ROLE TAKING ABILITY OF CHRONIC SCHIZOPHRENICS ON THE MMPI

Chang-Yil Ahn
University of Dayton

I. Introduction

It is quite a controversial issue in the field of clinical psychology and psychotherapy that whether the schizophrenic patients can play a given role on a particular personality inventory. Several researches show that the role playing ability is closely realted to the patient's prognosis. In this area of studies, the Minnesota Multiphasic Personality Inventory is largely used because the inventory contains a lot of items so that the testees can simulate a certain, preferable personality characteristic on their answer sheets, if they wish to do so.

The persent study is designed to re-examine some of the previous investigations, especially Grayson and Olinger's[1] study and Rapaport's[2] study. The major purpose of the present research is to determine whether the schizophrenic patients are capable of playing normal person's role and/or mentally-ill person's role on the MMPI, and if they are, what is the extent.

A. Review of Related Researches

Bordin[3] has reported that students acquainted with the occupational groupings included in the Strong Vocational Interest Test were able to simulate a certain specified occupational types even though they were unfamiliar with the mechanics of the scoring. From this investigation, Gouth[4] inferred that if a subject is attempting to respond as a psychoneurtic on a personality inventory, the success of the trial will be largely influenced by his understanding of the neurotic syndrome in its intimate as well as its obvious aspects. Similarly, it can be generalized that psychotic patients should know what status is normal and what is mentally-ill state, if they intend to simulate normalcy or abnormalcy on their personality questionnaires.

Crumpton and Wine[5] have found that the schizophrenic patients do not really know what it takes to be normal. Grayson and Olinger[6] have reported that most psychiatric patients

(1) Grayson. H.M. and Olinger, L. "Simulation of Normality by Psychiatric Patients on the MMPI." *J. consult. Psychol.*, 1957, 20, 37-41.
(2) Rapaport, G.M. "Ideal Self Instructions, MMPI Profile Changes and the Prediction of Clinical Improvement." *J. consult. Psychol.*, 1958, 22, 6, 459-63.
(3) Bordin, E.S. "A Theory of Vocational Interests as Dynamic Phenomena. *Educ psychol Measmt.*, 1943, 3, 49-65.
(4) Gough, H.G. "Simulated Pattens in the MMPI." *J. abnorm. Soc. Psychol.*, 1947, 42, 216.
(5) Crumpton, E. and Wine, D.B. "Conceptions of Normality and Mental Illness held by Normal and Schizophrenic Adults." *Psychiatry Digest*, 1965, 28, 42.
(6) Grayson, H.M. and Olinger, L. *op. cit.*, 65.

were capable of recognizing and avoiding many of the individual deviant responses, even though they were still largely unable to produce normal profile patterns. They also found that the MMPI improvability was related to early discharge from the hospital.

Rapaport[7] made an attempt to test the generality of Grayson and Olinger's prognostic finding. He obtained follow-up data for the majority of his military subjects six months to one year following their participation in the study. Consequently, it was determined that the ability to improve MMPI performance was not significantly related to the prognosis, although the trend was in that direction. From this results he concluded that the Grayson and Olinger's prognostic finding may be of somewhat restricted generality.

B. Hypotheses

On the basis of the previous studies, it is hypothesized that first, the chronic schizophrenics can not take a normal role adequately, even though they can recognize and avoid some of individual deviant responses when they are asked to simulate normality on the MMPI.

Second, the chronic schiziophrenics will produce quite a deviant profile when they are asked to simulate mental illness due to the fact that they have already been medicated in some degree and they also have an experience of mental illness.

From these general hypotheses, following results can be expected:

1. The clinical scale scores of the second session (simulating normalcy instruction) would be lower than those of the first session (standard instruction), but the clinical profile of the second session would not reveal the typically normal one.
2. The clinical scale scores of the third session (simulating abnormalcy instrucction) would be higher than those of the first session and it would also reveal the abnormal, psychotic profile.
3. The clinical scale scores of the first session would be more closer to those of the second session rather than those of the third session.

II. Method

A. Material

1. A shortened form of the MMPI is developed, which uses three validity scales (L, F and K) and four psychotic scales (Sc, Pa, Ma and D) containing 244 items in total. The intention of the developing the shortened from of the MMPI was to reduce the effect of fatigue that might come from the continuous (three times) administration of the long test and the present study is mainly concerned with the psychotic profile. The theoretical basis of using the shortened form of the MMPI is on the findings that the context on the MMPI does not have any significant influence on the test results. (e.g., Olson[8]: Perkins and Goldberg.)[9]

2. Three different instructions are prepared as follows:

a. Standard MMPI instruction.

b. Simulating normalcy instruction: "the

(7) Repaport, G.M. *op. cit.*

(8) Olson G.W. "The Influence of Context on the Depression Scale of the MMPI in a Psychotic Population." *J. consult. Psychol.*, 1961, 25, 2, 178-179.

(9) Parkins. J.E. and Goldberg, L.R. "Contextual Effects on the MMPI." *J. consult. Psychol.*, 1964, 28, 2, 133-140.

way a typical, well-adjusted person on the outside would do."

c. Simulating abnormalcy instruction: "the way a mentally ill person would do."

Each subject took the test three times with different instruction as shown above; the order in which a subject was tested a given instruction was randomized in counterbalancing. Two or three days of interval was allowed between the administration of the test to avoid an interaction effect.

B. Subjects

For this study, 53 chronic schizohrenics were sampled. The definition of the chronic schizophrenics were established for this study as follows.

1) The patient who has been continuously hospitalized for over a year at the Dayton State Hospital or
2) The patient who has a history of long-standing schizophrenic adjustment.

Among those 53 patients, 32 subjects who took all the three times of tests were used for the final analysis of the data.

The subject group contains 19 males and 13 females. Their ages range from 17 to 46 with median age of 30. Among them, 9 are single. 13 are married and 10 are divorced. Their educational levels vary from 6 th grade completed to 14 th with Mean of 10 th. Twenty-four subjects have been hospitalized over a year and less than five years of schizophrenic history, and eight subjects have schizophrenic history over five years up to thirteen years.

C. procedure

The data were collected from January 23, 1968 to April 21, 1968. All of the subjects were met by the author as a small group from three to twelve. The raw scores were transferred to standard scores(T score). The Mean, Median, and Standard Deviation of the T scores were calculated for each cale the compare the differences among the three sessions.

In order to examine whether the differences are significant statistically, analysis of variance was applied for each scale independently. And also to test the differences between pairs of sessions, Newman-Keuls method was used for each scale.

III. Results and Interpretation

The Mean, Median, and Standard Deviation of T scores of cach scale for each session are shown at table 1.

Table 1. M. Mdn, and SD comparisons

		L	F	K	D	Pa	Sc	Ma
M	1st	57.4	66.1	51.6	64.0	66.5	76.0	61.9
	2nd	57.4	63.5	56.3	61.2	64.8	72.3	66.3
	3rd	51.4	78.3	45.3	80.3	95.0	100.8	78.8
Mdn	1st	55.5	62.9	51.3	63.3	65.1	71.8	60.5
	2nd	56.5	62.5	56.7	59.8	60.5	67.1	64.3
	3rd	53.1	79.4	44.5	79.7	95.0	107.5	79.1
SD	1st	10.3	12.6	12.1	13.8	13.6	17.7	16.5
	2nd	9.7	12.8	12.8	15.2	14.3	16.4	11.9
	3rd	10.6	4.2	11.5	15.8	16.5	18.9	16.2

Table 1 reveals that the clinical scale scores of the 2 nd session are relatively lower than those of the the lst session except scale Ma. But the profile of the 2 nd session is not normal one. Therefore the first expection is not in partial.

This table also shows that the clinical scale scores of the 3 rd session are relatively higher than those of the lst session. At the same time, the profile of the 3 rd session is extremely deviated one so that the second expectation can also be met partially.

Another finding at the table 1 is that the Mean scores of the 1st session are more closer to those of the 2 nd session, and the Mean scores of the 3 rd session are quite deviated from the Mean scores of both the 1 st and 2 nd sessions. This will meet the last expectation in partial.

These findings, however, do not present how significant the results are statistically. Therefore analysis of variance (ANOVA) was applied for each scale separately to determine

Table 2. ANOVA source table: Scale Sc

Source	SS	df	MS	F
P	6421.83	31	207.16	1.60
B	6467.64	2	3233.82	25.02**
E	8012.36	62	129.23	
Total	20901.83	95		

** Sig. at $\alpha = .01$

Table 3. ANOVA source Table: Scale Pa

Source	SS	df	MS	F
P	1007.24	31	32.49	1.28
E	2120.82	2	1060.41	41.62**
B	1579.85	62	25.48	
Toral	4707.91	95		

** Sig. at $\alpha = .01$

Table 4. ANOVA source table: Scale Ma

Source	SS	df	MS	F
P	1620.96	31	52.29	1.79*
B	836.07	2	418.04	14.36**
E	1804.60	62	29.11	
Total	4261.63	95		

** Sig. at $\alpha = .1$
* Sig. at $\alpha = .05$

Table 5. ANOVA source table: Scale D

Source	SS	df	MS	F
P	1278.96	31	41.26	.89**
B	1882.27	2	941.14	20.34**
E	2868.73	62	46.27	
Total	6029.96	95		

** Sig. at $\alpha = .01$

Table 6. ANOVA source table: Scale L

Source	SS	df	MS	F
P	544.30	31	17.56	3.08**
B	60.81	2	30.41	5.33**
E	352.52	62	5.69	
Total	957.63	95		

** Sig. at $\alpha = .01$

Table 7. ANOVA source table: Scale F

Source	SS	df	MS	F
P	4246.74	31	137.03	1.25**
B	10621.27	2	5310.64	48.48**
E	6790.73	62	109.53	
Total	21661.74	95		

** Sig. at $\alpha = .01$

Table 8. ANOVE source table: Scale K

Source	SS	df	MS	F
P	2559.63	31	82.57	3.69**
B	556.02	2	278.01	12.42**
E	1387.31	62	22.38	
Total	4502.96	95		

** Sig. at $\alpha = .01$

the significance level of those differences, and the results are shown at the table 2 to table 8.

Inspecting the results above tables, all of the clinical scale scores are significantly different at the level of .01 according to the different instruction. In other words, above tables show that the subjects took the three times of the tests in significantly different way depending on the partcular instruction. The significant differences of the validity scale scores in accordance with the particular session can also be an impotant evidance of the fiendings. We, however, do not see which Mean score is different from the other two Mean scores and/or whether all of the three Means have same amount of differences one another. Therfore Newman-Keuls procedure was applied to test the differences between pairs of Means, and the results are shown at the table 9 to table 15.

Table 9. Test on Differences between Pairs of Means: Seale Sc

Test	Session Totals	Ⅱ 1129	Ⅰ 1192	Ⅲ 1715
Ⅱ	1129	—	63	586**
Ⅰ	1192	—	—	523**
Ⅲ	1715	—	—	—

Table 10. Test on Differences between Pairs of Means: Scale Pa.

Test	Session Totals	Ⅱ 408	Ⅰ 438	Ⅲ 741
Ⅱ	408	—	30	333**
Ⅰ	438	—	—	303**
Ⅲ	741	—	—	—

Table 11. Test on Differences between Pairs of Means: Scale Ma.

Test	Session Totals	Ⅰ 710	Ⅱ 755	Ⅲ 929
Ⅰ	710	—	45	219**
Ⅱ	755	—	—	174**
Ⅲ	929	—	—	—

Table 12. Test on Differences between Pairs of Means: Scale D.

Test	Session Totals	Ⅱ 708	Ⅰ 765	Ⅲ 1033
Ⅱ	708	—	57	325**
Ⅰ	765	—	—	268**
Ⅲ	1033	—	—	—

Table 13. Test on Differences between Pairs of Means: Scale L.

Test	Session Total	Ⅲ 142	Ⅰ 195	Ⅱ 197
Ⅲ	142	—	53**	55**
Ⅰ	195	—	—	2
Ⅱ	197	—	—	—

Table 14. Test on Differences between Pairs of Means: Scale F.

Test	Session Totals	Ⅱ 352	Ⅰ 396	Ⅲ 1087
Ⅱ	352	—	44	735**
Ⅰ	396	—	—	691**
Ⅲ	1087	—	—	—

Table 15. Tets on Differences between Pairs of Means: Scale K.

Test	Session Totals	Ⅲ 312	Ⅰ 427	Ⅱ 499
Ⅲ	312	—	115**	187**
Ⅰ	427	—	—	72
Ⅱ	499	—	—	—

Significance level:
** at $\alpha = .01$
* at $\alpha = .05$

Result of the above tables show that all of the four clinical (psychotic) scalé scores are not significantly different between session I and session II, even though session I shows a little bit of higher Mean scores than does session II on Scale Sc, Pa, and D. The Mean scores of all four psychotic scales of the session III, however, are significantly different

from those of the both session I and II. This means that the subjects responded in same way in the both situation when they were asked to respond the questionnaire with the standard instruction and when they were asked to answer the inventory with the simulating normalcy instruction, though they tried to avoid some of deviant responses in the latter situation. When the simulating abnormalcy instruction was given, however, the subjects revealed significantly deviated responses than when the other two instructions were given. These findings are supported by the variation of the three validity scale scores which shows exactly same change. That is, all of the three validity scale scores which were obtained from session I and session II are not significantly different each other, but the result of the session III is significantly different from those results from both session I and II. Therefore the three expectations which have been assumed under the general hypotheses are fully met. The implications of these findings will be discussed in the section of Discussion.

Another interesting finding is that the subjects could not reduce their abnormally high scores on the scale Sc. which is the scale they are categorized, in all the three instructional situations. In addition to that, on the scale Ma the subjects showed even higher scores under the simulating normalcy instruction rather than under the standard instruction, though the difference is not significant statistically. This finding implies that the subjects' way of thinking is somewhat different from normal person's. The further consideration of this implication will be held in the following section.

IV. Conclusion and Discussion

A. Conclusion

The three assumptions which have been made under the general hypotheses for this study are fully assured. That is, the chronic schizophrenic patients can not take role as a normal person adequately. They can recognize and avoid some of individually deviant responses when they are asked to answer the way a typical well adjusted person on the outside would do on the MMPI, but still produce abnormal profile. This finding supports the Grayson and Olinger's study.

On the other hand, the chronic schizophrenic patients can do produce psychotic profiles when they are asked to respond the questionnaire the way mentally ill person would do. However, it is not determined whether the psychotic profile represent the subjects' role playing ability. This will be discussed in the following section.

B. Discussion

In consideration of the generalization, psychotic patients should know what status is normal and what is mentally ill state if they intend to simulate normalcy or abnormalcy on their personality questionnaire, this study indicates that the chronic schizophrenics do not know what status is normal or not. When the author admit one of the conclusion what Cottle and Powell[10] made, "A profile on the MMPI within the normal range is a function of the censoring effect of a personality." the present finding indicates that chronic

(10) Cottle, W.C. and Powell, J.O. "The Effect of Random Answers to the MMPI." *Educ. psychool. Measmt.*, 1951, 11, 227.

schizophrenics lack a function of the censoring and integrating effect of a personality. Since the subjects of the present study failed to show a normal profile not only when they took the test under the standard situation but also when they had a chance to simulate normalcy on their answer sheet, this new hypothesis is drawn. This new hypothesis can also be another supporter to our original hypothesis, that is chronic schizophrenics can not take normal role adequately.

The second hypothesis of the present study was that the chronic schizophrenics will produce quite a deviant profile when they are asked to simulate mental illness. This hypothesis has also been approved.

As we notice at the table 1, the Mean scores of the 3 rd session are excessively high. This fact leads us to consider some of its implications. By Cottle and Powell,(11) the randomly answered T scores on the four psychotic scales and three validity scales were these: Sc 90, Pa 85, Ma 70, D 80, L 63, F 113, and K 54, while the present findings on the 3 rd session are Sc 100.8, Pa 95.0, Ma 78.8, D80.3, L 51.4, F 78.3, and K 45.3. These two results are very close to each other. This finding suggests that the schizophrenics in the present study might respond the questionnaire randomly without considering the special, abnormal instruction. As the validity scale scores tell us, the two test results are equally low. On this account, acceptance of the second hypothesis should be reconsidered. In other words, we already accepted the second hypothesis fully on the basis of the statistical results, but the theoretical consideration of the extremely deviant profile is quite controversial. It is very difficult to determine whether the subjects did take mentally-ill person's role owing to the medication effect and previous experience or did respond randomly on the 3 rd test session. The only thing we can say, at the point, is that both results reveal an absence of the function of censing effect of the personality in the schizophrenic patients. Therefore, additional research on this factor are recommended.

The next question to be discussed is the third finding, the Mean scores of the first session are more closer to those of the second session rather than those of the third session rather than those of the third session. Two possible meanings of this finding can be considered: First, the way of thinking of the schizophrenic patients is different from the normals, so they might think their way of thinking, which is deviated, as normal. Second, they might repeat their first answering on the second session without paying any attention to the different instruction due to the fact that they are not able to censor and integrate their thought. This factor of the findings is also recommended for further study.

At any rate, the result of the present study brought out some valuable questions and hypothesis that can be worked out.

(11) *Ibid.*, 225.

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