The Measurement of Conforming and Nonconforming Behavior in Preschool Children[1]

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Introduction

The present research is seen as a contribution to the study of the nature and development of creative ability. Nonconformity, which is postulated as a motivational characteristic of the creative person, has been chosen for study. Theoretically, the creative person is willing to be a nonconformist, but he is not a compulsive nonconformist. Thus the prob-

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lem is one of developing instruments which will discriminate between the child who is a *compulsive* conformist or noncomformist and the child who is *free* to use either conforming or nonconforming behavior. Creative ability is a multidimensional quality, and a variety of instruments will be needed for the identification of the potentially creative preschool child.

Taylor (1959) categorized the characteristics of the creative person as (a) intellectual and (b) motivational-interest. The intellectual characteristics are those which seem to be valid indicators of creative talent, e.g., originality, adaptive flexibility, and the ability to sense problems. Motivational-interest characteristics are those which may facilitate the expression of creative ability, e.g., freedom to be a nonconformist, and willingness to try the difficult. Research findings (Guilford, 1957; Torrance, 1962; Getzels and Jackson, 1962) indicate that these intellectual and motivational-interest characteristics are inextricably related. In view of this fact, it is possible that the measurement of motivational-interest characteristics may provide the means for identifying young children who are potentially creative. In other words, it may be possible to identify the potentially creative preschool child by his freedom to use conforming and nonconforming behavior, his willingness to try the difficult, and similar characteristics.

Longitudinal studies of creative ability are needed; and the initiation of such studies is dependent upon the availability of instruments which can be used to identify preschool children who are potentially creative. The development of instruments for the measurement of freedom to use conforming and nonconforming behavior is seen as a contribution to this area of study.

Subjects

The subjects were 220 children, boys and girls, ranging in age from two years six months to five years eleven months. The group included community children from their own homes, the majority of whom were in attendance at nursery schools, kindergartens, day care centers and Bible Schools.

Criteria for the Instrument

An instrument developed for the measurement of conforming and nonconforming behavior should provide the child with an opportunity to make a choice in a situation in which he can follow a model or respond freely according to his own preferences.

A series of pilot studies served to clarify the criteria for the instrument. (a) The compulsive quality and the conforming quality of a child's behavior must be measured independently. The child who is a rigid nonconformist is no more free than the child who is a rigid conformist. (b) Conforming behavior must be studied in a variety of situations. The opportunity to conform to parents or peers, for example, may be more potent than the opportunity to conform in an impersonal situation. (c) The instrument must be adjustable in order that the opportunity to conform be of similar potency for all children. Conforming behavior is common when a child has an opportunity to conform to peers whom he likes, whereas the reverse is true when he dislikes the peers. Similarly, the child's preference for objects used in the task may affect his responses. He will have greater difficulty choosing between two objects when he likes them both than when he likes only one. (d) Sex and age are also factors which should be controlled, inasmuch as studies of older children have indicated sex differences in creative ability (Torrance, 1962).

The Measurement of Social Conformity and Nonconformity

A color preference task, for the measurement of social conformity, was designed to meet the above criteria. The task consisted of three steps: (a) Each child indicated his color preferences by ranking 13 colors. From this ranking, five colors which ranged from first choice to last were chosen for use in the subsequent steps of the research. (b) Each child indicated the strength of his color preferences by selecting the color he preferred when the five colors were presented to him in pairs. (c) Each child then made color selections when there was an opportunity to conform to his friends, and again to his parents. In this last step, a control group of children made color selections with no opportunity to conform.

Color Preferences

A color wheel, consisting of 13 different colored strips of paper attached to a cardboard disc, was presented to each child. He ranked the colors by tearing off the one he liked best, and then repeated this, one color at a time, until all colors had been torn from the wheel. The five colors which a chid ranked as 1, 4, 7, 10 and 13, were used for his part in the subsequent steps of the research. In this way each child could be offered colors which he liked and colors which he disliked when given an opportunity to conform.

The reliability of this method of determining color preferences was tested by administering the color wheel a second time to a group of 29 children. The colors which were high-ranking (#1 and #4) and low-ranking (#10 and #13) during the first session retained their relative positions during the second session. ($\chi^2 = 29.217$; $p < 0.001$).

Strength of Color Preferences

The strength of each child's color preferences was then determined. The assumption was that the child who had strong preferences would be less easily influenced than other children; and therefore, the strength of the color preferences should be considered in the matching of control and experimental groups.

For this step in the research, the five colors designated for each child were arranged in pairs, each color being paired with every other color twice. These paired colors were presented to the child as odd-shaped pieces of gummed paper, ostensibly for making a collage. The sequence was such that no color appeared in two consecutive pairs and no color appeared twice in the same shape. The child chose one color from each pair.

The strength of a child's color preferences was then determined by the number of times that he chose the same color in a given pair both times that it was presented. The possible range of color preference scores was from zero to ten.

Conformity to Peers

For this step in the research, the children were assigned to experimental and control groups, matched according to color preference scores, sex and age (within four months); and each child constructed a small picture booklet of colored pages (2" x 3").

The children in the experimental group were given an opportunity to conform to peers while constructing their booklets. First, each child was asked to name three friends; then three identical pages (e.g., the picture of a cow on a red page) were placed before the child, and he was told that

these were for his friends. He was then given his choice between a page identical to those for his friends and a page of a different color (e.g., the picture of a cow on a blue page). As in the previous step of the research, the five colors designated for each child were arranged in pairs, each color being paired with every other color twice, making a total of 20 pairs. These were presented to the child in such a way that he had an opportunity to choose between red and blue, for example, when his friends received red and again when his friends received blue.

The assumption underlying this design was that the child who really preferred one of the two colors, would choose that color on both occasions if he were *free* to use conforming or nonconforming behavior, whereas the *conformist* would choose the preferred color only when his friends received it, and the *nonconformist* would choose the preferred color only when his friends did *not* receive it.

The children in the control group made their choices between the paired booklet pages without an opportunity to conform.

Conformity to Parents

The children in the experimental group repeated the color wheel and the construction of a picture booklet. During this second session, they had an opportunity to conform as booklets were made for their parents.

Scoring

For the experimental group, the scoring consisted of a simple count of the number of conforming and nonconforming responses. For the control group, similar scoring was possible by accepting as a "conforming" response the choice of a color which corresponded to a conforming response for the experimental group.

A D-score, or difference score, was figured by subtracting the number of nonconforming responses from the number of conforming responses. The possible range of D-scores was from +20 (complete conformity) to −20 (complete nonconformity).

A task-score was figured by dividing the D-score by the total number of responses. The possible range of task-scores was from +1.00 (complete conformity) to −1.00 (complete nonconformity). This score would be of particular value in a comparison of two or more research instruments which did not offer the same number of opportunities for conforming behavior.

Results

The data for the matched control and experimental groups were analyzed to determine whether the opportunity to conform did influence the responses of the children, and whether the influence was greater in one situation than in another.

If the research instrument provided a valid measure of the influence (positive or negative) of the opportunity to conform, then the children in the experimental group should have larger D-scores than the children in the control group. For the control group, the distribution of conforming and nonconforming responses would be the result of chance; and therefore, the D-scores for this group should approximate zero. In Table I, the frequency of large and small D-scores is presented for the two groups, the scores for the experimental group being those obtained when there was an opportunity to conform to parents. A Chi-square analysis of these

data indicated that the children in the experimental group were influenced by the opportunity to conform to their parents ($\chi^2 = 8.260$; $p < 0.01$).

Similarly, the data obtained when the experimental children had an opportunity to conform to peers (three friends) were analyzed. The responses of the children to this influence were not significantly different from the responses of the children in the control group. ($\chi^2 = 1.020$; n.s.) In this task, the opportunity to conform to parents was more potent than the opportunity to conform to peers.

The reliability of the instrument was then determined by a split-half analysis of the responses of the children when they have an opportunity to conform to parents. The number of conforming responses made by each child during the first and last half of the task were used in this analysis. The Spearman-Brown formula yielded a correlation of +.779 ($p < 0.01$). The instrument was accepted as reliable. For this and subsequent analyses, the experimental group was enlarged to include an equal number of boys and girls at each of three age levels: below 4-0; 4-0 to 4-11; 5-0 to 5-11. ($N = 120$).

The data were further analyzed for age and sex differences. No significant age differences in conforming behavior were apparent; however, there were marked sex differences.

In Table II, the number of boys and girls responding with large positive and large negative D-scores is presented. Of the 120 children in the experimental group, 41 had large D-scores. Both boys and girls were influenced by the opportunity to conform to parents; however, the girls were the conformists, and the boys were both conformists and nonconformists. A Chi-square analysis indicated that this difference between the boys and girls was significant ($\chi^2 = 9.336$; $p < 0.01$).

TABLE I

FREQUENCY OF LARGE AND SMALL D-SCORES OBTAINED BY CONTROL AND EXPERIMENTAL GROUPS OF PRESCHOOL CHILDREN IN A TASK DESIGNED TO MEASURE SOCIAL CONFORMITY AND NONCONFORMITY

(N=200)

	D-Scores*		
	0 to 8	10 to 20	Total
Experimental Group	64	36	100
Control Group	82	18	100

*The D-score is the difference between the number of conforming and nonconforming responses.

TABLE II

FREQUENCY OF LARGE POSITIVE AND LARGE NEGATIVE D-SCORES OBTAINED BY PRESCHOOL CHILDREN, BOYS AND GIRLS, IN A TASK DESIGNED TO MEASURE SOCIAL CONFORMITY AND NONCONFORMITY

(N=41)

D-Scores	Boys	Girls
+10 to +20	9	20
−10 to −20	10	2
Total	19	22

In the design of the instrument, the assumption was made that strong likes and dislikes would influence a child's conforming behavior. The validity of this assumption was demonstrated in an analysis of the number of times that the children accepted and rejected their favorite color and their least liked color. When conforming required that the child accept one or the other of these two colors, the favorite color was more frequently accepted ($\chi^2 = 38.861$; $p < 0.001$). When conforming required that the child reject one of these two colors, the least liked color was more frequently rejected ($\chi^2 = 69.962$; $p < 0.001$).

Summary

A color preference task, designed to measure social conformity and nonconformity, was developed for use with children of preschool age. The task discriminated between children who were *compulsive* conformists and nonconformists and those who were *free* to use either conforming or nonconforming behavior. The potency of the situation in which conformity was suggested proved to be a major factor in the task; opportunity to conform to parents had a significant influence on the children's responses, whereas opportunity to conform to peers (three friends) had a negligible influence for this preschool group. No age differences in conforming behavior were apparent. Sex differences were marked. Both boys and girls were influenced by the opportunity to conform to parents; however, the girls were the conformists, whereas some boys were conformists and some nonconformists.

The Measurement of Conformity and Nonconformity in an Impersonal Situation

A form board task was designed for the measurement of conformity and nonconformity in an impersonal situation. Four form boards were constructed. The pictures on the form boards were a tree, a house, a playground, and a barnyard. Each form board had five holes, and for each hole there were four different pieces which could be used in completing the picture.

The design of the form board task was similar to that of the color preference task. Picture pieces for the form boards were paired and the child chose the pieces he wanted to use. Two sets of paired pieces were made for each board. For example, in the Tree Form Board (Fig. 1) the child first chose between the rabbit and the flowers, and later chose between the ball and the grass, for the hole at the base of the tree. Each child was offered the paired pieces twice, making a total of 80 choices for the four form boards. This was done in two sessions with approximately a one week interval between the two. (The form boards are pictured in Figures 1, 2, 3 and 4. The paired pieces are placed on either side of the form board in each figure).

In this task the opportunity to conform was provided by a line drawing placed behind the form board. In Figure 1, a line drawing of flowers is shown in the form board, and the child would choose between the flowers and the rabbit. During the next session a line drawing of the rabbit would be shown, and the child would again choose between the flowers and the rabbit. As in the color preference task, the underlying assumption was that the child who really preferred the rabbit would choose the rabbit during both sessions if he were free to use conforming and nonconforming behavior; but the child who was a conformist would choose the rabbit only when the line drawing of the rabbit was shown, and the nonconformist would choose the rabbit only when the line drawing of the flowers was shown.

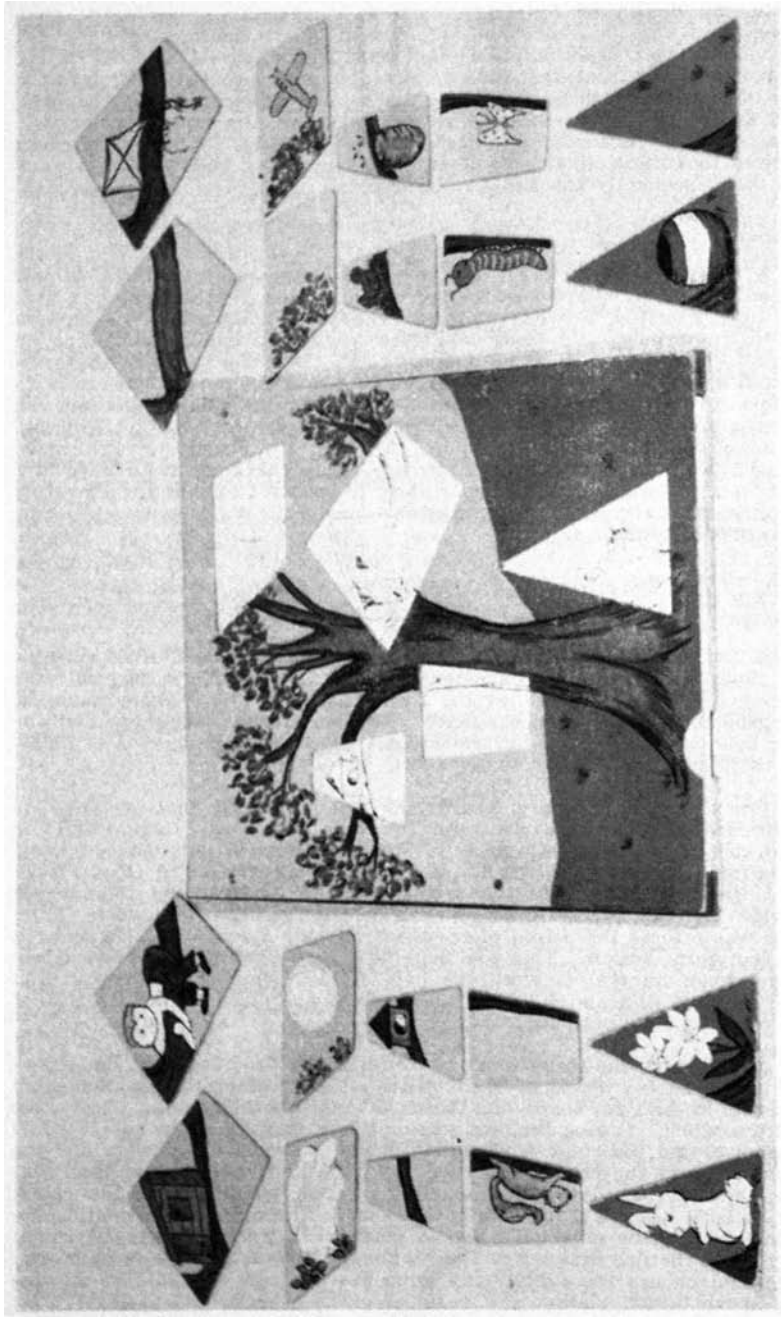

Figure 1. Tree Form Board

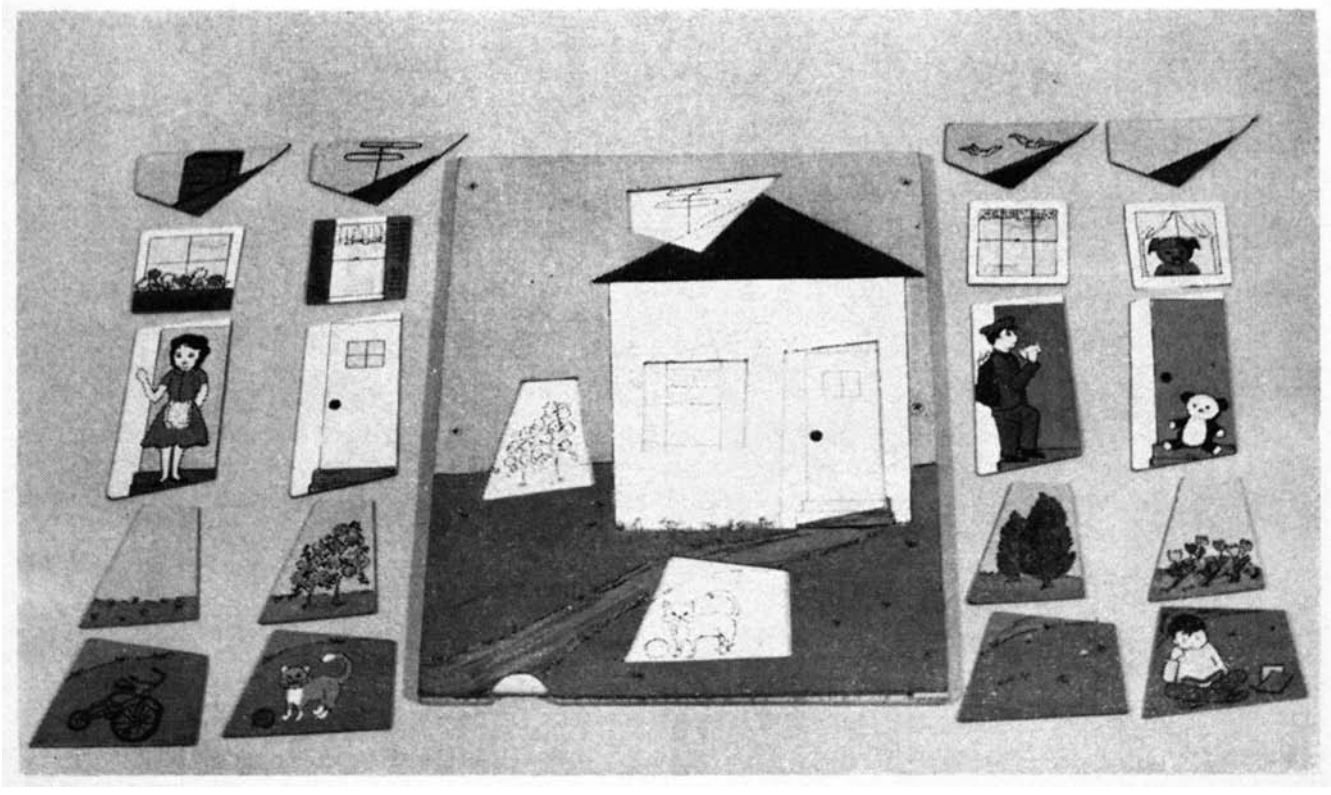

Figure 2. House Form Board

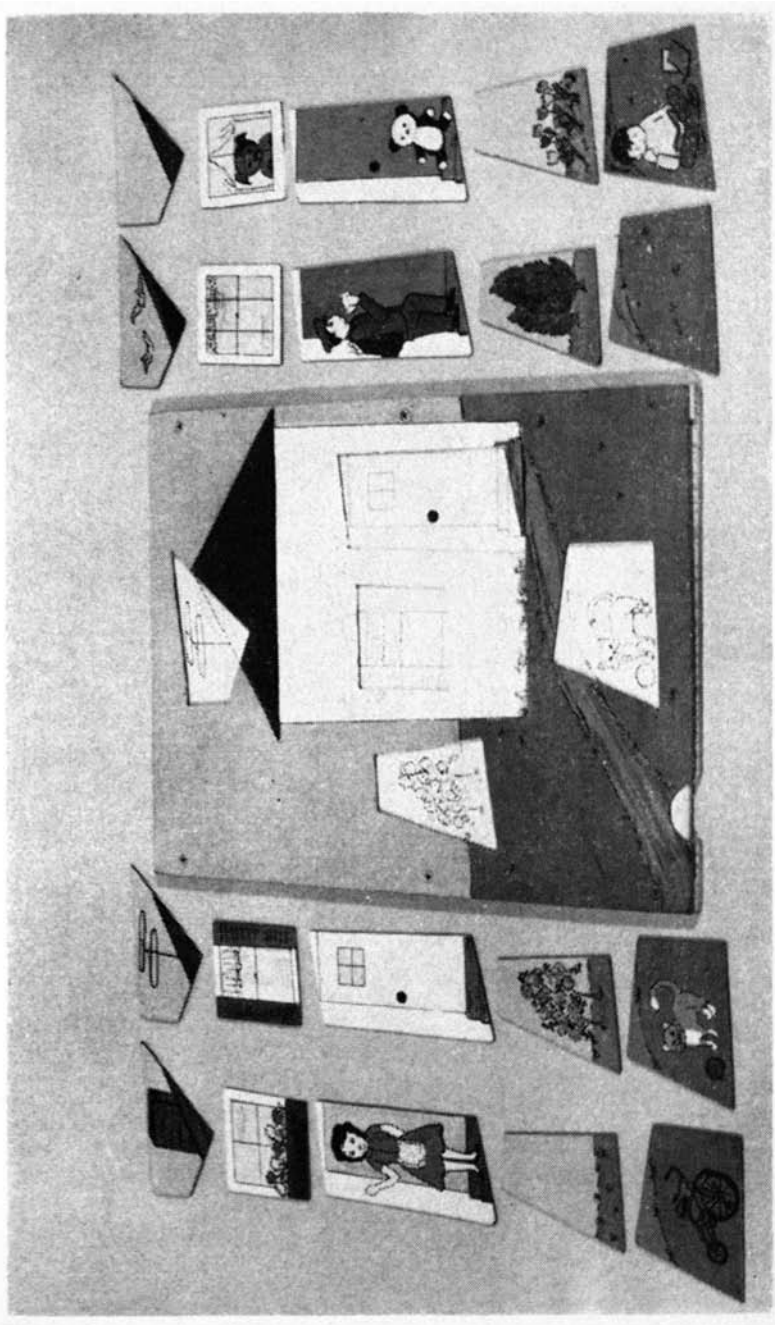

Figure 3. Playground Form Board

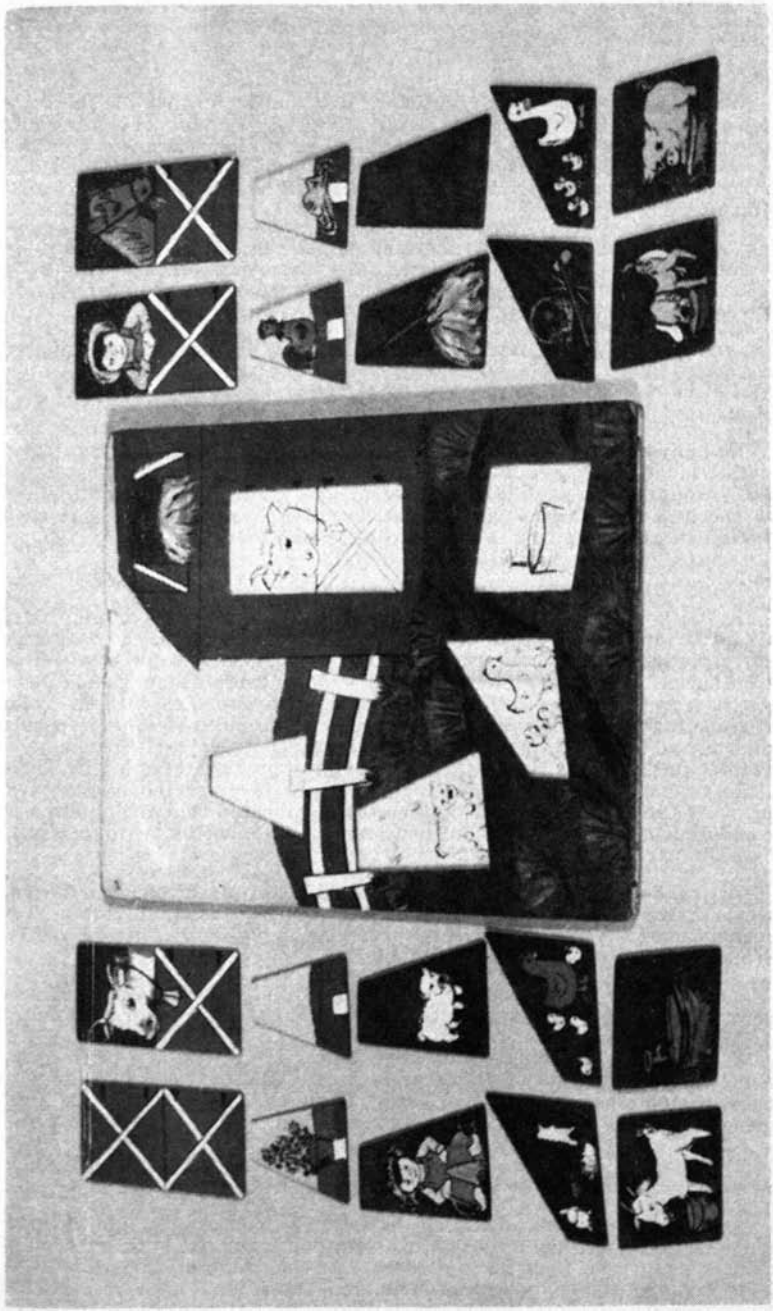

Figure 4. Barnyard Form Board

A control group of children was offered the form boards without the line drawings, i.e., without the opportunity to conform.

Scoring

The scoring for the form board task was similar to that for the color preference task. For the experimental group, the number of conforming and nonconforming responses were recorded. A similar score was obtained for the control group by accepting as a "conforming" response the choice of a piece which corresponded to a conforming response for the experimental group.

A D-score was figured by subtracting the number of nonconforming responses from the number of conforming responses; and for this task, the possible range of D-scores was from +80 (complete conformity) to −80 (complete nonconformity).

A task-score was figured by dividing the D-score by the total number of responses.

Subjects

The subjects were 156 children, boys and girls, ranging in age from 2 years 7 months to 5 years 11 months. Children for the experimental and control groups were matched on sex and age (within four months) and were chosen so that there would be at least 24 boys and 24 girls in each of three age groups (below 4-0; 4-0 to 4-11; and 5-0 to 5-11).

Results

The data for the matched control and experimental children were analyzed to determine whether the opportunity to conform did influence their responses. If the research instrument provided a valid measure of this influence, then the children in the experimental group should have larger D-scores than the children in the control group. As with the color preference task, the frequency of conforming and nonconforming responses demonstrated by the control group would be the result of chance; and therefore, the D-scores for this group should approximate zero. In Table III, the frequency of large and small D-scores is presented for the two groups. A Chi-square analysis of these data indicated that the children in the experimental group were influenced by the opportunity to conform. ($\chi^2 = 32.203$; $p < 0.001$).

The reliability of the instrument was determined by a split-half analysis of the responses of the children in the experimental group. The Spearman-Brown formula yielded a correlation of + .860 ($p < 0.01$). The instrument was accepted as reliable.

The data for this group were further analyzed for sex and age differences. Neither sex differences nor age differences were apparent.

In Table IV, the number of boys and girls responding with large positive and large negative D-scores is presented. Of the 78 children in the experimental group, 45 had large D-scores. Boys and girls alike responded positively to the opportunity to conform. (For boys, $\chi^2 = 6.545$; $p < 0.02$. For girls, $\chi^2 = 7.304$; $p < 0.01$).

Summary

A form board task, designed to measure conformity and nonconformity in an impersonal situation, was developed for use with children of preschool age. The task discriminated between children who were *compulsive* conformists or nonconformists and those who were *free* to use

either conforming or nonconforming behavior. No age differences or sex differences were apparent. Conforming behavior, rather than nonconforming behavior, was demonstrated by most of the children who were influenced by the opportunity to conform.

Comparison of the Two Tasks

More than one task for the measurement of conforming and nonconforming behavior was developed in order that the influence of different situations be studied. It was possible that the conformity suggestion might be more potent in one situation than in another. In the social conformity task, this proved to be true; parents were a more potent influence than peers.

TABLE III

FREQUENCY OF LARGE AND SMALL D-SCORES OBTAINED BY CONTROL AND EXPERIMENTAL GROUPS OF PRESCHOOL CHILDREN IN A TASK DESIGNED TO MEASURE CONFORMITY AND NONCONFORMITY IN AN IMPERSONAL SITUATION

(N=156)

	D-Scores		
	0 to 15	16 to 80	Total
Experimental Group	33	45	78
Control Group	67	11	78

TABLE IV

FREQUENCY OF LARGE POSITIVE AND LARGE NEGATIVE D-SCORES OBTAINED BY PRESCHOOL CHILDREN, BOYS AND GIRLS, IN A TASK DESIGNED TO MEASURE CONFORMITY AND NONCONFORMITY IN AN IMPERSONAL SITUATION

(N=45)

D-Scores	Boys	Girls
+16 to +80	17	18
−16 to −80	5	5
Total	22	23

A comparison of the results of the social conformity tasks (color preferences) and the impersonal conformity task (form boards) indicated a difference in the potency of these two conformity suggestions for individual children. Many of the boys responded negatively to the opportunity to conform to parents, but few responded negatively to the opportunity to conform in an impersonal situation.

Many children who responded freely on one task, as indicated by a task-score below 20, were not free in their responses on the other task. On the form board task, 32 children were free in their use of conforming and nonconforming behavior; and on the color preference task, 22 children responded freely; however, only ten children responded freely on both tasks.

The conclusion to be drawn from this comparison is that conformity-nonconformity must be measured in several different situations if the child who is free to use conforming and nonconforming behavior is to be identified.

Summary

Two tasks were developed for use with preschool children in the measurement of conforming and nonconforming behavior. One, a color preference task, was designed to measure social conformity, i.e., conformity to parents or peers. The other, a form board task, was designed to measure conformity in an impersonal situation. Both tasks provided the children with opportunity to follow a model or respond freely according to their own preferences. Both tasks did discriminate between children who were free to use conforming and nonconforming behavior and children who were compulsive conformists or nonconformists.

For individual children the opportunity to conform was more potent in one situation than in another, indicating that several measures of conformity-nonconformity are necessary for the identification of the young child who responds freely. Of the children who were subjects in this research, only one out of eight was consistently free in his use of conforming and nonconforming behavior.

These tasks will be used in further study of the relationship of conformity-nonconformity to other personality characteristics which may be related to the expression of creative ability.

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