

What They Want and What They Get: The Social Goals of Boys with ADHD and Comparison Boys

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Twenty-seven boys diagnosed with attention-deficit hyperactivity disorder (ADHD) and 18 comparison boys participated in a competitive tetradic interaction task. Boys were individually interviewed before the game about their goals for the interaction, and adult observers inferred boys' social goals from videotapes of the interaction. Social acceptance was determined by combining positive and negative sociometric nominations collected through individual interviews at the end of the summer research program in which the interaction was held. In their self-reports, ADHD-high aggressive boys prioritized trouble-seeking and fun at the expense of rules to a greater extent than did both ADHD-low aggressive and comparison boys. Observers judged ADHD-high-aggressive boys to seek attention more strongly and seek fairness less strongly than the other two groups. Self-reported goals of defiance and cooperation predicted boys' end-of-program social standing, even with interactional behaviors and subgroup status controlled statistically. Observer-inferred goals were differentially associated with social acceptance for ADHD and comparison boys, suggesting discontinuities in peer interaction processes. Differentiation of goals from behavior and the integral role of children's goals in peer acceptance are discussed.

Interpersonal difficulties and peer disapprobation are central aspects of the psychopathology and impairment of children with attention-deficit hyper-

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activity disorder (ADHD) (Hinshaw, 1992; Whalen & Henker, 1985, 1992).³ Childhood peer problems stand out as strong predictors of enduring social and academic difficulties (Klein & Mannuzza, 1991; Parker & Asher, 1987) and are considered among the most intervention-resistant domains of ADHD (Hinshaw, 1992). Youngsters with ADHD display social behavior that is characterized as disruptive, controlling, trouble-making, and frequently aggressive (Cunningham & Siegal, 1987; Hinshaw, Henker, Whalen, Erhardt, & Dunnington, 1989; Madan-Swain & Zentall, 1990; Milich & Landau, 1989; Pelham & Bender, 1982; Whalen & Henker, 1985), features that are highly associated with peer rejection (Erhardt & Hinshaw, 1994). Because ADHD is frequently (but not always) associated with oppositionality, defiance, aggression, and antisocial behavior (Biederman, Newcorn, & Sprich, 1991; Hinshaw, 1987), it is important to note that subgroups of ADHD youngsters who show high and low aggressiveness are both socially rejected by peers (Carlson, Lahey, Frame, Walker, & Hynd, 1987; Pelham & Bender, 1982), with some investigations revealing greater disapproval for high-aggressive subgroups (Hinshaw & Melnick, 1995; Milich & Landau, 1989). The strong likelihood of peer difficulties for children with ADHD has prompted efforts to understand the processes that engender their interpersonal rejection.

Promising developmental research linking children's social cognitions with their peer behavior and status (e.g., Dodge, Petit, McClaskey, & Brown, 1986) has been applied to this population, but only a few specific social-cognitive and social skill deficits have been linked with disruptive behavior in ADHD. Hyperactive children appear to be as skilled as non-diagnosed peers in the construal of most social situations (see Campbell, 1990, and Whalen & Henker, 1985, 1992, for reviews), with notable exceptions including their greater display of aggressive problem-solving for conflictual situations (Grenell, Glass, & Katz, 1987) and their overattribution of hostile intent to peers' ambiguous provocations, which may predispose to retaliation among aggressive ADHD children (Murphy, Pelham, & Lang, 1992). Rather than resulting from problem-solving or social-information processing deficits, problematic behavior in children may instead stem from the selection of goals that are inappropriate to particular social situations (Renshaw & Asher, 1982). Children's observed behavior and stated behavioral strategies appear to vary with their desired goals (Erdley & Asher, 1993; Lochman, Wayland, & White, 1993; Schmidt, Ollendick, & Stanowicz, 1988). Thus, investigation of "social agendas" may fuel insights into the

³Herein the terms attention-deficit hyperactivity disorder (ADHD) and hyperactivity are used interchangeably.

processes involved in hyperactive children's inappropriate behavior and associated peer rejection (Whalen & Henker, 1985).

Sociometrically popular and unpopular children in nondiagnosed populations have been modestly differentiated by their social agendas. In one report, unpopular children's goals were rated as less friendly in situations of peer conflict (Renshaw & Asher, 1983); in another, their outcome preferences were categorized as more instrumental (i.e., oriented toward preserving or enhancing their performance, territory, or self-esteem in peer situations) and less relational (i.e., pertinent to interpersonal aspects of the situation) than those of popular peers (Crick & Ladd, 1990). When applied to clinical or extreme samples, similar findings hold. Buhrmester, MacDonald, and Heller (1989) found that boys with ADHD were inferred by observers to have agendas for social interactions that differed from those of comparison boys (e.g., more directed toward seeking excitement, disruption, and dominance, and less directed toward cooperation). Importantly, having interactional agendas that were nonparallel to those of comparison playmates predicted lower social status for boys with ADHD. Dominance- and revenge-oriented goals for a hypothetical situation were also associated with aggressive and antisocial behaviors and peer rejection in male adolescents (Lochman et al., 1993).

We investigated ADHD and nondiagnosed boys' social goals and behavior in a small-group peer interaction task that elicited the competing goals of competition, cooperation, and having fun, pursuing two major aims: (1) to investigate group (ADHD vs. comparison) and subgroup (ADHD-high aggressive vs. ADHD-low aggressive) differences in social goals for the naturalistic peer interaction, as assessed through both self-report interviews and videotaped observations of behavior; and (2) to examine the association between children's social goals and their overall peer acceptance. We attempted to capture both the performance and interpersonal aspects for children's goals for recreational situations by distinguishing instrumental and relational goals (Crick & Ladd, 1990; Renshaw & Asher, 1983; Taylor & Asher, 1984). Based on inferences that hyperactive boys show predominantly sensation-seeking agendas (i.e., seeking attention, stimulation, and power in game situations; Buhrmester et al., 1989), we also included this dimension. We hypothesized that ADHD boys would report different goals from those of comparison boys and that ADHD-high-aggressive boys would have goals that were more sensation-seeking in nature than boys in the other two groups. Further, we hypothesized that, even with statistical control of diagnostic status and behaviors displayed during the peer interaction, children's goals would be associated with peer rejection.

METHOD

This study was embedded in a 5-week naturalistic camp/enrichment program conducted at U.C. Berkeley in 1991 that was designed to investigate a constellation of variables related to peer relations in ADHD and comparison boys. During the summer research program, we also investigated ADHD children's responses to methylphenidate. Other research utilizing this sample is reported in Anderson, Hinshaw, and Simmel (1994); Hinshaw, Simmel, and Heller (1995); and Nigg, Swanson, and Hinshaw (1996).

Subjects

Participants in this study were 27 ADHD and 18 comparison boys, who were divided into a younger cohort (ages 6 to 8.5) and an older cohort (ages 9 to 12) for the program's activities. ADHD subjects were recruited from local pediatricians, mental health clinics, and parent support groups. Initial criteria included a community diagnosis of ADHD and treatment with stimulant medication for at least 4 months prior to beginning the study. Exclusion criteria for ADHD children included IQ < 80, overt neurological damage, and treatment with psychotropic medication other than stimulants. Confirmation of diagnostic status was made through structured interviews with parents and scores on parent rating scales. All ADHD children met or surpassed the cutoff of five out of nine symptoms on the Attention Problem subscale of the DACI Structured Interview with parents (Loney, 1987). In addition, with ratings from either parent considered, ADHD children surpassed cutoff scores for ADHD on pertinent items of the Disruptive Behavior Disorders Checklist (DBD; American Psychiatric Association, 1987; see Pelham, Gnagy, Greenslade & Milich, 1992) and the Conners Abbreviated Parent Rating Scale (Goyette, Conners, & Ulrich, 1978). In addition, on the DBD, 11 of the 27 children met criteria for oppositional defiant disorder (ODD), and one additional boy met criteria for conduct disorder (CD).

Subgroup divisions of ADHD boys were based on global staff ratings of aggressiveness (physical aggression, verbal aggression, defiance) made at the end of the summer research program. Nine senior staff members rank-ordered boys within each age cohort according to their impression of each child's overall behavior throughout the entire program (including all levels of medication states for the ADHD boys), with $\alpha = .95$. Although subject to recency effects in the averaging of boy's salient behavior across 5 weeks, this approach to ratings of publicly observable traits by multiple and familiar observers has shown reliable and predictively valid measure-

ments (see Kenrick & Funder, 1988, for rationale) and has proved valuable in previous research in this laboratory (Hinshaw et al., 1989). Indeed, such global staff ratings appear more valid than parent ratings or child self-reports in relation to observed aggression (Garcia & Hinshaw, unpublished data, 1994). A median split procedure divided the sample of 27 boys into an ADHD-high-aggressive ($n = 14$) and an ADHD-low-aggressive subgroup ($n = 13$). Further validation of subgrouping derives from the overlap between global ratings and DSM-III-R criteria for oppositional defiant disorder: Nine of the 14 high-aggressive boys met ODD criteria by either parent's DBD rating.

Comparison subjects were recruited from advertisements in local newspapers. Exclusion criteria for comparison subjects were the same as those for ADHD children, but also included scores in the clinical range for ADHD, ODD, or CD. The overall sample population was 63% (29) Caucasian, 12% (5) Black, 12% (5) Asian, 7% (3) Hispanic, and 7% (3) Native American and ranged widely in socioeconomic status. The population of ADHD and comparison subjects did not differ significantly on any sociodemographic or cognitive variables except on the Verbal intelligence scores of the Wechsler Intelligence Scale for Children—Revised (WISC-R; Wechsler, 1974), for which comparison boys scored higher, and racial background (see Table I).

Table I. Means of Demographic Variables Assessed by Group^a

| Variable | ADHD ($n = 27$) | Comparison ($n = 18$) | <i>p</i> |
|--|----------------------|----------------------------|--------------|
| Child age (in months) | 118.6 (22.3) | 110.4 (25.74) | n.s. |
| Mother's age (in years) | 41.4 (4.14) | 42.0 (5.12) | n.s. |
| Father's age (in years) | 43.1 (7.36) | 40.5 (6.23) | n.s. |
| Income level (scale from 1 to 6) | 4.48 (1.34) | 3.82 (1.66) | n.s. |
| Family status (% biological parents) | 67 | 83 | n.s. |
| Family type (% two-parent families) | 85 | 71 | n.s. |
| Race (% Caucasian) | 70 | 53 | $p < .01^b$ |
| WISC-R Verbal IQ | 109.96 (14.1) | 123.23 (15.0) | $p < .005^b$ |
| Woodcock-Johnson Achievement Tests (National Percentile Scores): | | | |
| Math | 50.86 (33.3) | 82.94 (23.5) | $p < .005^b$ |
| Reading | 57.85 (32.62) | 83.47 (19.5) | $p < .001^b$ |

^aNumbers in parentheses represent standard deviation values. ADHD = attention-deficit hyperactivity disorder; WISC-R = Wechsler Intelligence Scale for Children—Revised.

^bSignificance as determined by independent sample *t*-test or chi-square test.

Procedures

The self-report data for social goals were obtained from individual interviews of each boy with respect to the game to be played immediately thereafter. Observer data were collected through videotaped coding of the interactions. Two sets of three coders (who were unfamiliar with the children, and unaware of diagnostic or medication status) provided data for each of the coding systems. The interaction task was the game of Foosball, a large table game of soccer played with toy players manipulated by handles. Children played in randomized tetrads, with teams of one medicated hyperactive boy paired with one comparison boy, competing against one hyperactive boy on placebo paired with one comparison boy. Every boy participated twice, with the ADHD boys experiencing a medication–placebo crossover.⁴

Measures

Child Self-Report. Trained undergraduates, unaware of diagnostic or medication status, interviewed children using a standardized forced-choice procedure. The boys selected and ranked their top four goals from a pre-selected group of 12 global goals, which were generated from previous research and grouped into three a priori dimensions (Buhrmester et al., 1989; Renshaw & Asher, 1983; Taylor & Asher, 1984). These dimensions, with specific goals following each, were (a) *instrumental*—to win the game; to be the best player, to get better at the game; to make the game competitive; (b) *relational*—to be liked by the other kids; to be a tough guy; to make sure everyone plays fair; to be a good sport; and (c) *sensation-seeking*—to show the others I'm not afraid of getting in trouble; to make the game exciting; to have fun, even if it means breaking the rules or teasing the other kids; to cooperate, even if it means the game is not as much fun (reverse coded). Subjects ranked their first through fourth choices for each of the three sets of goals, which we presented in counterbalanced order across interviews. From their top two choices for each of the three sets of goals, subjects selected and ranked their overall top four goals. This final

⁴Over the course of the summer, hyperactive boys were evaluated for their responses to three medication states of methylphenidate: placebo, low dosage (0.3 mg/kg), and moderate dosage (0.6 mg/kg). Each dosage was administered for 1 week in counterbalanced order. In a double-blind crossover design, each hyperactive boy participated in the study once on placebo and once on the low dosage of methylphenidate. Due to the constraints of a preestablished medication regimen, two-thirds of the hyperactive boys ($n = 18$) were assigned to the order of placebo–medication and one-third ($n = 9$) was assigned to the order of medication–placebo for the social interaction of this investigation.

order constituted the boys' priority goal choices. Although goals were initially selected to fit these three metadimensions, few significant group differences or intercorrelations across dimensions were found; therefore, each of the 12 goals was analyzed separately.

Adult Observer Ratings. Observers inferred the importance of achieving each of nine global goals for every child. The nine goals were determined by the following methods: (a) retaining two self-reported goals verbatim (not afraid of trouble, play fair); (b) consolidating 6 of the self-report goals (win and be best player; make the game fun and exciting;⁵ be liked and be a good sport); and (c) adding four additional goals based on the authors' inductive judgments of behaviors displayed by the participants in the interactions (e.g., wants to dominate the setting of the rules; wants to show off in front of the other children; wants to get what he believes he is entitled to/protect his territory; wants to avoid being teased by the other children). The extent of child's motivation to achieve each goal was rated on a bipolar scale ranging from -3 to +3 with the extremes representing how much the child wanted or did not want to achieve that goal. Ratings were made for the nine goals across two game-playing observations. Alpha coefficients ranged from .54 to .82, with only two coefficients falling below .76.

Behavior Observations. Observers coded each child's behavior during the Foosball game into six mutually exclusive behavior categories during 10-sec time intervals throughout the interaction: on-task, off-task/noncompliant, prosocial, verbal aggression, physical aggression, and nonsocial behaviors. These categories were derived from the previously validated time-sampling coding system for classroom and playground behaviors of Hinshaw et al. (1989). Given the relatively low base rate of aggressive behaviors, verbal and physical aggression scores were combined. Based on overlap for 66% of the data, interrater reliabilities for the three pairs of coders were .81, .78, and .78, with kappas in the marginal range.

Peer Sociometric Nominations. Social acceptance was determined by sociometric nominations of all peers in the same age cohort, made on the last day of the summer program in individual, confidential interviews. Subjects made nominations of three boys in their age cohort with whom (a) they would most like to be friends (positive nominations), and (b) they would least like to be friends (negative nominations). Positive and negative nominations were collected because most studies have reported only modest to moderate correlations between acceptance and rejection (Coie,

⁵These goals (make the game exciting and have fun, even if it means teasing other kids or breaking the rules) were not significantly correlated but were combined because of the infrequent endorsement of the latter goal and the difficulty of distinguishing the inference of these two goals in pilot coding.

Dodge, & Coppotelli, 1982) and because their combination forms the basis for empirically validated sociometric categories (for a review of current sociometric methodology see Newcomb, Bukowski, & Pattee, 1993). The criterion variable, social preference, was calculated by subtracting the number of negative nominations from the number of positive nominations; the same number of children in each age cohort number precluded the necessity of converting number of nominations into proportion scores. In this study, social preference was dimensional rather than categorical because our limited sample size precluded designation of children into sociometric categories. Recent research comparing the dimensional and categorical approaches to peer status classification suggests that dimensional measures correlate with external variables to an equal or greater degree than do categorical measures (Bennet & Shroff, 1991).

RESULTS

Data on children's self-reported and observed goals were analyzed by univariate analysis of variance (ANOVA) in a 3 (Subgroup) \times 2 (Time) design. Subgroup membership was a between-subjects factor and time was a within-subjects factor. A medication-placebo crossover occurred for ADHD children across Time 1 and Time 2 of playing the game and significant medication effects were found for adult observer inferences but not for children's self-report of goals.⁶ In order to avoid the confounding of time data with differing medication states, analyses were conducted with ADHD boys' placebo condition data.⁷

Because this study was considered an exploratory study of social goals and their relation to external criteria, alpha levels were set at .05 for all

⁶Medication effects were analyzed using the interaction term of the ANOVAs for the following reason: ADHD boys crossed over medication status from Time 1 to Time 2 whereas comparison children took no medication. Because medication state was carried out in a crossover design with two medication orders, effects of medication were extracted from significant interaction effects of time and medication order. Regarding observer-inferred goals, ADHD boys on medication were rated as exhibiting *less* motivation to want certain goals to happen than were boys on placebo. These goals included dominating the setting of the rules, $F(1, 25) = 6.90, p < .01$, showing the other kids they are not afraid of getting in trouble $F(1, 25) = 6.18, p < .02$, and wanting to show off in front of their peers and the camera, $F(1, 25) = 9.14, p < .005$. ADHD boys on medication were also judged to show higher mean levels of motivation to make sure everyone played fairly, $F(1, 25) = 5.89, p < .02$.

⁷In such analyses, comparison children's data were randomly chosen from their Time 1 or Time 2 trial, because placebo data could emanate from either time session. The random assignment of comparison children's time trial paralleled the pattern of hyperactive children's medication crossover (i.e., because two-thirds of the hyperactive children were on placebo during Time 1, two-thirds of the comparison children's data were randomly chosen from Time 1).

analyses. To control for familywise error, omnibus F -tests were conducted for group and subgroup analyses, and all pairwise comparisons were subjected to more stringent Tukey tests. Self-report variables were examined for association with their corresponding observer goals. Although the content of the goals was isomorphic for most but not all of the goals, no significant correlations were obtained.⁸ Therefore, all subsequent analyses were performed separately for self-report and inferred goals, and data were not aggregated across sources.

Self-Report Goals. Calculation of self-report goal mean scores was made from reversing the subjects' rankings, such that their first choices were assigned a 4 and their fourth choices were assigned a 1. Nonranked goals were assigned a zero. Subgroup differences were noted for several goal rankings, reflecting differences between ADHD-high-aggressive and the other two groups, the ADHD-low-aggressive and comparison boys. Data from subjects' four ranked goal choices are presented in Table II. ANOVAs (using the Kruskal-Wallis test for ordinal data) revealed significant subgroup differences on the goals of having fun, even if it means breaking the rules or teasing the other kids ($F = 3.58, p < .03$), not afraid of trouble ($F = 2.70, p < .05$), and playing fair ($F = 5.99, p < .01$). Because

Table II. Means of Child Self-Report Goal Rankings by Subgroup*

| Self-report goal | Comparison (n = 18) | ADHD-low aggressive (n = 13) | ADHD-high aggressive (n = 14) | F |
|------------------|--------------------------|------------------------------|-------------------------------|------|
| Win | 2.05 (1.92) | 2.15 (1.77) | 1.78 (1.88) | 0.14 |
| Competitive | 1.27 (1.52) | 0.30 (0.75) | 0.50 (1.09) | 2.86 |
| Get Better | 0.83 (1.42) | 0.92 (1.49) | 0.64 (1.33) | 0.14 |
| Best player | 0.77 (1.30) | 1.15 (1.40) | 1.50 (1.82) | 0.90 |
| Trouble | 0.05 (0.23) _a | 0.00 _a | 0.64 (1.44) _b | 2.70 |
| Have fun | 0.05 (0.23) _a | 0.00 _a | 0.35 (0.74) _b | 3.58 |
| Exciting | 1.22 (1.35) | 0.92 (1.18) | 1.07 (1.32) | 0.20 |
| Cooperate | 0.83 (1.20) | 0.76 (1.87) | 0.64 (1.15) | 0.09 |
| Tough guy | 0.22 (1.44) | 0.15 (0.55) | 0.64 (1.08) | 1.22 |
| Like me | 1.22 (1.51) | 0.69 (1.18) | 1.42 (1.28) | 1.06 |
| Fair | 0.77 (1.00) | 2.07 (1.65) _a | 0.50 (1.16) _b | 5.99 |
| Good sport | 0.72 (1.31) | 0.69 (1.18) | 0.28 (0.82) | 0.66 |

*Numbers in parentheses represent standard deviation scores. Means with differing alphabet letters represent scores that are significantly different. These findings were supported by Tukey tests. ADHD = attention-deficit hyperactivity disorder.

⁸The lack of significant correlations also may have been due to the different format of the self-report data (ordinal scaled) and observer data (interval scaled).

preexisting differences were demonstrated on some sociodemographic variables, all analyses were rerun separately with verbal IQ and race entered as covariates. The same pattern of differences was found.⁹

Observer-rated Goals. ANOVA analyses revealed subgroup differences for two adult-inferred goals: ADHD-high-aggressive boys were judged to want to play fair less strongly than were the other two groups, $F(2, 42) = 5.15, p < .01$, and to show off more than were the comparison boys, $F(2, 42) = 3.38, p < .04$.

Social Goals and Behavior During the Interaction. No group or subgroup differences were found for any of the discrete behavioral categories. The highly engaging nature of the Foosball game elicited high levels of compliance as well as similar levels of enthusiastic competition and aggression for both ADHD and comparison boys. Observer inferences of goals from children's interactions were correlated with several behaviors in the mild to moderate range (r s from .20 to .60), suggesting that inferences of goals were partially derived from but independent of assessments of behavior. Significant correlations were all in the expected direction (e.g., verbal and physical aggression were associated with wants to dominate, wants to be liked (reversed), wants to protect self-esteem/territory).

Social Goals and Sociometric Status. Main effects of subgroup were noted for social preference, with high-aggressive-ADHD boys the least liked and comparison boys the most liked (see Hinshaw & Melnick, 1995).¹⁰ The relationship of children's goals to sociometric status was analyzed using Pearson correlations (both across the entire sample and within groups) and multiple-regression analyses. For multiple-regression analyses, children's goals, either self-reported or observed, were used as predictor variables, and social preference scores served as the criterion variable.

Self-Report Goals: Two of the 12 self-reported goals were significantly related to end-of-program social preference scores. The more that boys reported they were not afraid of getting in trouble, the less they were socially accepted, $r(43) = .32, p < .03$. In contrast, wanting to cooperate was cor-

⁹Because of the fine-grained distinctions involved in children's differentiation between priority choices (e.g., first and second choices), boys' top four choices were collapsed into dichotomous categories of whether each subject did or did not endorse the goal as a top choice. Chi-square analyses determined the percentage of boys in each subgroup who endorsed each goal at all. Data from chi-square analyses corroborated ANOVA analyses revealing subgroup differences on the prioritization of fun and the deemphasis on fairness. Of additional note, these analyses revealed that over 70% of the aggressive subgroup endorsed the goal of wanting to be liked, which was twice the rate of the other two subgroups.

¹⁰The unusually high proportion of ADHD children in our data collection may have skewed nominations in favor of ADHD children. In three other summer program data collections, we found an overall tendency of both ADHD and nondiagnosed boys to negatively nominate ADHD peers, whereas ADHD boys showed a greater tendency to positively nominate their diagnosed age mates (see Hinshaw & Melnick, 1995, for a thorough review of this issue).

related with higher social acceptance $r(43) = .39, p < .008$. As seen in Table III, both not afraid of trouble and cooperate predicted a significant portion of the variance of peer acceptance in multiple-regression analyses, even when aggression during the interaction was controlled. Additionally, the goal of cooperation contributed significantly after controlling for subgroup status.

Observer-Inferred Goals: Although no significant correlations were found between overall observer-rated goals in the social interaction and social preference in the summer program, examination of correlations within each group (ADHD vs. comparison) proved important. First, wanting to protect one's self-esteem or territory in the game predicted higher social status for ADHD children and lower status for comparison children (ADHD boys $r = +.48, p < .01$; comparison boys $r = -.47, p < .05$). The difference between these two correlations was significant, $Z = 3.12, p < .001$ (Horowitz, 1974). Second, the more that ADHD children were judged to want to make the game exciting/fun, the higher their social preference scores in the summer program ($r = +.46, p < .01$) whereas the more comparison children were judged to want to make the game exciting/fun, the

Table III. Multiple-Regression Analyses of Self-Report and Observer-Inferred Goals Predicting to Peer Status

| | R^2 | Incremental R^2 | Unstandardized beta |
|--|------------------|----------------------|------------------------|
| Subgroup | .13 ^b | .13 | -2.29 |
| Not afraid of trouble (self-report goal) | .17 ^c | .04 | -1.27 |
| Verbal and physical aggression | .01 | .01 | .08 |
| Not afraid of trouble (self-report goal) | .10 ^b | .09 ^b | -1.81 |
| Subgroup | .16 ^c | .16 | -2.48 |
| Cooperate (self-report goal) | .30 ^c | .14 ^c | 1.52 |
| Verbal and physical aggression | .01 | .01 | .06 |
| Cooperate (self-report goal) | .15 ^c | .14 ^c | 1.52 |
| Subgroup | .21 ^c | .21 | -2.82 |
| Fun/exciting (inferred goal) | .31 ^c | .10 ^b | 1.78 |
| Verbal and physical aggression | .01 | .01 | .06 |
| Fun/exciting (inferred goal) | .08 ^b | .07 ^a | 1.52 |

^a $p < .10$.

^b $p < .05$.

^c $p < .01$.

lower their social preference scores ($r = -.34$, n.s.), $Z = 2.39$, $p < .015$. Similar patterns were found for the goal of wanting to dominate (ADHD boys $r = +.43$, $p < .02$, and comparison boys $r = -.35$, n.s.; $Z = 2.36$, $p < .015$). In contrast, the more comparison boys were judged to want to be liked and be a good sport, the more they were accepted by peers ($r = +.68$, $p < .002$), whereas ADHD boys' attempts to seek acceptance were unrelated their actual acceptance (ADHD boys $r = +.06$, n.s.) ($Z = 2.32$, $p < .01$). These data indicate that observers' impressions about children's goals differentially correlate with social acceptance for ADHD vs. comparison boys.

Observer-rated goals showing significant correlations with social preference (within the ADHD or comparison samples) were entered into stepwise multiple regression to determine their unique contribution to variance in social preference. Of these four goals, only the goal of wanting to make the game exciting/fun was a significant predictor of peer acceptance, even when subgroup status was partialled (see Table III) and a near-significant predictor when controlling for levels of interactional aggression and non-compliance (unstandardized beta = 1.52, $p < .06$).

DISCUSSION

In order to discern whether ADHD boys exhibit divergent social goals and to understand the links between children's goals and social acceptance, we investigated children's self-reported and observer-inferred goals for a social interaction. Although analyses were exploratory, and although no significant correlations were found between goals reported by the children and those inferred by adult observers, both methodologies independently revealed that ADHD-high-aggressive boys tended to seek domination, disruption, and trouble-making to a greater extent than ADHD-low-aggressive and comparison boys. Furthermore, children's goal endorsements in the brief pregame interview, particularly those pertaining to trouble-seeking and cooperation, demonstrated predictive validity to children's overall social acceptance at the end of the 5-week summer camp, even when the effects of children's aggressive interactional behavior or subgroup were controlled. In addition, observer inferences of children's goals indicated that these agendas may be differentially associated with sociometric status for hyperactive and comparison boys.

This study supports Renshaw and Asher's (1982) emphasis on the importance of children's choice of goals in their display of maladaptive behavior. Goals serve as an organizational framework and a guiding rationale for behavior (Wyer & Srull, 1986), and they shape children's behavior and

perceptions of the social environment in reciprocal fashion. Importantly, state-of-the-art models of social adjustment reflect this current trend toward reciprocity and integration among goal pursuits, information-processing, and behavior (Crick & Dodge, 1994). Our results support the viability of investigating children's agendas for social interaction and suggest that children's goals play an identifiable role in their social competence.

Children's goals for the interaction discriminated children by subgroups defined by global staff ratings of aggression, which showed high (but not perfect) overlap with diagnoses of oppositional defiant disorder. The importance of subtyping is reaffirmed by the implication that it may be the aggressive component, rather than an attentional deficit per se, that places ADHD children at risk for socially inappropriate goals and peer rejection. A prior effort to disentangle contributions of hyperactive, aggressive, and inattentive-immature dimensions of behavior to rejection in a normal sample also found that aggression tended to predict rejection over and above hyperactivity (Pope, Bierman, & Mumma, 1991). The sensation-seeking goals that aggressive-hyperactive boys reported may represent part of a constellation of divergent social-cognitive processes found among boys characterized by aggression, such as a bias toward attribution of hostile intent (Dodge & Frame, 1982; Milich & Dodge, 1984) and an exaggerated perception of benefit for aggressive acts (Perry, Perry, & Rasmussen, 1986). Given the co-occurrence and bidirectionality of aggressiveness and peer rejection (Coie & Lenox, 1994), it is equally plausible that aggressive children's deviant goals are contributions as well as responses to their prevailing peer status (see also Olson, 1992).

Social goals may be linked to peer acceptance through a number of intermediate peer interactional processes, with differences in the prediction of social status for ADHD and comparison boys potentially indicative of discontinuities in these processes. We speculate that these findings can be interpreted to suggest that ADHD children were rewarded for their domineering and excitement-arousing orientations whereas comparison children were not liked for these kinds of agendas. This pattern of findings parallels previous reports of situational specificity in the acceptance of hyperactive children: Other children would choose hyperactive children as friends for a field trip (a situation that is fun) but would not choose them as lab partners (Whalen & Henker, 1985). One way of understanding "deviant" goals and aggressive behavior may be that hyperactive/aggressive boys are most accepted when they comply with assigned roles, such as that of troublemaker. It is provocative and poignant that a majority of the ADHD-high-aggressive children reported wanting to be liked, yet their behaviors or reputations may have precluded them from changing peers' impressions.

This study examined both child self-reports and observer inferences of goals for a social interaction. Despite adequate reliability of both methodologies in this study, each methodology contributed independent information regarding the relationship between children's goals and peer acceptance. Although the lack of convergent validity between these two sources may have been due, in part, to the different metric used in their calculation (i.e., rankings vs. ratings), the low convergent validity underscores the importance of obtaining both perspectives in research with children.

The modest overlap of time-sampled behaviors and inferred goals suggests that qualitative aspects of behavior (such as intensity of goal-seeking) may communicate important supplementary information. The notion that children's inferences of other children's social goals play an important role in peer friendship decisions is also supported by Buhrmester et al. (1989), who found that ADHD children's nonparallel goals (e.g., disruption and dominance) strongly and negatively predicted social status. By controlling for interactional behavior and subgroup status, the current study provides even stronger evidence that children's goals are implicated in their social standing, indicating that goals may mediate a pathway to social acceptance that is partially independent of children's actual behavior. This conclusion echoes and expands previous research predicting social standing from hypothetical story methodologies absent of actual interaction (Renshaw & Asher, 1983), and it bolsters Coie's (1990) contention that children consider peers' overt and covert communications about social goals in their friendship determinations. A fruitful area of future research may lie in the investigation of the ways goals are communicated through behavior and detected by others.

The results of this study are correlational, thus precluding the assumption that goals "cause" peer interactional behavior or peer rejection. Rather, it is likely that children's motivations, behavior, and peer status are reciprocally determined. Among the methodologic limitations in this study was the relatively large number of analyses performed across the two types of goal assessments in relation to the relatively small number of subjects available to pursue subgroup differences and predictive relationships. Despite the small sample size, however, the strength of these relationships is highlighted by analyses finding that defiance, cooperation, and sensation-seeking goals were significant predictors of social acceptance over and above other covariates. Additionally, because a majority of boys in the aggressive subgroup did not prioritize sensation-seeking goals, further investigation of ADHD-high-aggressive children's goals will be required before conclusions can be drawn about the possibility of a deviant goal orientation in this clinically significant subgroup of children. Finally, the similarity be-

tween ADHD-low-aggressive boys' and comparison boys' goals in this investigation may reveal a previously unrecognized strength. The implications of these findings for intervention may be that ADHD-low-aggressive boys may need more coaching on the behavioral enactment of appropriate goals whereas ADHD-aggressive-boys may be better helped through restructuring of priority goals. Incorporating a focus on children's goals into social skill interventions may provide needed improvements to existing treatments for this population at risk for peer rejection.

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