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REPORT

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BEHAVIOR AND ITS CHANGES IN THE RESIDENTIAL TREATMENT OF CHILDREN: A PRELIMINARY REPORT

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This pilot study attempts objective measurement of the interpersonal behavior of children in an integrated psychotherapy-milieu treatment and to assess changes in that behavior. The primary aim was to develop a method to study behavior and the effects of different kinds of therapies. The preliminary findings, however, raised some interesting questions about personality and therapy in themselves.

Behavioral studies to evaluate treatment in inpatient facilities have the advantage that the subject's life space is almost completely available to the researcher. As reviewed (Zax & Klein, 1960), most studies reported in the past have measured only symptoms or highly specific bits of concrete behavior that were thought to be crucial for the pathological picture of the individual. Such studies do have the advantage of being able to measure symptoms reliably.

But, the atomistic descriptions of symptoms omitted the context in which the behavior occurred and as well as broader descriptions of the patients' non-symptomatic behavior. The generalizability of findings was limited, because without sampling the contexts in which the behaviors occurred, we cannot be sure whether the same behaviors would occur in the world outside the treatment milieu. Moreover, since most symptomatic descriptions are not interpersonal, we have no way of comparing directly the interpersonal behavior of the patient with the interpersonal behavior of normal individuals.

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One important exploratory effort which moved toward a field approach in sampling interpersonal behavior was the work of Rausch, Dittman, and Taylor (1959) at the residential treatment project of NIMH. Following the tradition of Barker and Wright (1951), they observed and described samples of behavior in broad and interpersonal terms. Their observations were coded, using the Freedman, Leary, Ossorio, and Coffey system (1951). The coding was based on two polar coordinates: love (affiliate, act friendly)—hate (attack, act unfriendly); and dominate (command, high status action)—submit (defer, low status action). The NIMH research team observed one child at a time in several kinds of settings (e.g. meals, arts and crafts) for as long as they felt they could remember all of whatever interactions occurred and then they dictated a factual report to which the codings were later applied. Their subjects were a group of six impulse-ridden, hyper-aggressive boys. They found that they could describe the distribution of general kinds of behavior and evaluate changes in that distribution. They found that the unmanageable children's most frequent interactions with adults were friendly and compliant. During the course of treatment, the friendly acts increased and the hostile dominant behavior decreased.

Dittman & Goodrich (1961) more recently reported a study comparing the behavior of the above Ss early in treatment with a group of non-disturbed boys of the same age in the same setting. There was considerable similarity between the groups, except in one area: the nondisturbed boys showed more hostile submissive behavior, while the disturbed boys showed more hostile dominant behavior.

The present study is an attempt to improve

the basic approach of behavioral sampling and coding and to explore its applicability to a heterogeneous group of disturbed children. An attempt was made to elaborate on the Rausch et al. method by increasing the meaningfulness of the observations and the generalizability of the findings. The present researchers thought that the most meaningful observations might come from the most natural participant observers. The child care workers, or sociotherapists, were part of the children's life rather than being outside observers intruding on the milieu. They collaborated with skilled interviewers who helped clarify their observation and who helped them to make strictly behavioral-descriptive, non-inferential reports.

Interviewing sociotherapists at the end of their shifts was a major change in method. Interviewing allowed a thorough and sensitive sampling of many different interpersonal situations. An interview was developed to inquire into the observed behavior of children in reaction to what the staff of the center considered the significant interpersonal situations throughout each whole day. Only school time and the time between retiring and rising were omitted.

METHOD

The Setting and Subjects

The Residential Treatment Center of the Convalescent Hospital for Children is an intensive treatment, training, and research setting for a small group of disturbed children between 5 and 12 years of age. The observations were made on the first six children admitted, all boys between the ages of 10 and 12 years old. The group included one psychotic and one neurotic boy, and four boys with mixed hyperaggressive and psychotic features.

Research Design

Three series of interviews were carried out, the first series one year after admission, the second and third series five and thirteen months later. At the time of the first interviews, the boys were living in an old urban children's hospital. A week before the second interviews, the boys were moved into new cottage quarters in the suburbs and were joined by 11 other children. At the third and last administration, two boys had been discharged,

so that four Ss were the basis for the principal data analyses.

The Interview

At 3:00 P.M. and 10:00 P.M. a psychologist interviewed the two shifts of sociotherapists who had just finished their workday. They had been with the children since 6:45 A.M. or 1:30 P.M. The sociotherapists were told of the interviewer's interest in only the children's behavior, and they knew nothing of the design and the purpose of the project. The interviews were tape recorded, and the interviewer confined his participation to presenting the series of questions for each child, clarifying the responses, and keeping the reporter to a factual account of the child's behavior. Since the observations came to the tape recording through the eyes of a person rather than photographically, it was important to vary the reporting sociotherapists (the observers) each day. In seven days of interviewing each of six sociotherapists was used two or three times to report about the children on that shift. In other words, the block of data covering seven days for each administration contained a sampling of all observers.

The interview contained the following questions:

1. How did (child) react to people when he was getting up this morning? What did he do? (A.M. Shift)
2. During the day there is usually some time when you have to stop someone from doing something he isn't supposed to do. Can you think of a time today? What did _____ do when you tried to, or did, stop him?
3. Can you remember a time when there was a switch from one of these activities: skating or some other sport, TV, or arts and crafts, and you had to call a halt to one and begin another? What did _____ do when you told him it was time to finish what he was doing?
4. What did _____ do when he saw a change in shift of sociotherapists when someone, for instance you, came on or were leaving?
5. What was _____ reaction to a reminder about performing a routine like taking a bath or brushing his teeth or doing his job?
6. Was there a time today when _____ was told he would have to wait a while to do something he wanted to do? How did he react to this?
7. What did _____ do at the table when dinner was being served?
8. Was there a time today when another boy attacked or teased him? What did he do then?
9. Was there a time today when he tried to do something but failed or was having a hard time doing something? What did he do?
10. Did anything unusual happen today?

Data

Since each S's behavior was described in 10 situations in each interview over the course of

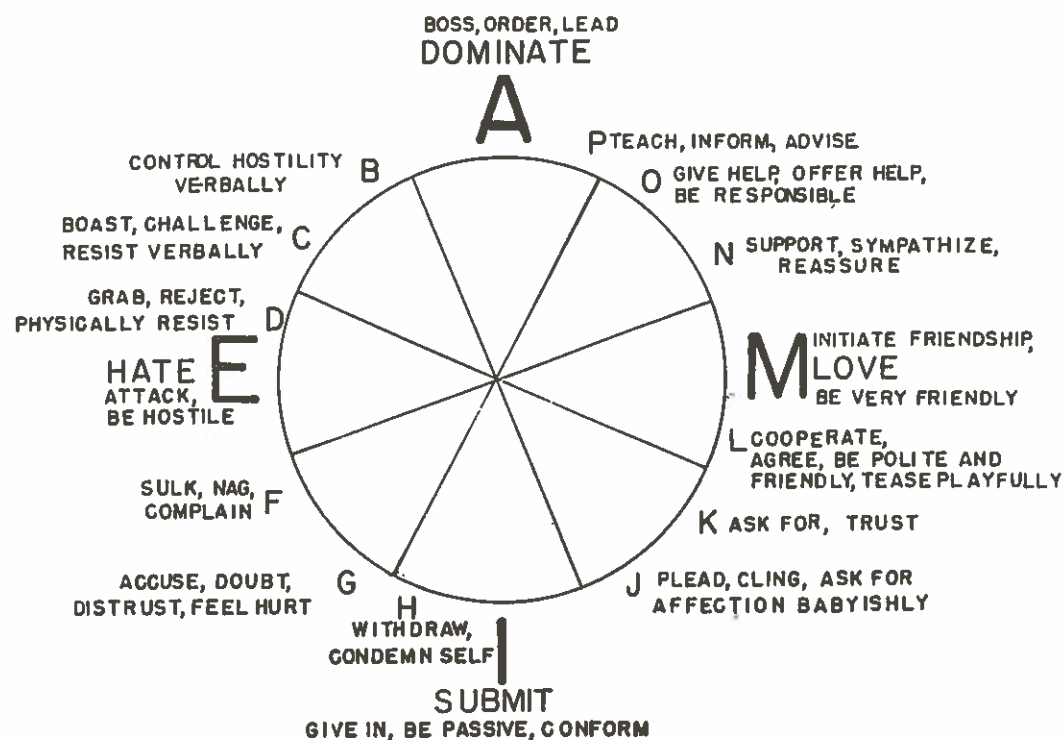


FIGURE 1

14 interviews, there were approximately 140 observations for each boy in a given interview series. Two judges listened to the tape recordings of each interview and independently assigned each behavior to one of the 16 categories of the Freedman, et al. coding system which is described in fuller detail in Fig. 1. Some modification of the scheme was made in octant BC. The frequency of some of the behaviors falling into some categories was so low that it was decided to combine data. The 16 categories were grouped, therefore, into 8 pairs, or octants, as suggested by Leary (1957). An inter-judge reliability check was done on a sample of two interviews from each S. On these 120 observations, the judges were in the same octant 90 percent of the time. At the end of the coding, their judgments were pooled and disagreements were discussed and decided on by consensus.

RESULTS

The major analysis of results was a three-way analysis of variance consisting of the four boys \times three sets of interviews \times eight

octants of the descriptive scheme. The results are presented in Table 1. Two of the F ratios are particularly important; the pattern of behavior for each child ($O \times C$) is significantly different from other children ($F = 42.82, df = 21/42, p < .01$) (b). There was a shift in behavior ($O \times T$) among the administrations ($F = 10.69, df = 21/42, p < .01$). Table 2 is a more detailed analysis of the Octant \times Time interaction. It appears that the frequency of behavior falling in most of the categories changed significantly over the 13 month period of the study. The most prevalent behaviors were those classified as affectionate-cooperative, and verbal aggressive. The least frequent were helping and directive behavior. The greatest absolute amount of change occurred in two octants. The passive aggressive behaviors increased and the verbal aggressive behaviors decreased.

DISCUSSION

In comparing these results to the previously mentioned findings of Raush, et al, we must remember that they used quadrants rather

TABLE 1
ANALYSIS OF VARIANCE FOR REPEATED OBSERVATION OF THE FREQUENCY OF BEHAVIORS OF CHILDREN CODED IN DIFFERENT OCTANTS

Source	df	Mean Square	F
Octant	7	1242.078	7.40*
Time	2	28.197	5.71*
Child	3	6.817	ns
Octant \times Time	14	41.912	10.69*
Octant \times Child	21	167.827	48.82*
Time \times Child	6	4.941	ns
Child \times Time \times Octant	42	3.914	

* $p < .01$.

than octants. Nevertheless, the basic distribution they found was similar to that found in this study, i.e., high affectionate-cooperative and low physical-aggressive behavior. It is interesting to note that one of the least frequent behaviors is that which is one of the most frequent referral complaints.

However, the changes in behavior took a different direction in the present study. Raush et al found a decrease in their hostile-dominant quadrant and an increase in their friendly-complaint quadrant with no changes in their hostile-submissive quadrant. The present results showed a decrease in the verbal-aggressive octant (hostile-dominant quadrant), with a concomitant increase in the passive-aggressive octant (hostile-submissive quadrant) and no increase in the friendly-affectionate octant (friendly-compliant quadrant). The data suggest that the children in the present study showed not so much a drop in hostility as a change in the way they express these feelings and relate to other people.

It is of interest to consider this pattern of

change in relation to the previously mentioned finding of Dittman and Goodrich. Their matched group of non-disturbed boys showed more hostile-submissive behavior than the hyperaggressive subjects. Dittman and Goodrich also employed quadrants, but the octants within them which are responsible primarily for the quadrant frequencies are those which in the present study were named verbal-aggressive (for hostile-dominant) and passive-aggressive (for hostile-submissive).

An understanding and evaluation of any of these results requires some knowledge of the expectations of the staff, their personal stereotypes of each child and disturbed children in general. Actually this raises complex problems of the interpersonal treatment process, at levels deeper than those of conscious expectation. However, expectations seemed the most pressing question. Were the children learning to live up to staff expectations? Were the adult observers, in their reporting, biased by their own stereotypes of the children?

A survey of attitudes was carried out, after

TABLE 2
CHANGES IN PROPORTIONS OF BEHAVIORS CODED IN OCTANTS

Octant	1960	1961
BC: Controlling Verbal Aggression	24.0%	17.0%*
DE: Physical, Active Aggression	1.6	6.2*
FG: Passive Aggression	6.8	12.6*
HI: Withdrawal	18.6	15.5*
JK: Passive Dependent	8.3	8.5
LM: Affection Cooperation	32.7	31.2
NO: Support, Help	6.9	3.7*
PA: Direction	1.1	2.3

* $p < .01$ Based on tests of the mean differences

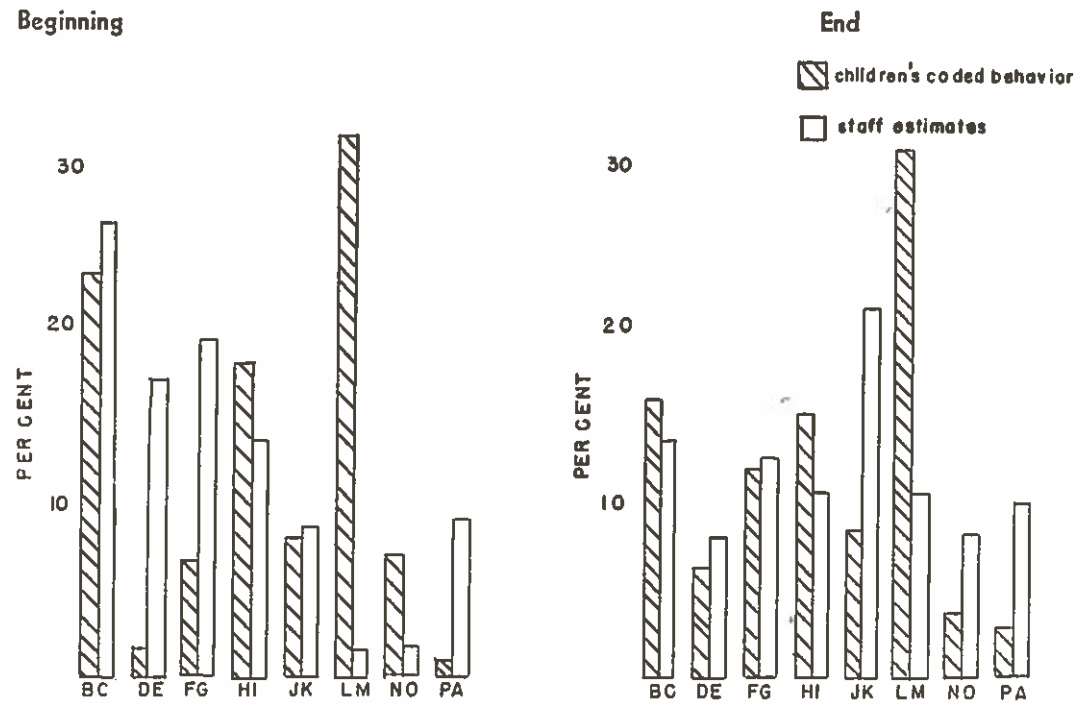


FIGURE 2. Comparison of Staff Estimates with Actual Frequencies of Children's Behavior at Beginning and End of Study.

the data of the main study had been collected (but not reported). Five of the sociotherapists participating in the main study and four of the professional staff were asked to estimate on the rating scale shown in Figure 1 the percentage distribution of behaviors of the total group of children at the times of the first and last administrations. The results of the survey are shown in Figure 2.

The staff group rather uniformly saw the children's behaviors as predominantly aggressive at the beginning of treatment. They saw as most prevalent verbal-aggression, passive-aggression, and physical aggression. They judged that there was very little affectionate-cooperative behavior. The main study (through the eyes of the observing-reporting sociotherapists) had found only verbal-aggression high, and found the highest proportion of behaviors to be affectionate-cooperative.

When it came to expectations, or estimations of change, the staff group described a much more nearly even distribution of behaviors. Friendliness was estimated generally to have increased and aggression decreased.

They estimated a drop in verbal and physical aggression and passive-aggressive behavior, whereas the main study had found a drop in verbal but a small rise in physical aggression and a marked rise in passive-aggressive behaviors. They estimated a rise in passive-dependent, cooperative, and helpful behaviors. The main study found no change in the first two and a decrease in helpful behaviors.

Summarizing the results: there was a difference between the staff group's perception of the boys' behavior and the more objective description of their behavior derived from the coding of the concrete, descriptive reports. The staff group exaggerated the frequency of aggressive behavior among the boys and minimized the frequency of friendly interactions. The staff's expectation of change and the actual direction of the change were also at variance. The staff ideas (but not the main study) about the nature of the boys' progress support the outcome of Raush *et al*, that hyperaggressive behavior was supplanted by cooperative behavior in the course of 18 months of observation.

Yet, according to the results of the present observational study, the children remained as frequently aggressive, but dealt with the aggression differently through more passive and more controlled channels. Their behavior became similar to that of Dittman and Goodrich's non-disturbed boys who were as frequently aggressive as the disturbed group but handled their aggression in indirect, controlled ways (passive-aggressive).

Limitations

The small number of subjects in this pilot study makes the findings only suggestive; indeed, we are comparing findings of one small sample study with another similarly small.

The present study risked a bias of the natural observers who were ego-involved as sociotherapists for the children. The side study suggests that their conscious expectations, at least, did not distort their observation. Yet the possibility remains that the observer-reporters' concern with their adequacy as sociotherapists may have led them to describe the children as being more cooperative than they actually were, since a cooperative child may reflect a skillful sociotherapist. The correspondence of the high cooperative frequency in the NIMH study, however, where non-involved observers were used, does not seem to support this explanation.

Implications

Why did the staff's estimates of the children's behavior differ so much from the observations of the behavior?

It seems likely that we tend to forget the degree of socialization and adaptation which disturbed children possess; so that we underestimate their ability to cooperate. Secondly, it seems likely that we are particularly sensitive to physical aggression. The physical saliency of a direct attack makes for an impact which increases estimates of its frequency. Finally, the perception of low cooperation might serve to justify a therapeutic social role, and to exaggerate the difference between the "patient" and the "doctor" by stereotyping the "patients". It reminds us of Nunnally's (1961) finding that the general public tends to exaggerate the undesirable qualities of people with emotional problems.

The staff's estimates of the direction of changes may have been wrong because the higher frequency of passive-aggressive behaviors into which the children's behavior moved may be threatening for therapeutic workers to notice.

Although passive-aggressive behaviors are not socially desirable or consciously expected by the staff, it does not necessarily follow that passive-aggressive behaviors are deeply unacceptable. The pragmatic contradiction remains that the people who mistakenly estimated a decrease in these behaviors were the very same people who did the discharging of these children as improved. It may be that although passive-aggressive behaviors are actually and concretely accepted, they are not willingly admitted into conscious concepts of a normal behavioral repertoire.

The discrepancy between the findings of the present study and those of Raush *et al* regarding the direction of change may be due to the broader range of inter-personal situations sampled in the present study. The distribution of behavior may actually be different under these circumstances. The difference in the nature of the two small samples of subjects may also be quite significant. Not only may the qualitative differences in disturbance be significant. The heterogeneity of disturbances in the present sample versus the homogeneity of the sample of impulse-ridden children would most likely have created different contexts within which treatment took place. Homogeneous and heterogeneous groups would be experienced differently by a child. However, despite population differences, the findings of both studies are quite similar in the early part of treatment.

Differences in the institutions should also be considered. Subjects in the present study were subjected to a change in environment during the course of the study when they moved from an urban hospital to a suburban cottage setting where more children were added to the group.

Finally, the differences in the direction of change may be affected by differences in the kind of treatment.

The present method suggests itself as a productive approach to further research, and may provide more surprises for therapeutic work-

ers. Further research should also be done to explore the influence of *different* expectations on the actual direction of behavioral changes.

The findings of the present study about the direction of behavioral change suggest that the influence of the therapeutic workers is very similar to that of the socializing agents of the general culture.

Finally, the most important hypothesis this pilot study suggests for further research is that what distinguishes the disturbed child may not be the kinds of feelings he has but the way in which he relates these feelings to other people. Disturbed children would not, then, be characterized as different regarding these basic feelings, but as having difficulty in relating their feelings to other people. A movement, or growth, into passive-aggressive behaviors must, after all, allow, and probably reflects the accomplishment of, closer emotional interchange with other people than the

more distance-producing active-aggressive behaviors.

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