

## EFFECT OF NURSES' MODE OF DRESS ON BEHAVIOR OF PSYCHIATRIC PATIENTS DIFFERING IN INFORMATION-PROCESSING COMPLEXITY<sup>1</sup>

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An attempt was made to assess the impact of nurses' mode of dress (uniform vs. street clothes) on the perception and behavior of patients differing in the degree of their dependence on stereotypic information in the decision-making process. It was found that a nurse in uniform was perceived more stereotypically, that is, as more of a benevolent autocrat, than the same nurse in street clothes behaving the same way. This was most dramatically demonstrated in patients characterized by their extreme dependence on stereotypic information. Additionally, it was also found that patients who were very dependent on stereotypic information behaved less adaptively in the experimental social interaction with a nurse in street clothes due to their tendency to withdraw from the interaction. The therapeutic implications of these findings are discussed and suggestions for future research are considered.

The emphasis on returning patients to the community at the earliest possible moment has caused nurses and other workers in the mental hospitals to look closely at the effects of setting or milieu on patient recovery (Hawkins, Claghorn, & Zentay, 1966). One result of this process has been the suggestion that dressing nursing personnel in street clothes might increase participation and socialization between the staff and patients and thereby facilitate recovery (Larson & Ellsworth, 1962). Those who argue for this alternative assume that the uniform symbolizes and makes salient the power and status differences that exist between nurse and patient and that this is antitherapeutic in a psychiatric setting (Hurteau, 1963). There are those, however, who believe that the uniform symbolizes nurturance and security, and that street clothes are anti-therapeutic in that they make the patient feel less secure (Hurteau, 1963). Since increasing numbers of hospitals are considering changing the dress of their nursing personnel, the question of how patients may be expected to respond to a nurse in street clothes as op-

posed to a nurse in uniform would seem to be a crucial one.

Unfortunately, careful research on this problem of the effect of nurses' clothing on patients' behavior in psychiatric settings is "largely nonexistent" (Larson & Ellsworth, 1962). Further, the research that does exist is contradictory. Goldberg, Offer, and Schatzman (1961) found that patients are generally in favor of nonuniform clothing but could find no evidence that the interaction between nurse and patient changed as a result of nonuniform clothing. Larson and Ellsworth (1962) also failed to find any measurable differences in patients' or personnel's perceptions of nurses as a function of what they wore. Hawkins et al. (1966), on the other hand, found that nurses in street clothes were approached more frequently by patients than were nurses in uniform except when the patients were newly admitted and acutely ill. All studies, however, found wide differences in the reactions of the nursing personnel who participated in the studies to wearing nonuniform clothing. This suggests that the differences in results reflect differences in the attitudes and behaviors of the nurses who participated in the studies. In addition, none of the studies carefully controlled for patient differences, which the Hawkins et al. (1966) study indicates are probably also responsible for the incongruous findings.

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The present study, which was designed to control for those variables that appear to have confounded previous research, attempts to answer the following three questions: (a) Do patients perceive a nurse dressed in street clothes differently from that same nurse dressed in her uniform when her behavior is carefully preprogrammed so that it is identical in both conditions? (b) Do patients behave differently with a nurse dressed in street clothes than they do with that same nurse dressed in her uniform when her behavior is preprogrammed, and if so, how do they behave differently? (c) Do patients differing in the way that they characteristically use information about their environment in decision making differ in their perceptual and behavioral responses to a nurse as a function of her mode of dress?

To make the study of theoretical as well as of practical interest, the following hypotheses were generated out of an information-processing approach to behavior: (a) Nurses in general would be stereotypically seen by patients as "benevolent autocrats," that is, as representatives of institutional authority who are expected to be both controlling and nurturant. (b) A nurse's uniform is a stimulus configuration that provides patients with information or cues that make this "nurse stereotype" particularly salient. Also, a nurse in street clothes would, therefore, be less likely to be perceived stereotypically, that is, as controlling and nurturant, than a nurse in uniform. (c) The degree to which a nurse would be perceived stereotypically by patients would depend not only on how she was dressed but also on the degree to which the patients in question were prone to perceive stereotypically. (d) The behavior of patients in an experimental social interaction with a nurse would be a function of both the degree to which their stereotypic perceptions and expectations of nurses in general were made salient by the environment, and the degree to which the patients were prone to use this stereotypic information rather than actual feedback in decision making.

To test the above hypotheses, patients were assigned to one of two groups on the basis of their scores on a paragraph completion test designed to measure level of cognitive com-

plexity (Schroder, Driver, & Steufert, 1967). Patients categorized as Level I or Very Simple Information Processors were characterized by the stereotyped way in which they indicated they perceived their environments and by the lack of emphasis that they put on interpersonal feedback as a way of discovering more about environmental events. Simple Information Processors (Level II patients) were generally less prone to perceive their environments stereotypically than Level I patients, and at least made some mention of the possible usefulness of interpersonal feedback in interpreting an event or maximizing an outcome.

Equal numbers of Level I and Level II patients were then assigned to the two experimental conditions. In the uniform (UN) condition the patients interacted with a nurse in her uniform, while in the street clothes (SC) condition patients interacted with the same nurse in her street clothes. In both conditions, the nurse's behavior was presumably the same (the experimental situation is described below).

The Leary Interpersonal Checklist (Leary, 1957) was administered to patients both before and after the experimental interaction. On the first administration they were asked to describe themselves, their ideal, and their conception of "nurses in general" (the nurse stereotype). On the second administration, they were asked to describe their partner in the experimental interaction. For the nurse and partner descriptions, Dom scores were taken as reflecting autocratic and controlling tendencies and Lov scores as indicating benevolence and nurturance. Specifically, the predictions for the perceptual data were as follows: (a) "Nurses-in-general" should be stereotypically described as benevolent autocrats; that is, more than one standard deviation from the mean in the direction of autocracy on the Leary Interpersonal Grid. (b) Nurses in street clothes should be perceived as less dominant and less loving than nurses in uniform. (c) Level I patients should perceive their partners more stereotypically than Level II patients.

The experimental game analog for a dyadic social situation used in this study was modeled after the Deutsch-Krauss "trucking" game

(Deutsch & Krauss, 1962). The game format is presented in Figure 1. The game was built using HO gauge model railroad track and model trolleys. Details of the apparatus may be found in Leff, Nydegger, and Buck, 1968. Players, in this case a patient and a nurse dressed either in her street clothes or her uniform, were asked to pretend that they were the owners and operators of trolley companies. They were then instructed that they had two routes available to them to carry passengers to their goals by means of the trolleys they controlled: a long route and a short route. It was explained that taking the long route meant earning a small profit, whereas taking the short route netted one a large profit. However, it was also pointed out that only one

trolley at a time could use its short route because each short route involved some track common to both trolley lines. Two trolleys on the short route would block each other and have to stop. Since "time was money" in this game, it was noted that the longer such "standoffs" were allowed to continue, the more money the trolley companies would lose. Thus, it was implicit in the structure of the situation that the two trolley companies had to work out some cooperative solution to using the short track if they wanted to maximize their long-term gain.

Essentially an *S* may do three things during the course of this game: (a) he may withdraw from the interaction by taking the long track; (b) he may consistently take the short track

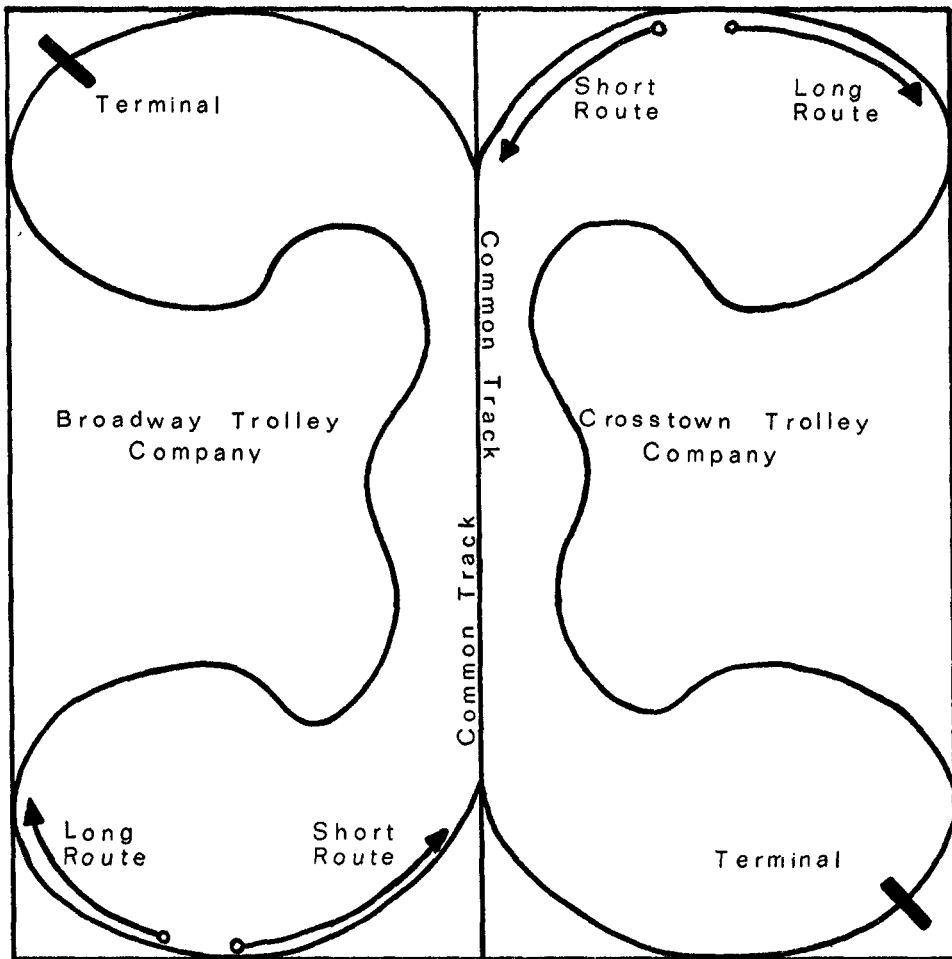


FIG. 1. Schematic diagram of the experimental trolley game.

and stand off in an effort to "bully" his way through if he meets the other; or (c) he may attempt to achieve some cooperative solution to the use of the short track by showing a willingness to compromise, but an unwillingness to be exploited. Based on the characteristics of Level I and Level II patients, the following predictions were made about interpersonal behavior in the experimental social situation using these three types of responses as dependent behavioral variables: (a) Level I Ss in the street clothes condition should engage in less conflict, withdraw more frequently, and maximize their payoffs less frequently than Level II Ss in that condition. (b) Level I Ss in the uniform condition should engage in less conflict, withdraw less, and maximize their payoffs more than Level I Ss in the street clothes condition.

#### METHOD

##### *Subjects*

The Ss for this study were 20 patients from one ward at the Jefferson Barracks Veterans Administration Hospital. These 20 patients were the maximum number of patients from that ward that could be matched carefully enough for the purposes of this study. One of the Ss, it was discovered, had had previous interaction with the nurse who participated in this investigation and had to be dropped from the sample, reducing its size to 19. A nurse who had no knowledge of the study's hypotheses was chosen to serve as the "other" in the experimental interaction.

##### *Procedure*

Prior to engaging in the experimental task, Ss were given the Schroder et al. (1967) Paragraph Completion Test (PCT), to ascertain level of cognitive complexity, and the Leary (1957) Interpersonal Checklist (ICL), to measure patients' perceptions of themselves, their ideals, and nurses in general. The patients were then divided into two groups on the basis of whether their PCT scores were above (Simple Information Processors or Level II patients) or below (Very Simple Information Processors or Level I patients) the median PCT score for the sample. An effort was then made to equate the two groups with respect to race, age, education, years of hospitalization, diagnosis, and Leary ICL scores for Dom, Lov, and Level of Self-Esteem (Self-Esteem was operationalized as the linear distance between the self and ideal summary points on the Interpersonal Grid). To test the adequacy of the matching, differences between these measures for the Level I and II patients were analyzed by *t* tests. None of the differences tested were significant.

Within levels, Ss in the SC condition were matched for the purposes of comparison with Ss in the UN condition on the basis of their PCT scores and on the basis of their Dom, Lov, and Self-Esteem scores.

A few days after they had been pretested and assigned to one or the other of the experimental conditions, patients were given appointments for the second part of the experiment. When a patient appeared for his appointment, he was seated in the room with the apparatus in it. Shortly thereafter, the nurse would appear.<sup>3</sup> Irrespective of her mode of dress, she was introduced as "Nurse \_\_\_\_\_," and was referred to in this manner throughout the experiment. After being introduced, the nurse would shake the patient's hand, say only, "Hello, Mr. \_\_\_\_\_," and take her seat. Her position was such that the patient could see her back if he tried to, but not her face or her trolley (except when it came onto the common track). Both patient and nurse were then instructed as to the operation of the trolleys and the payoffs associated with taking the various routes. They were told to try and earn as much imaginary money for themselves as possible. Since the patients all came from a ward where tokens were used to reinforce desired behavior, they were told that the imaginary money that they earned could be converted into tokens at a later date. After each trial, *E* announced out loud the profits or losses of each individual. Both the nurse and patient were given pencil and paper to keep track of their payoffs if they wished. The experiment lasted for 14 trials, after which each patient was taken to another room and asked to use the ICL to describe his partner.

Throughout the trials, the nurse's strategy in both conditions was one of alternation. On all odd trials, she let the patients through first. On all even trials, she demanded to go through first by moving on to the common track and refusing to back up.

The *E* noted both the time it took a patient to complete a trip and the strategy he used, that is, whether he cooperated, withdrew, or engaged in conflict. The measure of amount of time spent in conflict was derived from the amount of time on any given trial that the patient spent in a standoff. If a patient took less time to complete a trip (i.e., earned more money) than he could by withdrawing, the trial was considered one on which maximization had occurred.

##### *Experimental Design*

The perceptual data were analyzed within the framework of a  $2 \times 2$  factorial design, the two independent variables being the level of information processing and the nurse's mode of dress. Nonparametric statistics were used for the behavioral data because of the essentially ordinal nature of the data and because of the small sample used.

<sup>3</sup> The authors wish to express their appreciation to the Jefferson Barracks Nursing Service and in particular to Carmen Symes and Anna-Lee Chalfant, without whose help and cooperation this study would not have been possible.

TABLE 1  
 MEAN DOM AND LOV SCORES FOR THE NURSE STEREOTYPE AND PARTNER  
 DESCRIPTIONS AS A FUNCTION OF LEVEL OF INFORMATION  
 PROCESSING AND NURSE'S MODE OF DRESS

| Patient group           | Description       |       |                          |       |                   |       |                          |       |
|-------------------------|-------------------|-------|--------------------------|-------|-------------------|-------|--------------------------|-------|
|                         | Nurse stereotype  |       |                          |       | Partner           |       |                          |       |
|                         | Uniform condition |       | Street clothes condition |       | Uniform condition |       | Street clothes condition |       |
|                         | DOM               | LOV   | DOM                      | LOV   | DOM               | LOV   | DOM                      | LOV   |
| Level I                 | 64.20             | 54.60 | 62.40                    | 50.80 | 66.00             | 50.20 | 56.40                    | 54.40 |
| Level II                | 67.00             | 45.20 | 65.20                    | 52.20 | 64.60             | 57.80 | 58.00                    | 50.00 |
| Level I and<br>Level II | 65.60             | 49.90 | 63.80                    | 51.50 | 65.30             | 54.00 | 57.20                    | 52.20 |

## RESULTS

### *Perceptual Data*

These results were derived from the ICL data on the preexperimental and postexperimental questionnaires. Dom and Lov scores were calculated according to the standard formulae in Leary (1957). The Dom scores were assumed to reflect the perception of dominant-controlling behavior in the other, the Lov scores as indicative of the perception of the other as nurturant and protective. Table 1 depicts the means for the perceptions of nurses in general (nurse stereotypes) and the partner perceptions as a function of Level of Information Processing and nurse's mode of dress.

### *Nurses in General*

Patients' descriptions of nurses in general placed them more than one standard deviation from the mean of the Leary Grid in the direction of greater autocracy. This was due almost solely to the extreme dominance ratings they received. The mean Dom score for the nurse stereotype was 64.70. The mean Lov score was 50.70. Both Dom and Lov scores are standard scores. Thus, the mean Dom score for the nurse stereotype differed significantly from the mean Dom standard score of 50 ( $p < .02$ ).

### *Effect of Nurses' Mode of Dress on Patients' Perception*

The nurse who interacted with patients in this study was described as significantly less dominant ( $F = 14.86$ ,  $df = 1/15$ ,  $p < .01$ ) and significantly less loving ( $F = 5.50$ ,  $df = 1/15$ ,  $p < .05$ ) when she wore her street clothes than she was when she wore her uniform. No significant effects were found for Patients' Level of Information Processing or for the Mode of Dress  $\times$  Level of Information Processing interaction.

Another analysis of variance was calculated on the discrepancy scores between patients' nurse stereotypes and their partner descriptions for both Dom and Lov scores. This analysis of variance showed that when the patient's partner was in street clothes, patients in this condition saw their partner as significantly less dominating than their nurse stereotypes ( $F = 4.89$ ,  $df = 1/15$ ,  $p < .05$ ). No significant differences among the Dom discrepancy scores were found as a function of Level of Information Processing and nurse's mode of dress, although there was a tendency for Level I patients to perceive their partners more stereotypically than Level II patients as Table 1 shows. With respect to the Lov scores, no significant differences were found.

### *Behavioral Results*

For the purposes of this analysis, the behavior of the patients was broken down into

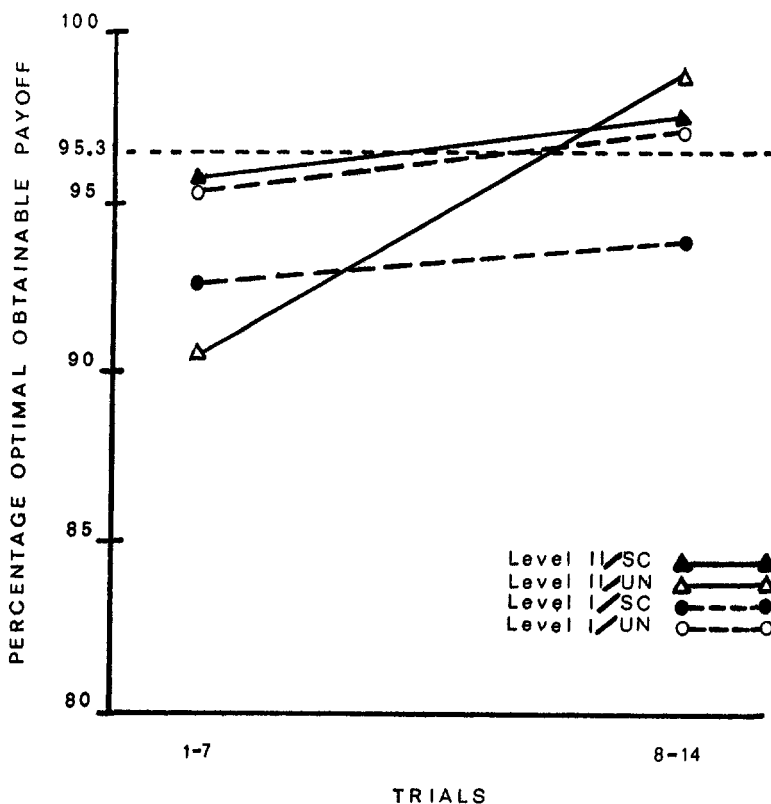


FIG. 2. Median percentages of optimal obtainable payoffs for Level I and Level II patients in the street clothes and uniform conditions on the first and second trial blocks. (95.3% is the maximum percentage of optimal payoff obtainable by withdrawal.)

two trial blocks. Trial Block 1 included Trials 1-7, Trial Block 2 included Trials 8-14. Previous research<sup>4</sup> has indicated that patients who are going to maximize consistently usually begin doing so after six or seven trials.

Figure 2 depicts the median scores for each of the experimental groups in terms of percentage of optimal payoff obtained on the two trial blocks. These figures reflect the actual time that it took the patients in the four groups to complete their trips. The results of the nonparametric analyses of this data may be summarized as follows:

**Trial Block 1.** An analysis of the responses made by the Ss on Trials 1-7 in the SC condition indicated that Level I patients spent significantly more time in conflict and made

significantly more withdrawal responses than Level II patients ( $p < .05$ , Fisher's exact test with Tocher's modification, Siegel, 1956); whereas Level II patients made significantly more maximizing responses than Level I patients ( $p < .025$ , Fisher's exact test). No significant differences in number of withdrawal, conflict, or maximizing responses were found between the two groups for the first seven trials in the uniform condition.

When Level I patients in the SC condition were compared with Level I patients in the UN condition, there was more withdrawal in the SC condition than in the UN condition and less maximization. Here the small sample size completely prohibited significance testing, but the direction of the differences suggests that Level I patients behaved more adaptively from the point of view of outcome maximization in the UN condition than in the SC con-

<sup>4</sup>S. Leff and R. Schenberg. Paranoid schizophrenia and the development of interpersonal trust. Unpublished paper, 1967.

dition. No differences were found for the Level II patients as a function of the nurse's mode of dress.

*Trial Block 2.* On Trials 8-14, the only significant difference between the two groups of patients was found in the SC condition. Level I patients continued to withdraw more than Level II patients ( $p < .05$ , Fisher's exact test with Tocher's modification).

When an attempt was made to examine differences within patient groups as a function of nurse's mode of dress for the second trial block, the only difference found in the Level I patients was in the distribution of conflict. There was more conflict in the SC condition than in the UN condition for four out of the five matched Level I pairs.

#### DISCUSSION

The predictions for the perceptual data were generally confirmed: (a) Patients did tend to perceive "nurses in general" as benevolent autocrats, although they tended to emphasize their autocratic qualities (dominance) significantly more than their benevolence (nurturance). (b) A nurse in street clothes, with whom patients engaged in a structured interaction, was perceived by them as less dominant and less nurturant than was a nurse in uniform with whom they interacted. (c) A nurse in uniform was perceived stereotypically to a significant degree, while the same nurse in street clothes was not. Level I patients did tend to perceive their partners more stereotypically than Level II patients. With respect to Dominance, the partner perceptions of the Level I patients interacting with the nurse in uniform were the most stereotyped.

Thus the data lend support to the hypothesis that a nurse's uniform is a source of stimulus information that makes salient a patient's nurse stereotype. In addition, the hypothesis that the degree to which the stereotype will be made salient depends also on the patient's predisposition to perceive stereotypically was supported by these findings.

The predictions for the behavioral data were essentially confirmed, but require some discussion. The Level I patients in the street clothes condition did behave less adaptively

than the Level II patients in that condition, although this effect was less marked on Trials 8-14. Thus, these data lend strong support to the hypothesis that at least initially patients who are characterized by their dependence on stereotypic information (Level I) will respond less adaptively to a nurse in street clothes than patients who are more attuned to interpersonal feedback in maximizing their own outcomes.

The data less strongly supported the hypothesis that Level I patients interacting with a nurse in uniform would perform more adaptively than Level I patients interacting with a nurse in street clothes. The former did behave more adaptively than the latter, but not significantly so. This hypothesis, therefore, requires further testing, preferably with much larger samples.

With respect to the first behavioral hypothesis, the fact that the present predictions did not hold completely for the second trial block was not surprising. The problem posed the patients by the experimental game situation was a fairly simple one. Almost all of those patients in both conditions who did not seek to avoid interaction by using the long track appeared to have recognized the nurse's pre-programmed strategy of alternation by Trial 8. Many of these patients, particularly those in the uniform condition, then went on to avoid conflict and maximize their earnings for the second trial block. Three out of five of the Level II patients in the street clothes condition, however, actually increased the amount of time they spent in conflict, whereas only one out of five of the Level I patients in that condition did so. This probably reflects the fact that Level II patients, who were less prone to see the nurse in street clothes stereotypically, were therefore more likely to see her as influenceable than the Level I patients. The net effect of this change in the second trial block was to eliminate the significant differences between the Level I and Level II patients in the street clothes condition with respect to number of maximizing responses and amount of time spent in conflict. Significantly, those patients who exhibited initially high levels of withdrawal (four out of five of whom were Level I patients) in the street

clothes condition continued to withdraw on Trials 8-14.

### Implications

Institutionalization occurs when a patient gives over the direction of his life to benevolent, institutionalized authority and gives up any expectations of ever taking it back. On the basis of this study, it would seem that a nurse in uniform is more likely to be seen as a representative of such benevolent, institutionalized authority than is a nurse in street clothes, and that the former is more likely to elicit more compliant, less assertive, more "institutionalized behavior" than the latter. However, it would not appear to be necessarily therapeutic merely to dress staff in street clothes without considering the characteristic behavior of individual patients. Some patients may become less rather than more assertive in the absence of the reassuring atmosphere of nurturance and protection that the uniform creates. Other patients who view the change as an opportunity rather than a threat may become less compliant and more assertive and demanding. In general, patients may be expected to find it more difficult to judge how to behave toward staff. Staff, on the other hand, may find their institutionally derived authority diminished. As a result, patient-staff relationships may (and probably should) become less routine and require more consideration. It would appear, therefore, that changing the dress of nursing personnel requires careful planning and preparation.

The need for staff preparation brings us to the final point. The present study has only considered the effect of dressing nurses in street clothes on patient perceptions and on patient behavior. However, there is important evidence that staff perception and behavior may also be expected to vary toward such a

change. This possibility heightens the need for research that would shed light on the way in which staff perception and behavior change as a function of what they wear. One method for doing such research that this study suggests would be to have nurses, differing in crucial personality characteristics and in their attitudes toward their role in the treatment process and dressed either in street clothes or their uniforms, interact with a pre-programmed patient in the Deutsch-Krauss situation. Their perceptions and behavior could then be analyzed as were the perceptions and behaviors of the patients in this study.

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