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Mental Health Research in a Psychiatric Setting

By IRWIN J. KNOPF

Modern psychiatric facilities are usually staffed by representatives of psychiatry, psychology, social work, nursing, occupational therapy, and recreational therapy. While each group has in one way or another indicated interest in research, the current overwhelming need for treatment and the dearth of professionally trained personnel have made it necessary for many workers to neglect research activities almost entirely. By tradition and purpose, most psychiatric hospitals focus on service functions and the clinician in this setting is expected to accept this as his principal responsibility. Too often research is viewed as a luxury to be enjoyed sometime in the future when the case load is lighter and leisure time is available.

The particular setting of which I am a member is in function and purpose somewhat different from this sort of psychiatric hospital. It is, as some of you know, primarily a teaching hospital integrated with the College of Medicine at the University of Iowa. The hospital is staffed by the faculty of the Department of Psychiatry who use its facilities for teaching, training, and research activities. While services are provided, patients may be accepted or rejected on the basis of their value in teaching, training, and research, and generally these factors have priority over the individual patient's need for treatment. Research in this setting is not only encouraged, but an expected function of the professional staff.

As I understand it, my assignment today is to discuss some of the problems as well as some of the special features of this setting, and others like it, for research in mental health. The advantages or

special features, I believe, can be noted rather quickly, not because there aren't many, but principally because prosperity is a state of affairs which presents few challenges or difficulties. We can adapt easily to it, and after adaptation we might even come to view it as a basic necessity.

The very fact that settings of this sort are part of medical schools devoted in principal to the advancement of learning serves to encourage research activity. Investigative efforts of colleagues and discussion with those in other areas provide a constant source of stimulation. Funds, facilities and technical know-how are usually present. Problems which arise in the course of teaching and clinical training often give rise to testable hypotheses, and it is likely that in this atmosphere of scientific inquisitiveness clinical impressions, notions, and hunches are clearly separated from verifiable data. Moreover, certain kinds of research are more readily carried out in this type of setting. This applies particularly to investigations requiring patient populations, and the collaboration of specialists in related fields. It also applies to research requiring special laboratory facilities or the assumption of medical responsibility for the subject's welfare. This kind of a hospital typically has on hand individuals representing a wide range of psychopathology in all age groups. Thus, the researcher has the advantage of going beyond the indirect study of mental illness through animals, college students, and various kinds of normal populations to a more direct approach to the factors associated with mental disorders. It is possible to study the factors and/or conditions which produce alterations in these disorders, as well as the direction and the kind of changes which occur. Studies involving the efficacy of various types of treatment regimes can and have been undertaken (8). Studies designed to isolate the important variables in the psychotherapeutic process, along with studies interested in delineating those subject characteristics which are associated with continuance and discontinuance in psychotherapy and favorable and unfavorable outcome as a result of some special treatment are also possible. Perhaps more special to the setting are those investigations which deal with the more physical and pharmacological forms of treatment because these almost always require collaboration with some medical specialty. In the areas of diagnosis and psychopathology, much work can be done to isolate the factors associated with various psychiatric conditions, to improve the status of the diagnostic classifications, and to develop and refine techniques which could be used for diagnostic purposes. In this connection, we are completing a systematic series designed to determine the effectiveness of the Rorschach Method for differential diagnosis (4).

The initial phase of this research was concerned with determining the extent to which Rorschach summary scores could discriminate

among three psychiatric populations. Summary scores from 337 carefully selected Rorschach records obtained from 131 psychoneurotics, 106 psychopaths, and 100 schizophrenics were analyzed. Chi-square tests of independence were computed on 34 Rorschach scores for the total sample, and also for a second sample of 150 which was composed of 50 records drawn randomly from each of the three major diagnostic groups. Only scores which were significant on both samples at the .05 level of confidence or less were considered stable. The results showed that:

1. Most Rorschach scores were not normally distributed.
2. Almost half of the scoring categories had medians of zero and means of less than 1.0, not only indicating that these responses occur infrequently, but also that they are of limited utility for differential diagnosis.
3. Contaminated and position responses can and do occur, albeit infrequently, in all three groups and can not be regarded as pathognomonic of psychosis or schizophrenia.
4. On an overall basis, four scores; Dr%, P. Sex, and Anatomy significantly discriminated among the groups on both samples.
5. When specific tests of significance were made, no single score significantly differentiated all three groups.
6. For practical purposes, Rorschach summary scores can not be regarded as effective in differentiating psychiatric groups.

The second phase of this research bears on another quantitative aspect of Rorschach score, that is, the distribution of scores over the ten stimulus cards for the three psychiatric groups. Although we found previously that there were no significant differences in most summary scores among the groups, we were interested in exploring the possibility that the clinical populations would respond differentially to the different cards. For this study, we analyzed essentially the same Rorschach records as were used in our first investigation. Responses on 21 Rorschach scoring categories for each subject for each of the ten cards were studied. Overall chi-square tests of independence were computed among the three groups for each scoring category on each of the stimulus cards. There were 23 chi-square values which were significant at the .05 level of confidence or less, and this far exceeded the number of chi-square values which could be expected to be significant by chance. The findings strongly indicate the presence of a card by psychiatric group interaction which was obscured in the analysis of the total summary scores. Plans are underway to continue this work by means of a discriminant function analysis. This analysis would not only provide a formula for the most accurate prediction of the criterion (psychiatric group membership), but also permit an evaluation of the contribution which each scoring variable makes to the accuracy of this prediction.

The final part of this series of Rorschach studies is concerned with the clinicians' ability to use Rorschach records to differentiate among psychiatric groups. We are going to ask a group of experienced Rorschachers and a group of graduate students in clinical psychology to sort a random sample of Rorschach records obtained from mental patients into diagnostic categories. Each rater will be asked to specify the basis for his diagnostic judgment. In this way, we hope to determine the extent to which experienced and unexperienced Rorschachers can use "blind" Rorschach protocols for differential diagnostic purposes as well as to determine some of the cues which are employed in this clinical process.

Another area of research in which we are engaged was prompted initially by the work of Brown et al. (1) who introduced a new technique for studying spatial generalization with voluntary responses. This technique differed from the more traditional in that the subject had no prior knowledge as to whether his response to a given stimulus was either correct or incorrect, and the probability that a correct response on one trial was correct on successive trials was less than 1.00. Brown used this task with college students and found gradients of generalization which were similar to those obtained under the more traditional procedures. In our first study, we were interested in determining if findings similar to Brown's could be obtained with psychiatric patients, and if so, would different levels of anxiety effect the slope and height of the gradients (3). Our results indicated that generalization-like gradients can be obtained from psychiatric patients, and that different levels of anxiety do not effect the slope and the height of the gradients.

Our second study was concerned with the question of differences in gradients among psychiatric groups. We studied brain damaged, psychotic depressed, schizophrenic, and psychoneurotic subjects, and found significant differences in both the slope and the height of the gradients between the psychoneurotic and the brain damaged groups, and significant differences in the slope of the gradients between the psychoneurotics and each of the other three groups. We plan to continue work in this area with experiments designed to determine the effect of various motivational conditions on these gradients, as well as studies involving explorations of generalization of psychiatric and neurological patients in the auditory sense modality.

Now turning to some of the problems which arise in a psychiatric setting, I should like first to touch on those which deal with social and ethical considerations in carrying on research with individuals who are mentally ill. Even though the research investigator believes confidently that he has discharged his social and ethical responsibility with respect to patient participation in a given experiment, it is often difficult for him to convince the patient, his family, and sometimes the hospital administration that a delay in treatment or

The introduction of a new and untried form of treatment is justifiable for the purpose of research. This is so largely because the public believes that the delay of treatment means that the patient is being deprived of something which will make him well, and further that the new and untried treatment will in some way harm the patient. In order to resolve this problem, the researcher must point to the large number of chronically ill patients who do not respond to any form of treatment. He must indicate that although all forms of psychotherapy report some successes with some patients, there is little, if any, evidence to conclude that one form of psychotherapy is more effective than another. There is even some question as to whether or not significantly more patients are improved with psychotherapeutic intervention than those who are not given such treatment (2). Essentially, the point he must make is this: In many instances, what we now have to offer some patients, like the schizophrenic, is of little benefit to him. Only through experimentation is there hope that something will emerge which will be of greater value. The Salk-polio experiment dramatically serves as an illustration of this. Nothing was available to combat this disease, and only through careful experimentation was it possible to come up with an effective vaccine.

Another problem which arises is the difficulty in getting large samples of a given psychiatric group admitted to the hospital for study. Our bed space, for example, is limited to a maximum of 60 patients, and because of the teaching, training, and service programs these beds can not be occupied ordinarily by large numbers of a special research group. Consequently, data collection is often a slow process and the investigation is drawn out over several years. As an illustration, one of our studies of stimulus generalization in patient populations has been going on over the last two years, and we have only been able to assemble data on a little over 100 patients, divided into four major diagnostic groups. Obviously, insufficient bed space was not completely responsible for this situation. As you might very well imagine, many more patients were admitted to the hospital during this period. However, some were excluded from the study because of failure to meet the criteria for diagnostic agreement established prior to the start of the experiment, and others were excluded because they were untestable.

The problem of diagnostic criteria has plagued investigators in this area for some time. Researchers are dependent on the psychiatrist's or the psychologist's classification of subjects into diagnostic categories. Most of us are aware of the unreliability of these ratings. This basically stems from the vague and overlapping nature of the behavioral referents involved in the description of the different diagnostic categories. In the last few years, however, Wittenborn (9) and Lorr (6) have developed rating scales which provide the

rater with an objective and quantitative means of describing current symptom patterns of patients. While these scales may be promising, considerably more work needs to be done, particularly in the area of reliability, before the usefulness of this approach is demonstrated (7).

Time permits only brief mention of a final problem which I alluded to previously, that is, the loss of subjects who are untestable for a given research investigation. Unlike situations which deal with people or animals whose behavior both during and after experimentation is understandable, and to a certain extent predictable, the psychiatric setting deals with the mental patient who often is so disorganized and unusual that his behavior is not easily understandable, and prediction of his behavior is not always possible. To a greater or lesser degree, all mental patients show some deficit and impairment in functioning. Some are admitted to the hospital in an acute state of illness in which they manifest hallucinations, delusions, bizarre ideation, etc., and in most instances it is not possible to utilize these individuals in many research investigations. The presence of deficit in mental patients, therefore, limits the kind of investigations possible as well as the kinds of generalizations which can be made from the data.

In summary, I have touched on some of the special features and the problems associated with research activities in a psychiatric setting. The discussion was not intended to be exhaustive, but rather illustrative and selective. While there are unique advantages and contributions which this setting has for research, its limitations indicate that advances in mental health also require the accumulation of data from other populations in other settings.

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