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Peer and Parenting Characteristics of Boys and Girls with Subclinical Attention Problems

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Objective: This study examines peer and parenting characteristics of 149 boys and girls with and without subclinical attention problems. **Method:** Multivariate analyses showed that children with attention problems had higher levels of negative peer nominations and conflict and betrayal in friendships, and their parents tended to use higher levels of negative parenting characteristics compared to comparison children. Children with subclinical attention problems also reported lower levels of positive friendship qualities, and their parents tended to use lower levels of positive parenting characteristics than comparison children. **Results:** Beyond normative gender differences (e.g., girls reported higher rates of parental involvement than boys), no significant group by gender interactions were found. **Conclusion:** These findings suggest that both girls and boys who were identified using a subclinical cutoff for attention problems have more difficulties relative to comparison peers across social domains of functioning. (*J. of Att. Dis.* 2006; 9(4)598-606)

Keywords: attention problems; gender differences; social functioning

Many studies of the correlates and gender differences in Attention-Deficit Hyperactivity Disorder (ADHD) focus on a small range of factors, mainly those pertaining to the individual (e.g., Arcia & Connors, 1998). This narrow focus cannot provide a comprehensive understanding of ADHD because individuals are not passive recipients of environmental influences, but seek out and shape their social environments (Sabongui, Bukowski, & Newcomb, 1998). The interpersonal nature of many ADHD symptoms (e.g., intrusion into others' activities or space, disruptive behavior), the diagnostic requirement that impairment be observed in at least two settings, the associated difficulties (e.g., rejection by peers), and the implications of social learning theory for those less able to sustain attention to social cues suggest that research on characteristics in different social contexts is needed. Characteristics of children's functioning in two important social contexts are emphasized in the present study: friendships and parenting.

Although previous studies have documented significant social deficits associated with ADHD, our understanding of gender differences in this area is limited because many key studies have focused primarily or solely on boys (e.g., Hinshaw, Zupan, Simmel, Nigg, & Melnick, 1997). Pelham and Bender (1982) included a

small group of girls and found that both boys and girls with ADHD were more disliked than comparison peers, but peers viewed girls with ADHD as less deviant than boys with ADHD. Greene et al. (1996) identified and provided support for the construct of social disability in ADHD boys, using a psychometric approach similar to the approach for identifying learning disabilities. Their method identified boys with a standardized discrepancy between observed scores on a parent-report instrument of social functioning and scores predicted as a function of estimated Full Scale IQ as socially disabled. Boys with ADHD and social disability had significantly higher rates of mood, anxiety, disruptive, and substance use disorders at a 4-year follow-up than boys with ADHD and no social disability and comparison boys (Greene, Biederman, Faraone, Sienna, & Garcia-Jetton, 1997). More research is needed in this area to determine whether findings for boys also hold for girls with ADHD.

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Recently, two research groups (Greene et al., 2001; Hinshaw, 2002) have identified larger sample sizes of clinically referred girls with ADHD and included measures of social functioning. Although these large samples are invaluable in documenting impairments in girls, direct gender comparisons within ADHD samples have not been published and are needed to examine whether different mechanisms are involved in the etiology and manifestation of ADHD in girls and boys (L. E. Arnold, 1996). Few studies have made direct gender comparisons on social characteristics in samples of children with attention problems. A notable exception is Greene et al. (2001), who found more similarities than differences between boys and girls with ADHD in social functioning (using a measure that assesses social behavior at school and at home), with girls showing significant deficits compared to same-sex comparisons and a similar degree of impairment as boys. Some gender differences within ADHD were found, with boys scoring lower than girls on a measure of school behavior and girls scoring lower than boys on a measure of spare time activities (Greene et al., 2001). More research using gender direct comparisons on measures of social functioning is needed.

Most research on the social functioning of children with ADHD focuses on singular measures of peer relations (e.g., peer like or dislike) or global assessments of social impairment (e.g., Greene et al., 1997). Investigation of other aspects of peer relations in ADHD, such as reciprocity of friendship nominations and friendship quality, may improve our understanding of the mechanisms leading to impaired functioning in these children. Many low-accepted children have best friends and report satisfaction with these friendships, but score lower than other children on measures of friendship quality (Parker & Asher, 1993). Friendship qualities such as intimacy and validation may be particularly important for girls, whose friendships tend to be more intimate and distinguished by the sharing of confidences (Maccoby, 1990). Friendship quality may be more relevant or more impaired in girls than in boys with attention problems. The present study examined group and gender differences on a broad range of peer functioning characteristics.

A number of family characteristics are implicated in the social functioning and outcomes of children with attention problems. Mothers of boys with ADHD have parenting beliefs that are less authoritative than mothers of comparison boys (Hinshaw et al., 1997). Mothers of girls with ADHD have parenting beliefs that are higher on authoritarian and overwhelmed/unsure dimensions than mothers of comparison girls (Hinshaw, 2002). The relationship between behavior problems and parenting seems to be stronger for boys than for girls (Rothbaum & Weisz,

1994). Measures of parenting practices are related to observable discipline practices (Arnold, O'Leary, Wolff, & Acker, 1993) and can be linked to intervention strategies for children with behavior problems, so may have greater utility than measures of parenting style (Shelton, Frick, & Wootton, 1996). Studies of parenting practices in ADHD and externalizing behavior problems are generally limited by small sample sizes of girls (e.g., Shelton et al., 1996). Previous studies have also examined only parents' reports of their parenting practices (Hinshaw, 2002). The present study extends previous research by examining parenting in both girls and boys, using both parent and child reports on measures of parenting practices.

One difficulty in the area of gender differences in ADHD is the possible referral bias in clinical samples. Only the most severely affected girls are referred, so clinically referred girls deviate further from their same-sex peers than boys and may not be representative of girls with ADHD in general (L. E. Arnold, 1996; Gaub & Carlson, 1997; Nolan, Volpe, Gadow, & Sprafkin, 1999). Community-based samples facilitate a less biased investigation of gender differences in ADHD. Having more girls in the sample will permit meaningful comparisons (Gaub & Carlson, 1997). The study of subclinical samples is another important strategy for studying gender differences in groups at risk for developing the disorder. Research supports the subclinical ADHD category, showing that this form of the disorder is clinically meaningful and has lower rates of psychiatric comorbidity and psychosocial adversity than clinical groups (Costello & Shugart, 1992; Horwitz, Leaf, Leventhal, Forsyth, & Speechley, 1992; Scahill et al., 1999). By identifying children with subclinical levels of attention problems in community samples, we can identify girls with attention problems in sufficient numbers to examine psychosocial correlates.

The purpose of the present study was to examine group and gender differences in peer relationships and parenting practices. To avoid some of the methodological limitations inherent in using clinical samples of children with ADHD, we used a subclinical cutoff and a nonreferred sample. Aspects of peer relations, such as reciprocity in friendships and friendship quality, have not been previously studied in girls and boys with attention problems. Similarly, group and gender comparisons on child- and parent-reported parenting practices in this population have not been previously investigated. The present study included direct gender comparisons, the use of a subclinical cutoff score for identifying children with attention problems, and measures selected for their relevance to mechanisms that may lead to social impairment (rather than global assessment of social functioning).

Method

Participants

Participants were recruited from 15 schools in two school boards, in medium-sized and small urban centers, semirural and rural areas in southeastern Ontario. All students in Grades 5 through 8 were eligible to participate in the screening phase. An active consent procedure was used in the present study to satisfy local legal and ethical requirements. Of those students eligible to participate, 34% returned consent forms signed by their parent or guardian indicating agreement.

The first (screening) phase of this research identified two groups of participants based on self-reports: children with subclinical attention problems (scoring at or above the 85th percentile on the Youth Self-Report [YSR] Attention Problems scale; Achenbach, 1991c) and comparison students without attention problems (scoring below the 50th percentile on this measure). Comparison students were randomly selected after matching for grade, gender, and school. This procedure identified 218 students (109 in the attention problems group [APG] and 109 comparison) for participation in the second phase. Further questionnaires (including teacher and parent reports of attention problems) were administered to those 218 students. Final group selection was determined by self-report and either parent or teacher report. Participants were selected for inclusion in the comparison group if they scored below the 50th percentile on the YSR Attention Problems scale and at or below the 50th percentile on either the Child Behavior Checklist/4-18 (CBCL) Attention Problems scale or the Teacher's Report Form (TRF) Attention Problems scale. Cutoff scores for the CBCL and TRF were based on the raw mean scores from the standardization sample (Achenbach, 1991a, 1991b). Participants were selected for inclusion in the APG if they scored at or above the 85th percentile on the YSR Attention Problems scale in the current sample and 1 standard deviation or more above the mean of the standardization sample on either the CBCL or TRF Attention Problems scales. The mean for the APG on the YSR Attention Problems scale ($M = 9.85$, $SD = 1.63$) was comparable to the cutoff for the borderline clinical range of the YSR (raw score = 10).

The largest sample size available for analysis in the present study was 149 students (30 comparison boys, 34 APG boys, 55 comparison girls and 30 APG girls). Participants had a mean age of 11.8 ($SD = 1.2$, range = 10 to 14). There was no difference in mean age between the APG and comparison group. According to parent reports, 7 students were taking medication for attention problems (all

in the APG). The majority of Phase 2 participants' mothers (91%) and fathers (90%) had graduated from high school. The majority of participants' parents (94%) identified themselves as Caucasian/White (1% indicated Native and 5% indicated Other).

Measures

Demographic Information

Students indicated their sex, grade, age, and parents' education levels. In Phase 2, demographic information was collected using the Focus on You Questionnaire (Connelly & Konarski, 1994) and included items on family composition and parents' occupations. A similar demographic questionnaire was administered to the participating parents.

Attention Problems

Students, parents, and teachers provided ratings on the Attention Problems scale of the corresponding Achenbach measures (YSR, Child Behavior Checklist/4-18, and Teacher's Report Form) and ADHD symptom ratings from the *Diagnostic and Statistical Manual of Mental Disorders* (4th ed.; *DSM-IV*; American Psychiatric Association [APA], 1994).

Attention Problems scales (Achenbach, 1991a, 1991b, 1991c). The YSR (Achenbach, 1991c), CBCL (Achenbach, 1991a), and TRF (Achenbach, 1991b) are commonly used measures of child psychopathology. In this study, the Attention Problems scales were used. Total scale scores were computed for each scale by summing item ratings. Respondents rate each item on a 3-point scale. Test-retest reliabilities of YSR, TRF, and CBCL ratings are satisfactory and the standard errors of measurement are generally small (Achenbach, 1991a, 1991b, 1991c). The YSR Attention Problems scale has 9 items and normative data are available for youth ages 11 to 18. The internal consistency (coefficient alpha) of the YSR Attention Problems scale in the current sample was .82, comparable to those reported in the YSR manual (Achenbach, 1991c) for boys ($\alpha = .75$) and girls ($\alpha = .78$). The Attention Problems scale of the CBCL (Achenbach, 1991a) has 11 items, and the internal consistency in the current sample was .89. The Attention Problems scale of the TRF (Achenbach, 1991b) has 20 items, and the internal consistency in the current sample was high (Cronbach's $\alpha = .95$).

DSM-IV Rating Scale (APA, 1994), *ADHD Symptoms*. This scale comprises the 18 *DSM-IV* symptoms of inat-

tention and hyperactivity-impulsivity that respondents rate on a 4-point scale (0 = *not at all* to 3 = *very much*). The psychometric properties of this instrument as a self-report measure have not been previously evaluated. The internal consistencies for the self-reported *DSM* Inattentive and *DSM* Hyperactive/Impulsive scales were .85 and .84, respectively. Teachers and parents also completed this measure. Symptom utility estimates from the *DSM-IV* field trials indicate moderate to high positive and negative predictive values for these symptoms (Frick et al., 1994). Internal consistency values for the teacher-reported *DSM* Inattentive and Hyperactive/Impulsive scales were .96 and .94, respectively. The internal consistency values for the parent-reported *DSM* Inattentive and Hyperactive/Impulsive scales were .93 and .92.

Peer Nominations (Coie & Dodge, 1988)

Children nominated those in their class they “most like to play with” and “least like to play with” (unlimited) by circling the names of their peers on a form provided. Proportions of nominations were calculated within each class for number of positive and negative nominations.

Reciprocal Friendships

Students were asked to write the first and last names of their best friends (unlimited number), and reciprocity was assessed. Proportions were calculated within each class for the number of reciprocal friendship nominations.

Peer Relations: Friendships

The Friendship Quality Questionnaire (FQQ; Parker & Asher, 1993) measured the quality of the participants' friendships with their best friend. Six features of children's friendships were assessed: Companionship and Recreation (5 items; $\alpha = .71$), Help and Guidance (9 items; $\alpha = .90$), Validation and Caring (10 items; $\alpha = .89$), Intimate Exchange (6 items; $\alpha = .90$), Conflict and Betrayal (7 items; $\alpha = .48$), and Conflict Resolution (3 items; $\alpha = .78$). Children rated how true each description was of their best friendship, using a 5-point scale. Satisfactory internal consistency values for the scales of this measure have been reported in children in Grades 3 to 6 ($\alpha = .73$ to $.90$; Parker & Asher, 1993). The internal consistencies of these scales in the present sample ranged from low to high.

Parenting

A modified version of the Alabama Parenting Questionnaire (APQ; Shelton et al., 1996) measured student-reported parenting. The APQ includes the following scales:

Parental Involvement (10 items; $\alpha = .84$), Positive Parenting (6 items; $\alpha = .81$), Poor Monitoring/Supervision (10 items; $\alpha = .86$), and Inconsistent Discipline (6 items; $\alpha = .69$). The original APQ was modified in this study by excluding the Corporal Punishment and Other Discipline Practices scales. The items were rated on a 5-point frequency scale ranging from 1 (*never*) to 5 (*always*). The scales previously have been shown to have internal consistencies ranging from $\alpha = .43$ (for adolescent reports of Poor Monitoring/Supervision) to $\alpha = .90$ (for adolescent reports of Parental Involvement) in a sample of children and adolescents between the ages of 9 and 17 (Frick, Christian, & Wootton, 1999). Internal consistencies of these scales ranged from low to moderate reliability in the current sample.

The parent version of this measure (Shelton et al., 1996) used in the present study also excluded the Corporal Punishment and Other Discipline Practices scales. Parent ratings on this measure differentiate families with children with disruptive behavior disorders from those without such difficulties (Shelton et al., 1996). Previous studies have shown a wide range of values for internal consistency of the scales used here ($\alpha = .49$ for Poor Monitoring/Supervision in a middle childhood sample to $\alpha = .82$ for Parental Involvement in an adolescent sample; Frick et al., 1999). The internal consistency values in the present study were as follows: Parental Involvement = $.72$, Positive Parenting = $.76$, Poor Monitoring/Supervision = $.66$, and Inconsistent Discipline = $.81$.

Results

Group Differences

Two 2 (group : attention problems and comparison) \times 2 (gender) multivariate analyses of variance (MANOVAs) were used to examine peer/friendship characteristics and parent-reported parenting characteristics. Age was significantly related to three student-reported APQ scales (Positive Parenting, $r = .202$, $p < .05$; Parental Involvement, $r = -.337$, $p < .05$; Poor Monitoring, $r = .196$, $p < .05$), so age was included as a covariate in the analysis of student-reported parenting (and only in this analysis). Each analysis was performed on different samples because of missing data. To test for biased attrition between samples, a number of independent samples *t*-tests were performed on age, the YSR Attention Problems scale, and the *DSM* Hyperactivity/Impulsivity and Inattentive scales. There were no significant differences between samples. A number of the dependent variables were skewed, and so they were transformed to produce normal distributions, as indicated in Tables 1 to 3. Effect size estimates were cal-

Table 1
Measures of Central Tendency on Student-Reported Peer and Friendship Characteristics

| Variable | Attention Problems Group | | | | Comparison Group | | | |
|---|--------------------------|-----------|------------------------|-----------|-----------------------|-----------|------------------------|-----------|
| | Boys (<i>n</i> = 31) | | Girls (<i>n</i> = 23) | | Boys (<i>n</i> = 25) | | Girls (<i>n</i> = 45) | |
| | <i>M</i> | <i>SD</i> | <i>M</i> | <i>SD</i> | <i>M</i> | <i>SD</i> | <i>M</i> | <i>SD</i> |
| Most like nomination (proportion) ^a | 0.24 | 0.21 | 0.27 | 0.16 | 0.27 | 0.20 | 0.32 | 0.14 |
| Least like nomination (proportion) ^{a,b} | 0.40 | 0.22 | 0.41 | 0.18 | 0.23 | 0.19 | 0.26 | 0.19 |
| Reciprocal friendships ^b | 1.26 | 1.21 | 1.70 | 1.29 | 1.72 | 0.98 | 2.20 | 1.50 |
| FQQ Intimate Exchange ^{b,c} | 1.58 | 1.05 | 3.26 | 0.61 | 2.30 | 0.96 | 3.36 | 0.51 |
| FQQ Validation and Caring ^{a,b,c} | 2.42 | 0.89 | 3.30 | 0.67 | 2.97 | 0.58 | 3.58 | 0.39 |
| FQQ Help and Guidance ^{a,c} | 2.06 | 0.99 | 3.05 | 0.86 | 2.60 | 0.83 | 3.15 | 0.47 |
| FQQ Conflict Resolution ^{b,c} | 1.96 | 1.11 | 3.07 | 0.92 | 2.65 | 1.07 | 3.37 | 0.58 |
| FQQ Companionship and Recreation ^{b,c} | 2.69 | 0.93 | 3.15 | 0.86 | 3.15 | 0.82 | 3.34 | 0.70 |
| FQQ Conflict and Betrayal ^{a,b} | 0.92 | 0.59 | 0.78 | 0.85 | 0.64 | 0.59 | 0.42 | 0.43 |

Note: FQQ = Friendship Quality Questionnaire. There were no significant group by gender interactions.

a. Analysis performed on transformed variable because of skewed distributions. Back-transformed means and standard deviations are presented for these variables.

b. Group difference significant at $p < .05$.

c. Gender difference significant at $p < .05$.

Table 2
Measures of Central Tendency for Student-Reported Parenting Characteristics on the Alabama Parenting Questionnaire

| Variable | Attention Problems Group | | | | Comparison Group | | | |
|--|--------------------------|-----------|------------------------|-----------|-----------------------|-----------|------------------------|-----------|
| | Boys (<i>n</i> = 34) | | Girls (<i>n</i> = 30) | | Boys (<i>n</i> = 30) | | Girls (<i>n</i> = 55) | |
| | <i>M</i> | <i>SE</i> | <i>M</i> | <i>SE</i> | <i>M</i> | <i>SE</i> | <i>M</i> | <i>SE</i> |
| Positive Parenting ^{a,b,c} | 3.50 | 0.13 | 3.78 | 0.14 | 3.76 | 0.14 | 4.24 | 0.10 |
| Parental Involvement ^{a,b} | 3.13 | 0.12 | 3.45 | 0.12 | 3.49 | 0.12 | 3.96 | 0.09 |
| Inconsistent discipline ^a | 2.77 | 0.13 | 2.66 | 0.13 | 2.30 | 0.13 | 2.05 | 0.10 |
| Poor Monitoring/Supervision ^{a,c} | 2.60 | 0.12 | 2.40 | 0.13 | 1.98 | 0.13 | 1.74 | 0.09 |

Note: Adjusted means (for age) and standard error are presented. There were no significant group by gender interactions.

a. Group difference significant at $p < .05$.

b. Gender difference significant at $p < .05$.

c. Analysis performed on transformed variables because of skewed distributions. Back-transformed means are presented for these variables. Adjusted means (for age) and standard error are presented.

Table 3
Measures of Central Tendency for Parent-Reported Parenting Characteristics on the Alabama Parenting Questionnaire

| Variable | Attention Problems Group | | | | Comparison Group | | | |
|--|--------------------------|-----------|------------------------|-----------|-----------------------|-----------|------------------------|-----------|
| | Boys (<i>n</i> = 20) | | Girls (<i>n</i> = 22) | | Boys (<i>n</i> = 23) | | Girls (<i>n</i> = 38) | |
| | <i>M</i> | <i>SD</i> | <i>M</i> | <i>SD</i> | <i>M</i> | <i>SD</i> | <i>M</i> | <i>SD</i> |
| Positive Parenting | 3.94 | 0.62 | 4.10 | 0.57 | 4.17 | 0.56 | 4.21 | 0.43 |
| Parental Involvement ^a | 3.68 | 0.43 | 3.84 | 0.43 | 4.06 | 0.42 | 4.08 | 0.43 |
| Inconsistent Discipline | 2.33 | 0.65 | 2.33 | 0.77 | 2.14 | 0.58 | 2.01 | 0.61 |
| Poor Monitoring/Supervision ^{a,c} | 1.57 | 0.48 | 1.63 | 0.46 | 1.36 | 0.31 | 1.48 | 0.31 |

Note: There were no significant gender effects or group by gender interactions.

a. Group difference significant at $p < .05$.

b. Analysis performed on transformed variable because of skewed distribution. Back-transformed means and standard deviations are presented for this variable.

culated using Rosenthal (1991) r for ANOVA for each significant univariate effect. In the absence of Rosenthal r statistics for MANOVA, effect sizes were computed using the square root of the generalized correlation ratio (SRGCR) for the multivariate effects (Kline, 2004). Because of the extreme group design of this study, the group effect size estimates are likely inflated.

Peer and friendship characteristics. The first MANOVA investigated group and gender differences in proportions of “most like to play with” and “least like to play with” peer nominations, number of reciprocated friendships, and the mean scores on scales of the FQQ. Results showed significant multivariate effects of group, multivariate $F(9, 107) = 4.52, p < .05$, SRGCR = .52, observed power = .99, and gender, multivariate $F(9, 107) = 10.19, p < .05$, SRGCR = .68, observed power = 1.0. The multivariate group by gender interaction was not significant, multivariate $F(9, 107) = .95, p > .05$, SRGCR = .27, observed power = .45. Participants in the APG received more “least like to play with” peer nominations than the comparison group, $F(1, 115) = 18.00, p < .05$, effect size $r = .37$, had fewer reciprocated friendships, $F(1, 115) = 3.95, p < .05$, effect size $r = .18$, scored higher than the comparison group on the Conflict and Betrayal scale of the FQQ, $F(1, 115) = 8.24, p < .05$, effect size $r = .26$, and lower on the Intimate Exchange, $F(1, 115) = 8.77, p < .05$, effect size $r = .27$, Validation and Caring, $F(1, 115) = 9.70, p < .05$, effect size $r = .28$, Companionship and Recreation, $F(1, 115) = 6.72, p < .05$, effect size $r = .23$, and Conflict Resolution scales of the FQQ, $F(1, 115) = 9.15, p < .05$, effect size $r = .27$. Children in the attention problems group had fewer friends, more negative reputations, and reported lower levels of friendship quality than comparison students.

Girls reported higher scores than boys on the Intimate Exchange, $F(1, 115) = 78.88, p < .05$, effect size $r = .64$, Validation and Caring, $F(1, 115) = 37.67, p < .05$, effect size $r = .50$, Help and Guidance, $F(1, 115) = 25.39, p < .05$, effect size $r = .42$, Conflict Resolution, $F(1, 115) = 29.49, p < .05$, effect size $r = .45$, and Companionship and Recreation scales of the FQQ, $F(1, 115) = 4.15, p < .05$, effect size $r = .19$. Boys therefore reported lower levels of positive peer and friendship characteristics than girls. Measures of central tendency by group and gender are reported in Table 1.

Student-reported parenting characteristics. The MANCOVA investigated group, gender, and age differences on the APQ. Results showed significant multi-

variate main effects of group, multivariate $F(4, 141) = 10.18, p < .05$, SRGCR = .47, observed power = 1.0, and gender, multivariate $F(4, 141) = 3.67, p < .05$, SRGCR = .31, observed power = .87, as well as an effect of the age covariate, multivariate $F(4, 141) = 8.52, p < .05$, SRGCR = .44, observed power = .99. The multivariate group by gender interaction was not significant, multivariate $F(4, 141) = .19, p > .05$, SRGCR = .07, observed power = .09. Participants in the APG scored lower than those in the comparison group on the Positive Parenting, $F(1, 144) = 3.99, p < .05$, effect size $r = .16$, and Parental Involvement, $F(1, 144) = 14.44, p < .05$, effect size $r = .30$, scales and higher than the comparison group on the Inconsistent Discipline, $F(1, 144) = 18.99, p < .05$, effect size $r = .34$, and Poor Monitoring/Supervision, $F(1, 144) = 27.95, p < .05$, effect size $r = .40$, scales. Girls scored higher than boys on the Positive Parenting, $F(1, 144) = 10.19, p < .05$, effect size $r = .26$, and Parental Involvement, $F(1, 144) = 12.02, p < .05$, effect size $r = .28$, scales. Girls and children in the comparison group reported higher levels of positive parenting than boys and children in the APG, respectively. Children in the APG reported higher levels of negative parenting characteristics than those in the comparison group. Older participants scored higher on the Positive Parenting, $F(1, 144) = 8.70, p < .05$, effect size $r = .24$, and Poor Monitoring/Supervision scales, $F(1, 144) = 8.73, p < .05$, effect size $r = .24$, and lower on the Parental Involvement, $F(1, 144) = 26.58, p < .05$, effect size $r = .39$, scale than younger participants. Measures of central tendency by group and gender (adjusted for the age covariate) are reported in Table 2.

Parent-reported parenting characteristics. On the parent version of the APQ, results showed a significant multivariate effect of group, multivariate $F(4, 96) = 3.58, p < .05$, SRGCR = .36, observed power = .86, with associated univariate effects for the Parental Involvement, $F(1, 99) = 12.24, p < .05$, effect size $r = .33$, and Poor Monitoring/Supervision scales, $F(1, 99) = 4.70, p < .05$, effect size $r = .21$. Participants in the APG had lower ratings on the Parental Involvement scale and higher ratings on the Poor Monitoring/Supervision scale than those in the comparison group. The multivariate main effect of gender, multivariate $F(4, 96) = 1.31, p > .05$, SRGCR = .07, observed power = .34, and group by gender interaction, multivariate $F(4, 96) = .33, p > .05$, SRGCR = .12, observed power = .12, were not significant. Measures of central tendency by group and gender are presented in Table 3.

Discussion

Our purpose was to examine group and gender differences between children with and without subclinical attention problems on a number of peer characteristics and parenting practices. We expanded on previous work by including a larger sample of girls with attention problems. The subclinical group selection criteria yielded similar numbers of boys and girls with attention problems who had higher rates of problems than comparison peers across social domains. Our results are generally consistent with previous investigations of gender differences in the area of social functioning (e.g., Greene et al., 2001) and reviews indicating that gender differences in ADHD are generally small (Gaub & Carlson, 1997). We found normative gender differences, with girls reporting higher levels of positive friendship qualities and parenting characteristics than boys, but did not identify significant group by gender interactions. Both boys and girls with attention problems had greater difficulties with peers and scored lower on measures of positive parenting characteristics than their comparison peers.

We also looked at group differences on constructs not previously studied with this population, including friendship quality and reciprocal friendship nominations. Our findings that children in the APG received more negative nominations and fewer reciprocated friendship nominations are congruent with previous findings that boys (Carlson, Lahey, Frame, Walker, & Hynd, 1987; Hinshaw et al., 1997) and girls with ADHD (Hinshaw, 2002) are more disliked than nondiagnosed peers. This study extends previous work by showing that children in the APG also reported lower levels of positive friendship quality (i.e., intimacy and subjective feelings of validation) in relationships with their best friends. Both conflict and disengagement in friendships seem to be present for both boys and girls. Social impairments may be maintained and exacerbated by negative peer processes, such as conflict, lack of trust, or lack of intimacy in relationships, combined with fewer opportunities to access positive social learning (i.e., having fewer friends). The development and maintenance of social difficulties may follow similar processes regardless of a child's gender.

Our findings extend previous work in the area of parenting characteristics. Hinshaw (2002) previously used parent-reported parenting practices and found no difference between girls with ADHD and comparison girls. The present study differed in that we used both parent- and student-reported practices in a subclinical group of both boys and girls. We found higher levels of negative parenting practices (e.g., inconsistent discipline) and

lower levels of positive parenting across both raters and genders. Both boys and girls may experience more negative feedback from their parents, coupled with fewer opportunities for positive interactions because of decreased supervision and monitoring than comparison children. Our findings may point to the importance of examining children's subjective experiences of parenting as a socializing agent in their environment, as previous researchers have identified the importance of a child's perception of their peer relationships for influencing development (Sabongui et al., 1998).

Social learning theorists have emphasized the importance of observational learning, and these results indicate that children with attention problems may lack opportunities for positive interactions and corrective feedback both at home and at school. They may be unable to take advantage of the positive modeling opportunities that they have because of their attention problems. This combination of conflict and disengagement across social contexts may serve to maintain or exacerbate difficulties and prevent access to positive social learning. It seems likely that a cycle of negative interactions in both home and school domains may exacerbate problems in a bidirectional manner (Patterson, DeGarmo, & Knutson, 2000). Our findings highlight the pervasive nature of the social difficulties experienced by children with attention problems, including those identified with a subclinical cutoff who may be at risk for greater difficulties. The use of the child's subjective experience of specific aspects of friendship and parenting has theoretical value in delineating bidirectional developmental processes, as well as practical applications for assessment and intervention.

Traditional assessment procedures may fail to identify intervention targets relevant to a child's sense of well-being, such as feelings of trust and closeness in relationships. Our findings emphasize the importance of interventions with targets in multiple social domains. The consistency of group differences for both boys and girls in social functioning with peers suggests that peer interventions such as "buddy systems" (Hoza, Mrug, Pelham, Greiner, & Gnagy, 2003) may be appropriate for children of both genders with attention problems. Exposure to and support from prosocial peers would increase opportunities to interact with socially skilled children as well as provide opportunities to build friendships within different peer networks. Parent training interventions, particularly those that increase involvement and monitoring practices, may be relevant for both boys and girls. Generally, intervention strategies focused on increasing positive social learning opportunities may address some of these issues.

Methodological limitations in this study may make generalization to other research populations and studies difficult. The group differences we found should be examined in groups of children with diagnostic levels of attention problems. Although our study extends previous findings to a larger sample of girls, these results may not generalize to groups with other demographic characteristics. One specific problem in our study was the active consent procedure used and resulting low participation rate (34%). Previous studies have shown that active consent procedures may bias samples against including children at higher risk for behavior problems (Esbensen, Miller, Taylor, He, & Freng, 1999). If children tend to select friends who are similar to themselves (Cairns, Xie, & Leung, 1998), then our measure of reciprocal friendship may be biased against identifying reciprocity in the APG. Consequently, this finding should be interpreted with caution. Similarly, the low response rate likely affected the validity of peer nominations by restricting the pool of participants available. In addition, this study had insufficient power to detect small effects, so it may have missed hypothesized group by gender interactions if they were small. Despite these limitations, the differences we found were consistent across social contexts and across raters, and were consistent with previous studies (e.g., Hinshaw et al., 1997).

This study found consistent group differences across a number of characteristics of social functioning. The group selection method used suggests that problems in peer relationships and different parenting practices can be identified in groups at risk for developing ADHD. Although direct gender comparisons were examined, no differences (i.e., group by gender interactions) beyond normative differences were found. True gender differences within ADHD may be small, and our results suggest that intervention strategies targeting social impairments in boys also may be appropriate for girls with attention problems. This study also extends previous work by including measures of children's perceptions of qualitative aspects of their friendships and their perceptions of the strategies, involvement, and consistency of their parents. Challenges for clinicians include the design and implementation of interventions that include targets in multiple social domains.

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