A BRIEF REPORT ON USING A TRADITIONAL SOCIAL BEHAVIOR SCALE WITH DISTURBED CHILDREN¹

There is a growing literature dealing with the technical aspects of recording free-play behavior of young normal and disturbed children (Baker and Whitehead, 1972; Lovaas, Freitag, Gold, and Kassorla, 1965; Nordquist, 1971; Romanczyk, Kent, Diament, and O'Leary, 1973; Worthy, 1968). It is possible to record reliably more data in much greater detail than was the case 10 yr ago. Yet there remains a problem in deciding which aspects of the child's play behavior should be recorded. The present authors reviewed a number of scales and instruments (*e.g.*, Boer, 1968; Clark, Wyon, and Richards, 1969; Gump and Sutton-Smith, 1955; Johnson, 1935; Loomis, Hilgeman, and Meyer, 1957; Lovaas, Freitag, Gold, and Kassorla, 1965; Parten, 1932) before undertaking the present study. Close examination of these different rating schemes showed some overlap among categories.

Rather than devise yet another scheme, we opted for the scale developed 40 yr ago by Parten (1932). For our purposes, the Parten scale had certain attractive features. The scale itself, which contains only six different categories, had been shown to yield free-play activity data with high interrater reliability (Parten, 1932) and had also provided activity scores correlating with teachers' ratings of social behavior (Parten and Newhall, 1943). Moreover, the scale was advantageous for comparative purposes since it had been used to collect data on normal children (Barnes, 1971; Parten, 1932; Parten and Newhall, 1943), and it is compatible with the developmental theories of Piaget (1932) and Gesell and Ilg (1943, 1946). A final recommendation of the scale was its recent endorsement by Ausubel and Sullivan (1970), Hartup (1970), and Mussen, Conger, and Kagan (1969). What was lacking was a demonstration that the scale could be applied to children with severe difficulties in social adjustment. The present study was designed to tackle this problem.

METHOD

Subjects

Six male children served as subjects. All were attending a summer day-camp program for children with marked problems in the area of social adjustment. The camp program ran for a five-week period,

five days a week (one holiday in the first week), 6 hr per day. The subjects were diagnosed variously as elective mute, brain damaged, hyperactive, childhood schizophrenic, autistic, and childhood psychotic. Ages ranged from 6 to 10 yr. A complete report of this camp is available from the authors (Wintre, *unpublished a*).

Recording Procedure

Recording took place during a 35-min free-play period each weekday morning in a classroom (approximately 15 by 30 ft—4.5 by 9 m). The room was equipped with a variety of toys, art supplies, games, musical instruments, a record player, and a sand box. Staff were instructed to intervene only when there was a possibility of one child inflicting physical harm on another. The coders sat apart from each other in full view of the children on the fringe of the play area. The order of observation of the six children was predetermined and differed for each day of the week, but was consistent from week to week. Each time a subject's name occurred on the sheet, his behavior was coded for 30 sec in three consecutive 10-sec intervals (*cf.* Buell, Stoddard, Harris, and Baer, 1968; Hart, Reynolds, Baer, Brawley, and Harris, 1968). The activity category assigned to each 10-sec interval was to represent the behavior that took place for the majority of that time interval (*i.e.*, 5 sec or more) and therefore, only one notation was made for each 10-sec interval.

The coders had no previous experience using this or any other scale for rating children's play activities. As was the case in the original study (see Parten and Newhall, 1943), there was no training session for the coders. Before the initial recording session, the coders spent about 1 hr studying Parten's definitions and examples. At that time, the play situation and coding sheet were examined and questions regarding the scale were answered.

Parten Scale

The Parten Scale consists of six categories of social participation. They are unoccupied behavior, solitary independent play, onlooking, parallel activity, associative, and cooperative play. Unoccupied behavior is considered the lowest category in the developmental sequence and cooperative play the highest. The following descriptions are taken *verbatim* from Parten (1932, 249-252):

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Unoccupied behavior. The child apparently is not playing, but occupies himself with watching anything that happens to be of momentary interest. When there is nothing exciting taking place, he plays with his own body, gets on and off chairs, just stands around, follows the teacher, or sits in one spot glancing around the room.

Solitary independent play. The child plays alone and independently with toys that are different from those used by the children within speaking distance and makes no effort to get close to other children. He pursues his own activity without reference to what others are doing.

Onlooker. The child spends most of his time watching the other children play. He often talks to the children whom he is observing, asks questions, or gives suggestions, but does not overtly enter into the play himself. This type differs from the unoccupied in that the onlooker is definitely observing particular groups of children rather than anything that happens to be exciting. The child stands or sits within speaking distance of the group so that he can see and hear everything that takes place.

Parallel activity. The child plays independently, but the activity he chooses naturally brings him among other children. He plays with toys that are like those which the children around him are using, but he plays with the toy as he sees fit, and does not try to influence or modify the activity of the children near him. He plays beside rather than with the other children. There is no attempt to control the coming or going of children in the group.

Associative play. The child plays with other children. The conversation concerns the common activity; there is a borrowing and loaning of play material; following one another with trains or wagons; mild attempts to control which children may or may not play in the group. All the members engage in similar if not identical activity; there is no division of labor, and no organization of the activity of several individuals around any material goal or product. The children do not subordinate their individual interests to that of the group: instead each child acts as he wishes. By his conversation with the other children one can tell that his interest is primarily in his associations, not in his activity. Occasionally, two or three children are engaged in no activity of any duration, but are merely doing whatever happens to draw the attention of any of them.

Cooperative or organized supplementary play. The child plays in a group that is organized for the purpose of making some material product, or of striving to attain some competitive goal, or of dramatizing situations of adult and group life, or of playing formal games. There is a

marked sense of belonging or of not belonging to the group. The control of the group situation is in the hands of one or two of the members who direct the activity of the others. The goal as well as the method of attaining it necessitates a division of labor, taking of different roles by the various group members and the organization of activity so that the efforts of one child are supplemented by those of another.

Although adult intervention was to be kept to a minimum, it became clear that some adult-child interaction could not be avoided. For this reason, the present authors added to the six categories of the Parten scale a seventh—Adult-Directed Behavior (*cf.* Boer, 1968). We followed Boer in defining Adult-Directed Behavior as (1968, p. 336):

Adult-directed behavior. Any behavior directed to an adult. This included such activities as playing with the therapist (coders), looking at the therapist (coders), and touching the therapist (coders).

Reliability of Observations

The raw data necessary for determining interrater reliability are given in Table 1. There were a total number of 2153 intervals. As indicated in Table 1, there were a total of 1849 intervals on which the two coders agreed on the category of play they were observing. The overall reliability is therefore 85.9%. This percentage figure did not alter appreciably over weeks (the mean per cent agreement for the first and last weeks were 87.8 and 86.0, respectively).

The data in Table 1 give occurrence agreements and disagreements only. Since none of the seven activities occurred with a very high frequency, levels of nonoccurrence agreement (*cf.* Bijou, Peterson, and Ault, 1968) were of course very high. The number of intervals agreement on the nonoccurrence of a given behavior can be determined by subtracting the sum of the number of intervals of agreement and disagreement for that category from the total number of intervals (*i.e.*, the number of intervals agreement on the nonoccurrence of unoccupied behavior = $2153 - [137 + 89]$).

Inspection of Table 1 indicates that with the exception of the new category—Adult-Directed Behavior, the greater the frequency of occurrence of a behavior in a particular category, the fewer the disagreements in that category. Solitary activity was the behavior recorded most frequently and with relatively few disagreements. The incidence of cooperative play was extremely low and the coders never agreed on its occurrence. Further investigation of the disagreements by categories revealed that the frequency of an error between two categories adjacent in the developmental sequence (*e.g.*, between unoccupied and solitary or solitary and onlooking) was higher than

Table 1
Raw Data (Intervals) for the Socially Deficient Group

	Activity Category					
	Unoccupied	Solitary	Onlooking	Parallel	Associative	Adult-Directed
Agreement on Occurrences	137	748	200	415	276	73
Disagreement	89	132	121	129	103	18
Agreement on Nonoccurrences	1927	1273	1832	1609	1774	2062

between categories separated in developmental position (e.g., between unoccupied and cooperative or solitary and associative). This was determined by examining the error distribution for each category. Unoccupied behavior can serve as an example. Of the total 89 disagreements on the occurrence of unoccupied behavior, 41 disagreements were between solitary and unoccupied (one step), 33 between onlooking and unoccupied (two steps), seven between parallel and unoccupied (three steps), five between associative and unoccupied (four steps), zero between cooperative and unoccupied (five steps), and three between adult-directed and unoccupied (not in the developmental sequence).

Changes in Behavior Over Weeks

An analysis of variance was computed on each category. The data yielded a statistically significant change in per cent associative play over weeks ($F = 6.40$, $df = 20,4$; $p < 0.05$). Associate play mean scores by weeks were as follows: 5.3, 6.5, 13.8, 24.1, and 20.1. There was no significant change over the weeks for the other categories.

DISCUSSION

Of major importance is the fact that the Parten Scale, devised originally for use with normal children, can be used in a free-play situation to rate reliably the behaviors of children with severe problems in social adjustment. Changes in associative play were detected over a period as short as five weeks. Whether this was due to the camp program or to other variables is not clear. More to the point is the fact that the continued use of the scale should allow us and others to elucidate conveniently the factors that do affect social interaction in severely disturbed children. Researchers have sometimes tended to "start from scratch" as far as coding is concerned. All too often, literally years (see, for example, Coffey and Wiener, 1967) have been devoted to devising an instrument that, in the end, turns out to be remarkably similar to the basic scale described here.

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