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Classroom Observation

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Classrom Observation of School-Age
ADDH, Conduct Disorder, and Depressed Children

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Running head: OBSERVATION OF DISORDER CHILDREN

Abstract

Eight subjects were observed during classroom activity to determine the context of their social behavior. Four subjects were internalizers and the other four were externalizers. Subjects were observed at an inpatient psychiatric facility for children. It was hypothesized that externalizers would exhibit more off-task behaviors and internalizers would engage in solitary play more often. Results showed trends which supported the hypotheses. Implications of medication effects, as well as further research using a more molecular coding scheme were discussed.

Classroom Observation of School-Age
ADDH Conduct Disorder, and Depressed Children

The study of peer relationships and social skills in childhood is an often investigated area of developmental psychology (Rubin & Ross, 1982). Recent research has shown that peer relations contribute to the development of social competencies in children (Dodge, Petit, McClaskey, Brown, 1986). Furthermore, capacities to create and maintain mutually regulated relations with others, to achieve effective modes of emotional expression, and to engage in accurate social-reality testing, derive from interactions with other children (Hartup, 1983). The importance of research on peer relations is evident, considering that peer relations affect the course of socialization as profoundly as any social events in which children participate (Hartup, 1978).

The peer system offers the child the opportunity to interact with persons of relatively equal abilities. Mutual influence should occur more readily between persons who are relatively more equal in their power relations. In addition, these interactions provide many

opportunities for acts of altruism that differ in frequency from those with adults (Zahn-Waxler et al., 1982).

Physical aggression or rough and tumble play, which typify peer interactions, has been found to be a necessary component of the socialization process. It gives the child occasions that are not typical of the adult-child relationship. For example, the likelihood that the child will show hurt and distress is increased (Zahn-Waxler et al., 1982). This provides unique occasions for potential acts of altruism, reparative behavior, or acts of compassion. Furthermore, through participation in this play activity, peers can potentially function as models, teachers, reinforcers, and punishers, and hence serve as socializers of altruism (Zahn-Waxler et al., 1982).

Investigators further suggest that peer relations contribute to the emergence of "social intelligence". Children who are able to switch roles with others, are more socially active than children who switch roles less frequently, and are more competent in social exchanges with other children (Gottman, Gonso, & Rasmussen, 1975). In addition, evidence indicates that peer interaction and

moral development are also linked, which is consistent with the hypothesis that opportunities for exchange among co-equals contribute constructively to changes in the structure of moral thought (Hartup, 1978).

Not only are peer relations crucial to the development of a child, but long-term longitudinal investigations demonstrate that peer relations in childhood are prognostic indicators of social conduct in adolescence and adulthood. In a study by Roff and his colleagues (Roff et al., 1972), they found that among upper lower-class and middle-class boys, delinquency rates were higher among children who were not accepted by their peers than among those who were.

Roff (1963) further examined this correlation in his study of adult males who had been seen in child-guidance clinics. He found that poor peer relations were predictive of adult neurotic and psychotic disturbances. Furthermore, Cowen and his colleagues (1973) showed that poor peer adjustment in the third grade was an excellent predictor of emotional difficulties in early adulthood. These two studies exhibited that ratings of peer acceptance in childhood are predictive of later mental health

status. Since peer interaction and peer acceptance are sensitive measures of later adjustment, it should be of critical importance for researchers to investigate further the correlates of peer relations. Additionally, examination of school-age children, may begin to decrease the role that deviant social cognition plays in the development of psychopathology (Campbell & Paulauskas, 1979).

The importance of peer relations and friendships for children's socialization and development would appear to have particular implications for children with behavioral disturbances. The most prominent among these youngsters are children with ADDH (Attention Deficit Disorder with Hyperactivity). Although ADDH children are the largest category of child psychological referrals to mental health agencies, pediatricians, and school psychologists (Ross & Ross, 1976) making up 3 to 5 percent of the elementary-aged population, little observation has been done on these children with their peers or friends.

Research using parent and teacher ratings to assess ADDH children has been shown to have many flaws. Specifically, Rapoport and Benoit (1975) found that

teacher ratings, but not parental ratings, correlate significantly with actual clinic and home observations of behavior. The lack of parent rating correspondence with other ratings may be due to the necessity that rating a child's behavior requires data collection across many settings and events. Parents may not be skilled enough to collect data across all these contexts (Zentall, 1983).

Although Campbell and her colleagues (1978) found that maternal reports of activity level at 4 1/2 years predicted ratings at 6 1/2 years, they found that these reports did not necessarily coincide with actual behavior at school. Boys rated most troublesome at home were not necessarily the most troublesome at school. Campbell and her colleagues (1979) in a later study, reported that teachers reported that hyperactive children had significantly more peer problems than their matched controls. Furthermore, Patterson (1977) found that parent ratings, structured personality inventories, and child self-report scales did not yield the kinds of specific behavioral information needed to change behavior. In addition, parents tend to underestimate rates of

deviant child behavior in general, and to overestimate improvement in these behaviors (Clement, & Milne, 1967).

Klein and her colleague (Klein & Young, 1979) found that hyperactive boys were perceived more negatively by their peers. In addition, they were nominated and had higher rankings in their class as children who were chosen for more negative roles than active boys. Furthermore, the hyperactive boys were chosen less often for the role of a "true friend". In a later study by Pelham and Bender (1980), they found that 96% of the hyperactive sample obtained negative nominations above their classroom means, and 74% of them obtained positive nominations below their classroom means. Furthermore, results on the Pupil Evaluation Inventory led them to conclude that hyperactive children have problems which go beyond the child's difficulty tolerating the structure of a school setting and beyond parent and teacher intolerance.

In a Fels longitudinal study, boys aged 6-10 were observed and found to attempt domination of peers and also to seek attention from their peers. Furthermore, the hyperactive boys initiated physical aggression to their

same sex peers. Females continued to approach and participate in social situations, showed significantly more frequent efforts to dominate their peers (Battle, & Lacey, 1979).

Pelham and Bender (1980) observed children in a non-structured environment without the mother present and found that in the absence of an adult in a nonclassroom setting, hyperactive children engaged in a variety of negative interpersonal behaviors toward their peers. Further, these behaviors resulted in extreme ratings of dislike from peers even after only two brief play sessions, suggesting that the hyperactive children made a negative impression on other children very quickly (Pelham, & Bender, 1980).

It is clear from current research that hyperactive children have problems in their peer relationships. Treatment for hyperactivity in the form of psychostimulant medication, has been examined over the last fifteen years (Pelham et al., 1980). Recently, the effects of these medications on peer relationships has been examined.

Over half a million children are currently receiving psychostimulant medication as a treatment for hyperactivity

(Sprague & Sleator, 1976). The drugs most commonly used are methylphenidate, pemonline, and dextroamphetamine (Pelham et al., 1980). The negative behaviors which are rated by adults as improved with pharmacotherapy may be relevant to peer interactions or peer perceptions (Pelham et al., 1980). For example, Pelham and Bender suggest that if an adequate attention span or impulse control is important in social interactions such as games or conversations, then it is plausible that psychostimulants may also improve peer relationships. Yet Whalen and her colleagues (1979) reported that while medication improved performance of hyperactive children in a structured communication task, it increased negative affect and decreased positive affect as measured by self-statements. Furthermore, similar effects were found by Rie and his associates (Rie, Rie, Stewert, & Ambuel, 1976) in two studies which found a trend for less socially acceptable behavior on a classroom sociogram. In addition, follow-up studies by Riddle and Rapoport (1976) have revealed that hyperactives treated with methylphenidate for two years continue to exhibit serious problems in peer relationships as rated by teachers.

In their first study, Pelham and his colleagues (1979) assessed the effects of two doses of methylphenidate on hyperactive children's interactions with their peers in small playgroup settings. Results suggested that methylphenidate had little or no beneficial effect on peer interactions. Specifically, baseline data revealed that the hyperactive children behaved in an extremely negative manner in the playgroup settings and were intensely disliked by their peers. Improvement was not seen with levels of medication, yet, the one subject who exhibited less aggression also exhibited less other interactions. This subject on .6mg/kg of methylphenidate was reported to be overmedicated for his treatment. His peers rated him positively, suggesting that peer ratings may be no more sensitive than teacher ratings in their ability to discriminate between beneficial effects and adverse effects of medication (Sprague & Sleator, 1977). The lack of observed affect of methylphenidate on behavior in the small playgroup, suggests that the drug may have weak effects in peer relations.

In their next study, Pelham and his colleagues (1980) studied the effects of pemonline on playground behavior.

Results on the positive interaction and on the no-interaction categories did not yield significant results, yet there were linear trends for medication to reduce positive interactions and increase no-interactions. In contrast to the playgroup setting, the decrease in negative interactions was not accompanied by a decrease in other non-negative interactions with resulting social isolation (Pelham et al., 1980). Yet, the data suggest that the pemoline had a relatively stronger adverse effect on the children who initially exhibited low rates of negative behavior (Pelham et al., 1980).

Given the findings on the effects of methylphenidate and pemoline, further research needs to be done in play settings to determine their results on behavior. Current research offers little evidence that psychostimulants have beneficial, much less normalizing, effect on the disturbed peer relationships of hyperactive children as a group (Pelham et al., 1982).

The proposed study seeks to examine further the peer relations of ADHD children. The relations of externalizers, primarily ADHD and Conduct Disorder will be observed, as well as the relations of internalizers,

primarily children with depression. Based on the current literature, it was hypothesized that the externalizers would exhibit more off task behaviors. In addition, it was expected that the internalizers would engage in solitary play more often than the externalizers.

Method

Subjects

Subjects were children ages 6-12 who were in-patients at a Southeastern psychiatric hospital for children. Subjects were diagnosed as having Externalized (ADHD, Conduct Disorder) or Internalizing (Depression) disorders.

Procedure

The subjects were observed through a one-way mirror during classroom activities and free-play. Each child was observed for 5 minutes using an Observational Systems, OS-3 event recorder. The first behavior that the observer recorded was the social interaction context in which the target child was engaged. At the same time as recording each social interaction context, the behavior of the target child and the behaviors directed toward the target child were also recorded using an event sequential coding scheme.

Behavioral Measures

Eleven duration codes were used to record the children's behavior. The codes were defined as follows:

- 1) Excess Movement On Task was defined as the child exhibiting on task behavior while at the same time is engaged in a non-directed movement in excess of that required of the task.
- 2) On Task was defined as the child appropriately focusing his attention to assigned task.
- 3) Out of Kilter/On task was defined as the child appropriately focusing attention on an assigned task but with inappropriate body posturing for the classroom.
- 4) Passive Off Task was defined as the child non-disruptively not attending to appropriate classroom activity.
- 5) Active Off Task behavior was defined as the child getting out of their seat and engaging in repetitive physical activity in excess of frequency and/or intensity expected in the setting.
- 6) Time Out was defined as the child being removed from the classroom and placed in time out.
- 7) Individual Instruction Exchange with Teacher/Aide was defined as the child receiving and/or providing instructional related information.
- 8) Peer Tutor was defined as the child engaging in an instruction exchange with a peer.

9) Self-stimulation was defined as the child engaging in deliberate, self-directed behavior that provides sensory input. 10) Solitary Play was defined as the child engaging in a play activity, however the child was completing the activity on his own. 11) Associative Play was defined as the child and peer(s) engaging in a play activity in a mutually cooperative manner.

Subjects were chosen for observation using a table of random numbers. Two trained observers recorded behaviors at each session. One observer served as the standard and the other as reliability. Previous use of this coding scheme has shown acceptable reliability ($Kappa=.80$).

Results

Data was analyzed using a t test to evaluate mean differences for each of the duration codes. The deviation scores represented percent frequency of total time observed. Although none of the results yielded significant findings, a number of trends were evident. Table 1 shows

Insert Table 1 about here

the externalizers exhibited more hyperactive behaviors in general. Specifically, they engaged in more excess movement while on task, more passive off task behavior, and more out of kilter behavior. In addition, a combined score for the hyperactive behavior-- the sum of the 4 off task behaviors-- supported this trend as well. Furthermore, the internalizing subjects engaged in more solitary play than the externalizing subjects.

Discussion

The results of the current study, though nonsignificant, suggest trends in the behavior of ADHD, Conduct Disorder, and Depressed children, that support the research hypotheses. Since only eight subjects were used, the likelihood of obtaining statistically significant results was low due to insufficient statistical power. Yet the trends in behavior for externalizers and internalizers suggest that further study should be continued to test the similarities and differences between these two populations.

Recent research has shown the importance of early peer relations to both healthy children, ADHD, and depressed children. Therefore, more research should be done examining these populations in settings other than the

classroom. Long term longitudinal investigations have demonstrated that peer relations in childhood are prognostic indicators of social conduct in adolescence and adulthood (Roff, 1963). In addition, evidence has suggested that hyperactive children serve as negative catalysts, eliciting undesirable behaviors from those around them (Mash & Johnston, 1983). Furthermore, studies examining ADDH children have suggested that there may be a difference between ADDH children interacting in an unstructured setting as opposed to a structured setting (Schleiffer, Weiss, Cohen, Elman, Cvejic, & Kruger, 1975). Given these findings, it is necessary to examine these children across different settings and with different playmates, possibly friends.

To date, observations done in an unstructured setting such as the home, have been almost entirely limited to sibling interaction. Yet, the results obtained through observations of siblings in the home have yielded interactions which are varied. Current research suggests a resemblance between sibling interactions and friendship interactions, which suggests that examination of ADDH, Conduct Disorder, and Depressed children in their homes,

interacting with a friend could yield significant results.

Another area which should be examined is the effect of various medication dosages. Researchers know little about the medication-related changes in less formal, peer-centered activities; activities that consume increasing portions of children's lives as they mature (Whalen, Henker, Swanson, Granger, Kliever, & Spencer, 1987). Specifically, there is need for information about natural peer interaction, given the well documented unpopularity of hyperactive children and the difficulties they have in overcoming their negative reputations, even after pharmacologic treatment (Pelham & Bender, 1982).

Further research should examine the optimal dosage for social improvement given the results of medication psychological and physiological side effects. In addition, there is also a need to know whether the treatment dosages will result in enhancing one's behavioral or biochemical domain at the expense of another (Whalen et al., 1987).

In a recent study, Whalen and her colleagues found that methylphenidate's influences on interpersonal transactions are not limited to highly structured settings

such as classrooms and laboratories. Rather, negative behavior rates decreased during informal peer group activities that provided wide behavioral latitude and less-than-consistent surveillance by adults (Whalen et al., 1987). In addition, the study also found that neither low nor moderate doses of methylphenidate increased social withdrawal.

Yet, the coding scheme used in this study consisted of only three, broad categories: 1) appropriate social behavior 2) negative social behavior 3) nonsocial behavior. It may be that the social consequences are simply more subtle than the coding scheme was designed to detect and measure. Such qualitative changes might lead to judgements of mild dysphoria without yielding decreases in tallies of social activity (Whalen et al, 1987). Further research should develop a behavioral measure which codes subtle behaviors and their effects.

Furthermore, Whalen and her colleagues suggest that a temporary decrease in the quantity of interpersonal activity may even be adaptive at times if it is accompanied by increased social competence. Such changes may prevent the expansion of a child's negative reputation while

affording him opportunities to observe and cultivate interpersonal competencies (Whalen et al., 1987). Using a more molecular coding scheme, these populations should be examined across different settings and medication levels to determine the entire social context.

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