The abnormal simulating normal group showed 83.3% of the validity checks within the acceptable range. The normal simulating normal cell resulted in 62.5% acceptable while 50% of normal simulating normal were found to have acceptable validity checks.

For each subject in these four cells, the correlations were calculated between the simulation and the simulatee's honest profile. The r 's were converted to Z's and the means were calculated, which were converted back to r 's. As shown in Table 4, subjects in all four cells were able to simulate fairly accurately.

Table 3**Mean Validity Measures and Percent Acceptable For Simulation Condition**

Honest Profile	Simulated Profile	n	Percent Acceptable	Means	
				F	F-K
normal	normal	8	62.5	5.87	-7.37
normal	abnormal	10	50.0	9.10	-4.70
abnormal	normal	10	100.0	8.90	-2.10
abnormal	abnormal	6	83.3	9.17	-3.00

Table 4**Mean correlation of simulation to simulatee's honest profile**

Honest Profile	Simulated Profile	
	Normal	Abnormal
Normal	.80* (8)	.70* (10)
Abnormal	.85* (10)	.70 (6)

DISCUSSION

Interpretation of findings

The results indicate that the faking bad and faking good response sets are easily and accurately identified by the traditional methods cited in the literature to detect faking. The fake bad response set was especially detectable producing a mean F raw score so high that the standard MMPI profile sheet does not allow for it. The fake good response set, also highly detectable, was not as marked as the fake bad response set, a finding consistent with previous literature (Grow *et al.*, 1980).

The simulation was not, however, detected overall by the validity measures. There was no significant differences for any of the validity measures between the honest condition and the simulation condition. It is important to note the marked differences in the fake good and fake bad profiles as compared to the honest profile, as well as the marked similarity between the simulation and the honest profile. If the simulation profile was presented to a clinician or psychometrician for interpretation, there would be no suspicion about the profile being faked. That profile would be accepted as being valid.

Testing and methodological implications

The breakdown of the percentage of subjects failing each one of the validity measures by themselves and in combination with each other lends support to the previous literature regarding the use of the validity measures (e.g. Grow *et al.*, 1980). The F scale score by itself is not designed to detect faking good. Additionally, these results indicate that in making a fake bad interpretation, it is not likely for the F scale to be elevated without the F-K index also being outside of the acceptable range. In other words, if a person is faking bad, it is likely that the F scale as well as the F-K index will both be outside of the acceptable range. This is not so with the faking good response set. As indicated by these results, none of the subjects who used the faking good response set "failed" both of these validity measures, whereas all of the subjects who used the response set of faking bad "failed" both of these validity measures.

As shown in Table 1, the percent "failing" each one of the validity measures according to the response set used indicates no significant differences between the honest and simulation conditions. By examining

each of the validity measures by themselves and in combination with each other, no distinction can be made between these two conditions.

Implications for clinical and industrial settings

Given these findings, it is important to consider the circumstances under which a person would be motivated to simulate another person. The present study assumes that those individuals with a slightly abnormal profile would be highly motivated to simulate a normal profile when the inventory is being used for screening purposes. It is also assumed that an individual with a normal profile would be motivated to simulate an abnormal profile when the inventory is being used for screening for a defendant in a criminal court case. If a client or a prospective employee is highly motivated to present a profile of normalcy, these findings suggest that he/she is likely to be able to accomplish that simulation without the validity measures detecting faking. Subjects whose honest profile showed at least one clinical scale in the significant range were able to fairly accurately simulate a normal profile. These are the people who would have that motivational factor to simulate in a clinical setting as well as in an industrial setting. Specifically, a potential employee who is highly motivated to simulate a current employee whom he/she knows well, may be able to do so accurately and effectively. This is so because a person is not faking good, he/she is faking normal. When a person is faking good, he/she is probably thinking of the near perfect person. When a person is faking normal, he/she is probably faking in a more realistic manner.

These findings are of potential importance to those in the field of personnel selection. These professionals should be aware that personality simulation is a response set that can go unrecognized when using the MMPI as a screening instrument. Research suggests the increasing use of this instrument specifically for these purposes (e.g., Anastasi, 1985; Maier, 1973; Most & Glazer, 1983; Murphy, 1972; Parisher, Rios & Reilly, 1979). Considering the motivational factor involved in potential employees and job incumbents, the findings of this study should be considered.

Additionally, there are several implications of this type of faking in clinical and counseling settings. Many clients are quite resistant to therapy. This is the case most often when clients are involved in therapy because of court-orders, employee referrals, and pressure from family (e.g. adolescents). In these cases, clients may be motivated to present a simulated profile in order to hide true problems from the therapist. In

this type of setting, the MMPI is usually administered as an intake or screening procedure. If the MMPI has been successfully simulated, the toward problems that are not appropriate to the particular client. This misdiagnosis could prolong the therapeutic process to a point at which insurance companies, industries, or state and/or local governments will discontinue the client's therapy prematurely.

CONCLUSIONS

The implications of this study are of potential importance to people in all fields who use the MMPI. Previous publications have addressed the faking issue in terms of faking good and faking bad. The majority of these studies have supported the traditional methods of detecting faking on this inventory. It is also generally agreed that faking good is less likely to be detected than faking bad, but that it is, in fact, detectable.

This study examined a much more effective method of faking on the MMPI than the traditional response sets of faking good and faking bad. The type of simulation tested in this study, if done properly, can be effective and accurate for many people who are motivated to present a relatively normal profile that is different from their own profile. This type of faking is a realistic possibility that has essentially been ignored throughout the history of the MMPI. Taking into consideration the vast utilization of the MMPI, by professionals who have been trained to use it as well as by non-professionals who do not know how to properly interpret an MMPI profile, personality simulation should be considered. As these results suggest, a personality simulation cannot be differentiated from an honest profile by means of the validity measures. The results indicate that when using the MMPI with people who are motivated to present a different, but average profile, practitioners need to be cognizant of the personality simulation possibility and interpret this test with more caution.

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APPENDIX

Scenarios

Fake Good

You are being considered for an extremely important promotion at your job. This promotion involves a significant raise, excellent status in your company, an unbeatable benefit package, and flexible hours. Two other employees are also being considered for the promotion. The race is a close one and your boss has decided to give the three nominees a personality test to be used as the deciding factor. You know that you must make yourself look better than the other two nominees on this test. You decide that you must answer the questions on this test to make yourself look as good as possible. Remember, your job and your future depend on it.

Take the test and answer the questions to make yourself look as good as possible.

Fake Bad

You have just received notice that you have been drafted by the army to fight in the Middle East. You know that this assignment involves direct battle in an extremely heavy war zone, in which your chances of survival are very slim. A friend informs you that he was excused from the draft by making believe he was crazy when he took the personality test. This is your only hope. You know you must answer the questions on the personality test in such a way to convince the draft board that you are crazy. Remember, your life depends on the results of this personality test.

Take the test and answer each question in a way that will convince the draft board that you are crazy.

Simulation

You are applying for a job which you consider to be the "opportunity of a lifetime." The pay is excellent, the benefits are outstanding, the hours are flexible, and the job is in a field in which you are very interested. The company however, requires that all applicants take a personality inventory to determine if they are "right" for the job. You, having researched the company, know the type of person they are looking for and have some doubts about your own personality in regards to the job. Your friend, however, has the personality the company is looking for. In order to get the job, you know you must answer the questions as your friend would answer them. Remember, your future depends on how well you can simulate your friend.

Take the test and answer the questions as your friend would answer them.