Emotional and Social Characteristics of Boys With AD/HD and Giftedness: A Comparative Case Study

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The purpose of this multiple case study was to investigate the emotional and social characteristics of boys who had co-occurring giftedness and AD/HD as compared with boys with only 1 of the 2 exceptionalities. The participants were 3 boys with AD/HD and giftedness and 6 comparison boys with only 1 of the 2 exceptionalities. Data sources included the participating boys, their parents, and their teachers. Data were collected by a team of researchers using parallel forms of a semi-structured interview protocol and several rating scales and were analyzed by the team in 4 stages using a variety of qualitative analysis techniques. Findings suggested that participants with co-occurring giftedness and AD/HD had difficulties regulating their emotions, problems with peer relationships, and stressed families. Giftedness appeared to exacerbate the social/emotional difficulties associated with AD/HD rather than serve a protective function. The findings suggested that AD/HD is a risk factor for psychosocial adjustment difficulties in young boys who are intellectually gifted. Implications of the findings for the field of gifted education are discussed.

Introduction

Research on the social and emotional development of children with high intelligence has produced equivocal findings. Most group-comparison studies suggest that young children with high intelligence are as well or better adjusted than children of average intelligence (for reviews, see Janos & Robinson, 1985; Neihart, 1999; Robinson & Noble, 1991). However, clinical sources have suggested that gifted children have unique characteristics, such as heightened sensitivity and intensity, which can lead to difficulties with
social/emotional adjustment (Silverman, 1993; Webb, 1993). In addition, certain subpopulations of gifted students, such as children who are extremely intellectually gifted (Gross, 1993; Silverman, 1998), are African American (Ford, 1996), or have co-occurring learning disabilities (Baum, 1994; Olenchak, 1994), may have greater difficulties with social/emotional adjustment. Little prior research has focused on the subpopulation of children with co-occurring giftedness and AD/HD (Baum, Olenchak, & Owen, 1998). The purpose of this study was to use case-study methods to compare the emotional and social characteristics of three children with giftedness and AD/HD to six children with only one of the two exceptionalities.

Review of the Literature

One of the ways that case study research can be used to build theory is to iteratively compare during analysis the data collected in the case(s) with the existing research literature (Eisenhardt, 1989). Since no prior investigations had directly examined the social/emotional characteristics of gifted children with co-occurring AD/HD, the literature selected for comparison purposes in our study was those related to the social/emotional characteristics of (a) children with AD/HD; (b) children with intellectual giftedness; and (c) children with co-occurring giftedness and learning disabilities.

Children With AD/HD

Attention deficit/hyperactivity disorder (AD/HD) is one of the most frequent reasons for referral to child-guidance agencies (American Psychiatric Association, 1994; Estrada & Pinsof, 1995) and is a strong risk factor for difficulties with social/emotional adjustment in young children (Gresham & MacMillan, 1997; Stormont, 1997; Wallander & Hubert, 1987; Whalen & Heneker, 1985). The Diagnostic and Statistical Manual of Mental Disorders, 4th edition (DSM-IV, American Psychiatric Association, 1994), describes the essential feature of AD/HD as “a persistent pattern of inattention and/or hyperactivity-impulsivity that is more frequent and severe than is typically observed in individuals at a comparable level of development” (p. 78).

Although AD/HD has been described as a cognitive/behavioral disorder, it also has strong social effects (Barkley, 1990, 1997; Gresham & MacMillan, 1997). The disorder has been associated with many social/emotional adjustment problems, including depression (Borden, Brown, Jenkins, & Clingerman, 1987; Brown, Borden, Clingerman, & Jenkins, 1988), poor affect regulation (Eisenberg, Gutherie, et al., 1997), deficits in social knowledge and competence (Cunningham & Siegal, 1987; Hubbard & Newcomb, 1991; Wallach, 1985; Whalen & Heneker, 1985), rejection by peers (Bickett & Milich, 1990; deHaas & Young, 1986; Johnston, Pelham, & Murphy, 1985; Madan-Swain & Zentall, 1990; Walker, Lahey, Hynd, & Frame, 1987), and family stress (Barkley, 1990; Fischer, 1990; Stormont-Spurgin & Zentall, 1995). Negative social outcomes are even more likely when AD/HD co-occurs with aggression, oppositional defiant disorder, and/or conduct disorder (Culbertson & Silovsky, 1996; Stormont, 1998; Stormont-Spurgin & Zentall, 1996). Researchers generally have not examined the effects of different levels of intelligence on the social/emotional adjustment of children with AD/HD. Our study was designed to investigate whether high intelligence would mitigate the negative social/emotional outcomes usually associated with AD/HD.

Children With Intellectual Giftedness

In general, intellectually gifted children have been found to be as well or better adjusted emotionally than children of average intelligence during the elementary school years (Janos & Robinson, 1985; Robinson & Noble, 1991). For example, they have greater social competence and more valued positions in their peer networks than children of average intelligence (Cohen, Duncan, & Cohen, 1994). Most intellectually gifted students have high academic self-concepts and average to slightly below-average social, athletic, and physical self-concepts (Hoge & Renzulli, 1993). The incidence of psychopathology in children who are participating in gifted programs has been found in several studies to be no greater than that of children of more average levels of intelligence (Cornell, Delcourt, Bland, Goldberg, & Oram, 1994; Gallucci, Middleton, & Kline, 1999; Girland & Zigler, 1999).

The social/emotional problems that do exist among gifted children are often exogenous in origin (Webb, 1993). For example, the social/emotional adjustment of gifted children can be hindered by inappropriate, unchallenging educational contexts (Feldhusen & Moon, 1992; Maper & Nielson, 1996; VanTassel-Baska, 1992, 1998) and/or dysfunctional family environments (Dowdall & Colangelo, 1982; Rimm & Lowe, 1988). In general, however, families of gifted children have been found to be as well or better adjusted than comparison families of less-able children (Gottfried, Gottfried, Bathurst, & Guerin, 1994; Jenkins-Friedman, 1991; Moon, Jurich, & Feldhusen, 1998). Endogenous factors associated with social and emotional
adjustment problems in certain subpopulations of gifted and talented students include exceptionally high intelligence (Dauber & Benbow, 1990; Janos, Marwood, & Robinson, 1985) and co-occurring learning disabilities (Baum & Owen, 1988; Moon & Hall, 1998; Nielsen, Higgins, Hammond, & Williams, 1993; Olenchak, 1994).

Children With Dual Exceptionalities

Interest in gifted children with other exceptionalities has been increasing over the past two decades. However, none of the existing books (Baldwin & Vialle, 1999; Baum, Owen, & Dixon, 1991; Birelly, 1995; Fox, Brody, & Tobin, 1983; Whitmore & Maker, 1985) or special issues (see for example, Journal for the Education of the Gifted, 10[3], 1982; Journal for Secondary Gifted Education, 5[3], 1994; and Roeper Review, 12[1], 1989) on this topic has included a paper focusing on gifted children with AD/HD. Of the published studies that have been conducted with children who have co-occurring giftedness and learning disabilities (GLD students), most have focused primarily on issues related to education (Baum, 1988; Minner, 1990; Nielsen & Mortoff-Albert, 1989; Olenchak, 1995; Tallent-Runnels et al., 1994) and/or cognition (Baum & Owen, 1988; Hannah & Shore, 1995; LaFrance, 1995; McGuire & Yewchuk, 1996; Montague, 1991; Yates, Berninger, & Abbott, 1995).

Few studies of gifted children with learning disabilities have investigated social/emotional issues (Coleman, 1992; Minner, 1990; Moon & Dillon, 1995; Nielsen & Mortoff-Albert, 1989; Olenchak, 1995; Reis, Neu, & McGuire, 1997; Vespi & Yewchuk, 1992; Waldron, Saphire, & Rosenblum, 1987). The studies that have been conducted suggest that GLD students experience internal dissonance (Moon & Dillon, 1995; Reis et al., 1997) and high levels of frustration (Vespi & Yewchuk, 1992). Such students also have been reported to have problems in their relationships with teachers (Reis et al., 1997; Waldron et al., 1987) and peers (Reis et al., 1997; Vespi & Yewchuk, 1992). At the same time, there is some evidence that parents perceive GLD children positively, finding them easy going and cooperative with adults (Vespi & Yewchuk, 1992; Waldron et al., 1987).

Although a few of the studies on GLD children have focused on characteristics related to AD/HD, such as executive processes (Hannah & Shore, 1995; McGuire & Yewchuk, 1996), unique brain patterns (Birelly, Languis, & Williamson, 1992), or behavior problems (Waldron et al., 1987), only one study of GLD children could be located that provided information on whether any of the participants had AD/HD (Reis et al., 1997). Since AD/HD often co-occurs with other learning disabilities (Goldstein, 1995), the failure to identify and investigate the confounding effects of AD/HD is a weakness of the GLD literature.

The field of gifted education has also given little direct attention to gifted children with AD/HD. Articles on this subpopulation began to appear in the literature in the 1990s, more than a decade after work on gifted children with learning disabilities began. The reasons for this neglect are unclear, but they may be related to the more general difficulties the field has with gifted children who do not fit existing paradigms and identification procedures (Baldwin & Vialle, 1999; Olenchak, 1994; Peterson, 1999). Most of the recent work on AD/HD in the field of gifted education has focused on a concern that gifted children are being misidentified as AD/HD (Baum et al., 1998; Crand, 1994, 1995; Crand & Gollman, 1994; Lind, 1993). Alternate hypotheses that have been suggested to explain the misidentification of AD/HD behaviors in gifted children include creativity (Crand, 1995); overexcitabilities (Baum et al., 1998; Lind, 1993); and environmental factors, like inappropriate curriculum and/or adult reactions to precocity (Baum et al., 1998). Little attention has been paid to the characteristics and needs of gifted children who actually have coexisting AD/HD (Sandel, 1993; Shaw, 1992).

This study was designed to fill a gap in the literature by directing attention to the social and emotional characteristics of gifted children with AD/HD. No previous studies have investigated the social and emotional needs of this unique population.

Method

We used a comparative, multiple-case-study design. Three students with giftedness and AD/HD (GH) were compared to three students with AD/HD without giftedness (H) and three students with giftedness without AD/HD (G). Multiple-case-study research is a particularly useful methodology when the area of investigation is new (Moon, 1991), the issues involved are complex (Moon & Trepper, 1996; Yin, 1989, 1993), the purposes of the research include both description and theory building (Eisenhardt, 1989; Moon & Trepper, 1996; Yin, 1989), and the number of cases available for investigation is too small for the application of multivariate statistics (Yin, 1993). We used a variety of methods to enhance the robustness of our analytic generalizations, including collecting data with multiple methods from multiple sources (Lincoln & Guba, 1985; Yin, 1989, 1993) and conducting our analyses at three different levels: individual case,
within-group, and cross-group (Eisenhardt, 1989). In addition, the principal investigators (first and second authors) had different theoretical perspectives (Eisenhardt, 1989; Moon & Trepper, 1996): The first author specialized in research on gifted and talented children; the second author specialized in research on children with AD/HD. These differing areas of specialization provided theoretical triangulation in the design and analysis stages of our research. The primary unit of analysis for our study was the identified children. Secondary units of analysis were the families and peer relationships of the identified children. The findings related to social/emotional adjustment are reported here. The learning characteristics of the participants have been reported elsewhere (Zentall, Moon, Hall, & Grskovic, in press).

Site and Context

Our participants were all enrolled in a single school district in the Midwest that was selected as the site for the study because the district (a) utilized an identification procedure that encouraged the inclusion of students with AD/HD in gifted programming; (b) provided self-contained classes in gifted education with differentiated curricula taught by teachers with certification in gifted education; and (c) served as a statewide model of excellence in programming for gifted students. This context was selected, in part, to control for the social and emotional problems (Webb, 1993) and AD/HD-like behaviors (Baum et al., 1998) associated with the placement of gifted children in inappropriate educational environments. All of the students identified as gifted for our study were placed in the district’s full-time gifted program. Participating students with AD/HD who had not been identified as gifted were placed in general education classrooms in the same school district.

Identification of giftedness in the selected school district was based on state guidelines requiring a multiple-criteria, two-stage identification procedure that used both formal and informal measures to identify students in the top 5% of the local student population. Formal measures used to nominate students were scores on group achievement and aptitude tests. The informal measures were teacher referral, parent referral, or both. In the second phase of the identification process, all nominees took the Otis-Lennon School Ability Test (Otis & Lennon, 1989). In addition, teachers completed a teacher checklist for each nominee and provided relevant additional information, such as work products. Students completed an open-ended form that assessed their interests. Decisions on student placement were made by consensus of a districtwide selection committee after examination of all of the identification data for all of the nominated children.

AD/HD identification in this district involved initial nomination and assessment by a variety of sources (private clinic, school psychologist, and so forth) with confirming evidence from parent and teacher behavioral checklists. Criterion scoring on the behavioral checklists led to referral to a community physician or psychiatrist who confirmed the diagnosis. School counselors were kept informed about these students and followed their progress. Students identified with AD/HD were reevaluated annually; the reevaluation included a trial period without medication if their treatment had included medication.

Participants

Participant Selection Procedures. In order to select our targeted 9 children, 3 in each group, we asked school personnel to nominate students who met the following selection criteria: (a) age 8–10 years (to create homogeneity with respect to age); (b) male gender (to create homogeneity with respect to gender); (c) identified by the district as having either giftedness (G), AD/HD (H), or both exceptionalities (GH); and (d) were on medication if they had AD/HD (to create homogeneity with respect to treatment). The school personnel nominated 6 students with GH characteristics, 8 with H characteristics, and 7 with G characteristics. We eliminated two students from the H group because 1 moved and the other went off medication. We eliminated 1 student from the GH group because that student had participated in a pilot study we had conducted the previous summer when developing our interview protocol. The remaining 18 students were sent information about our study. We selected the first 3 students from each group who returned signed permission forms.

Participant Characteristics. General characteristics. After selection, all participants were assigned a descriptive case number that included their group designation followed by a number (GH-1, GH-2, GH-3, H-1, H-2, H-3, G-1, G-2, G-3). Our participants are referred to by these case numbers in this report. The mean age of the participating boys was 9 years 2 months, with a range of 8 years 4 months to 10 years 6 months. On the basis of all sources of data, the boys in the combined (GH) group were high in intelligence and exhibited moderate to high levels of disruptive activity (Table 1). The boys in the AD/HD-only (H) group were average in intelligence and somewhat
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Note. This data display is a holistic summary of both qualitative and quantitative data related to the characteristics of specific cases on the general intellectual and activity dimensions indicated. The cases are coded by group (H, G, GH) and within-group case number [1, 2, 3].

less active and disruptive than the boys in the combined group. As shown in Table 1, boys in the giftedness-only group (G) were judged to be high in intelligence with more moderate and constructive activity levels than the boys in the other two groups. Quantitative data related to the primary characteristics of intellectual giftedness and AD/HD are summarized below to elaborate on this general description of the participants.

Intellectual giftedness. Mean scores for the participants on the Cognitive Skills Index (CSI; Indiana Department of Education, 1996), a group intelligence test administered by the school district as part of a statewide testing program, were as follows: GH Group M = 137 (range = 134–141); G Group M = 135 (range = 134–141); H Group M = 103 (range = 90–110). These scores confirmed that the children in the G and GH groups possessed at least moderate levels of intellectual giftedness, using Gagne’s [1998] rubric for classifying levels of giftedness, and that the children in the H group had average intelligence levels. Due to the low ceiling on the CSI, we were not able to determine from the CSI scores whether any of our participants were highly gifted IQ > 145. However, recent Otis-Lennon School Ability Test scores (Otis & Lennon, 1989) available in school records for all six students identified as gifted provided evidence that one student in the GH group (GH-1) may have been highly intellectually gifted (IQ = 150).

Attention deficit/hyperactivity disorder. Although our participants identified as having AD/HD were taking medication and were annually reevaluated, we assessed their current behavioral characteristics by administering the parent and teacher forms of the Conners Rating Scales-Revised (CRS-R; Conners, 1989, 1997) that are typically used to identify AD/HD. The CRS-R was selected because of its large normative data base, ease of administration, and excellent reliability and validity (Conners, 1989, 1997). The scales ask adults to rate the extent to which they think the target child was bothered by specific problems during the past month on a 0–3 scale (not at all to very much). Sample behaviors from the two rating scales include: (a) daydreams; (b) restless in the “squirming” sense; (c) fails to finish things he or she starts; (d) picks at things (nails, fingers, hair, clothing); and (e) mood changes quickly and drastically.

For the parent ratings, the mean z score on the Hyperactivity Index of the CPRS-R of the children in the GH group was +2.18 (range = 0.7 to 3.7); the H group was +2.56 (range = 1.5 to 3.7); in contrast, the G group mean was only +2.20 (range = -0.8 to +1.5). For the teacher ratings, the mean z scores on the Hyperactivity Index of the CTRS-R for the children in the GH group was +1.85 (range = 1.7 to 2.0); the mean for the H group was +3.35 (range = 0.3 to 1.0); the mean for the G group was +1.53 (range = -0.6 to +1.4). (Note: Some CRS-R data were missing; for details, see the section on data collection below.)

Thus, the parent CPRS-R data confirmed the identification of AD/HD for both the GH and H groups. However, the teacher CTRS-R data confirmed the presence of AD/HD only for the GH group and not for the H group. For the G group, the parent and teacher CRS-R data confirmed the absence of AD/HD for two participants in the giftedness-only group (G-1, G-3). For the third student in this group (G-2), possible presence of AD/HD was suggested by the perceptions of
the stepmother (+1.5) and teacher (+1.4) but not the biological father (+0.3). Interview data supported the identification of AD/HD for all participants in the GH and H groups, as well as the absence of AD/HD for all participants in the G group. As shown in Table 1, the most severe problems with behavior were reported for two boys in the combined group (GH-2, GH-3) and one boy in the AD/HD-only group (H-3).

Data Collection

Procedures. We collected quantitative and qualitative data from our participants, their parents, and their teachers, using a team of research assistants under the supervision of the two principal investigators.

Interviews. A semistructured interview protocol that had been developed, piloted, and revised the previous summer was used to guide our individual open-ended interviews with identified children, their mothers, their fathers (in two-parent households), and their teachers. It included written guidelines on how to conduct the interview as well as the interview questions. Interview questions were both general (“Tell me a little bit about your child,” “Describe a typical day in your child’s life,” “Is there anything else you’d like to tell me about your child?”) and categorical (learning characteristics at home and school; social characteristics related to family and friends). No specific questions were included on the protocol related to emotional characteristics, although these emerged as a major category in the analyses. Follow-up probes were used to obtain examples, clarify points or perspectives, or to follow interesting topics.

Interviewers were trained in interview techniques by the principal investigators prior to conducting their first interview. For example, they were taught joining techniques for the beginning of the interviews, active listening techniques to maintain neutrality and indicate acceptance of different perspectives during the interviews, and such closing techniques as expressing appreciation and shifting back to light conversation. Interviews were conducted by members of the research team in a convenient location by using parallel versions of the interview protocol. Adult interviews lasted 30–45 minutes; student interviews were somewhat shorter (20 minutes), largely because the students were less verbose. Interviews were conducted with all nine participating children, at least one parent of each participant, and the teachers of all of the students except one student in the H group (H-1) who declined our invitation to participate in the study. In two-parent families, mothers and fathers were interviewed separately. All interviews were transcribed prior to analysis.

Characteristics of Boys With AD/HD and Giftedness

Instruments. Rating scales are one of the most widely used techniques for assessing behavioral disorders in children [DuPaul & Barkley, 1992]. We used two behavioral rating scales and three rating sources to assess the behavioral characteristics of our participants. Both mothers and fathers were asked to complete the previously described parent form of the Conners Rating Scale-Revised (CPRS-R; Conners, 1989) and the Home Situations Questionnaire-Revised (HSQ-R; Barkley, 1987; Barkley & Edelbrock, 1987). Teachers were asked to complete the teacher form of the Conners Rating Scale-Revised (CTRS-R; Conners, 1989) and the School Situations Questionnaire-Revised (SSQ-R; Barkley & Edelbrock, 1987).

The HSQ-R and SSQ-R were designed to identify the pervasiveness of attentional difficulties across different situations in the home and school [DuPaul, 1990, DuPaul & Barkley, 1992]. The HSQ-R lists 14 situations [playing alone, watching TV, doing homework, and so forth] that were rated by parents in two ways: (a) dichotomously (yes/no: My child has difficulty paying attention in this situation) and (b) by a severity scale (range 1–9). The HSQ-R yielded four scores: number of problem settings, mean severity, a compliance factor, and leisure situations. A score greater than 1.5 standard deviations above the normative mean was considered to be deviant [DuPaul, 1990]. Scores on the HSQ-R have been found to be significantly correlated with scores on other behavioral rating scales, such as the ACTERS and both the parent and teacher versions of the ADHD Rating Scale [DuPaul & Barkley, 1992]. The SSQ-R has eight items that identify school settings where children may have attentional difficulties, such as individual desk work, small-group activities, or free play, and was rated by teachers in the same way that parents rated the HSQ-R items. The SSQ-R yielded only two scores: number (tally of yes responses) and severity (1–9 scale). Scores on the SSQ-R are significantly associated with observations of visual on-task classroom behavior and have predictive validity for the percentage of work accurately completed [DuPaul & Barkley, 1992].

To assess current perceptions of family functioning, we asked mothers and fathers to complete the “real” form of the Family Environment Scale [FES; Moos & Moos, 1981]. The FES has 90 true/false items that are scored as 10 subscales: cohesion, expressiveness, conflict, independence, achievement orientation, intellectual-cultural orientation, active-recreational orientation, moral-religious emphasis, organization, and control. Sample items are “We don’t do things on our own very often in our family” and “We are generally very neat and orderly.” The FES has been used in many research studies [Touliatos, Perlmuter, & Straus, 1990]. Internal consistencies of
the 10 subscales are all in the acceptable range and vary from moderate [.61] to substantial [.78; Moos & Moos, 1994]. The 2-month test-retest reliabilities of the subscales range from .68 to .86. Construct validity of the FES has been supported in research on family relationships, family routines, family roles, and social functioning [for details, see Moos & Moos, 1994].

When possible, these instruments were administered at the same time that the interviews were conducted. When there was not time for the participants to complete the instruments during the scheduled interview time, they were asked to respond to them on their own and return them to the research team in a self-addressed, stamped envelope. Unfortunately, both single-parent mothers failed to return their completed instruments. As a result, the CPRS-R, FES, and HSQ-R were missing responses for one case in the GH group (GH-1) and one case in the G group (G-3). In addition, CTRS-R and SSQ-R data were not available for the student in the AD/HD group whose teacher declined to participate (H-1).

**Data Analysis**

Multiple levels of analysis of all sources of data were conducted by a research team consisting of the two principal investigators and several graduate research assistants meeting biweekly for 1 1/2 hours (Eisenhardt, 1989). The analyses were conducted in four stages: descriptive quantitative analyses, case analyses, within-group analyses, and cross-group analyses. Team members were assigned specific roles for each step of the analysis and participated in peer debriefings for each analysis. We used accepted qualitative data analysis techniques to refine the analyses, develop explanations, and enhance the reliability and validity of the findings. These techniques included open, axial, and selective coding [Strauss & Corbin, 1990]; theoretical memos [Strauss & Corbin, 1990]; pattern matching [Yin, 1989, 1993]; development of data displays [Miles & Huberman, 1994]; peer debriefings [Lincoln & Guba, 1985]; investigator triangulation [Eisenhardt, 1989]; theoretical triangulation [Patton, 1990]; and comparison to the literature [Glaser & Strauss, 1967].

**Quantitative Analyses.** One member of our team was assigned the role of quantitative analyst. She scored each of the rating scales; converted the raw scores to z scores to facilitate comparison of our cases to instrument norms; and developed a matrix for each instrument with case number and data source (mother, father, child, teacher) on the vertical axis, the instrument subscales on the horizontal axis, and the computed z scores in the cells. These matrices enabled us to analyze how each source rated the participants on the subscales of the CRS-R, FES, HSQ-R, and SSQ-R in comparison to instrument norms.

**Case Analyses.** The case level of analysis involved examining all data sources and methods of data pertaining to an individual child/family by using the open and axial coding and constant comparative procedures recommended by Strauss and Corbin (1990). At least two members of the team (typically both senior researchers and the team member who interviewed the case) analyzed each case. First, each analyst read the case transcripts, underlining key passages and writing open codes in the margins. Then we each developed an axial [categorical] coding scheme to summarize our codes. When coding was completed, each analyst wrote a theoretical memo that had three parts: [a] summary; [b] comparisons to other cases and the literature; and [c] reflections, questions, and interpretations. These theoretical memos combined information from the analyses of the interview transcripts and the quantitative data matrices. After all analysts had completed their separate case analyses, the case was presented to team members and discussed in a peer-debriefing meeting. Results of the peer-debriefing meetings were recorded as minutes.

**Within-Group Analyses.** After we had conducted all three case analyses for a given group, we conducted categorical, within-group, cross-case analyses of the three cases in that group. Four members of the team participated in these analyses, and each was assigned primary responsibility for several of the major categories that had emerged from the case analyses: giftedness/talents, family characteristics and parent perceptions, learning characteristics and teacher perceptions, activity and impulsivity characteristics, social/emotional characteristics, and preferences for stimulation/intervention. Several kinds of data displays [Miles & Huberman, 1994] were used to summarize the results of these analyses. First, quotations from the interview transcripts were displayed by subcategory, case number, and source. Second, theoretical memos summarizing the combined findings from the quotation data displays and relevant quantitative data matrices were written. These theoretical memos included summary data displays of various types. For example, emotional characteristics were summarized in a data display that had both positive and negative descriptors of behavior on the vertical axis, case numbers and data sources on the horizontal axis, and codes for the degree that the characteristic was present for a specific child in the cells. These summary
displays greatly facilitated comparisons of the cases within a group to each other as well as comparisons of the perceptions of different interviewees (children, mothers, fathers, teachers) and the findings from different data collection methods (interview versus instruments). As with the case analyses, the final step in these analyses was a peer debriefing of the findings in each category for each group. A major focus of the peer debriefings was a comparison of our findings to the literature, so most of the theoretical triangulation for the within-group analyses occurred during the peer-debriefing sessions. Since we had six major categories and three groups, we conducted and debriefed 18 within-group analyses.

Cross-Group Analyses. After the within-group analyses had been completed, the third and final level of analysis was a cross-group analysis where the findings from the three separate, within-group analyses were summarized and compared. The division of labor for these analyses was the same as for the within-group analyses. The same two analysis techniques were utilized: display and theoretical memos. However, a new data display was used to summarize the results of all of our analyses in this stage. We arranged our cases on scales that illustrated how the individual participants differed on the constructs identified in the earlier stages of analysis. These displays summarized in a holistic manner the results of all levels of analysis (case, within-group, and cross-group) and sources of data (interview, instrument, and child/mother/father/teacher). Several of the tables in this research report are examples of this type of data display, which allowed us to visually represent the similarities and differences among our participants. When group participants were similar to each other on a specific characteristic, such as emotional adjustment or friendships, we discussed the participants as a group in our findings. When they differed from each other or typical group characteristics, we discussed them as individual cases and speculated about the reasons for the differences. Six such analyses were conducted, one for each of the major topics mentioned above. As before, each analysis was debriefed with the research team to facilitate theoretical triangulation and comparison with the literatures on AD/HD and giftedness.

Findings

Our findings are reported in three broad categories: emotional characteristics, peer relationships, and family process. Three types of evidence are presented to support the reported findings. Selected data displays that were developed during the cross-group analyses to synthesize all sources and types of data are presented in tables (see Tables 1–5). In the narrative, descriptive summaries of participant scores on standardized scales and direct quotations from interview transcripts are used to illustrate specific points.

Families of the participants were categorized according to whether they were in transition (the family structure was changing to divorce or remarriage) or stable (the family structure had been in existence for at least two years; Table 2). Four families (one from the giftedness-only group [G-1], one from the AD/HD-only group [H-2], and two from the combined group [GH-1, GH-2]) were characterized as stable families with two biological parents. One family from each group was characterized as a stable single-parent family [G-3, H-1, GH-3], meaning that the family seemed to have restabilized as a single-parent household following a divorce that had occurred at least two years previously. One family from the AD/HD-only group initiated a divorce during the study (H-3); one from the GT-only group had experienced a divorce the previous year and was in the process of forming a new stepfamily during the time of the study (G-2). These two families are referred to in our findings as families “in transition.”

Emotional Characteristics

Boys With Giftedness and AD/HD. The boys in the combined group were judged to be the least mature and to have the poorest emotional adjustment of the three groups (Table 3). Their emotional and social immaturity were dysynchronous with their intelligence. For example, the mother of GH-1 said, “I think in some ways [my son] is a bit immature. You know, he’s intellectually mature, but emotionally, I’m not sure that he’s there.” Similarly, the teacher of GH-2 stated, “[He’s] far less mature than the other kids in the fourth grade. So I’m wondering if that’s not causing some emotional strain for him.”

The boys in the combined group described themselves with extreme positive and negative descriptors. Their self-descriptors ranged from “weird,” “brain dead,” and “stupid” to “a brain,” “a real artist,” and “the fastest in the class.” Although these boys used negative self-descriptors, they did not seem to have negative self-concepts but, rather, seemed to be seeking creative metaphors to describe their perceptions of their differences from others. For example, GH-2 referred to himself as an alien: “I am like an alien. Aliens don’t know a thing about earth”; and GH-1, after describing himself
Table 2
Family Demographics

<table>
<thead>
<tr>
<th>Group</th>
<th>Parental relationships</th>
<th>Number of children</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Stable biological-parent family</td>
<td>One</td>
</tr>
<tr>
<td></td>
<td>Transitioning family</td>
<td>Two</td>
</tr>
<tr>
<td></td>
<td>Stable single-parent family</td>
<td>Three</td>
</tr>
</tbody>
</table>

Gifted  
AD/HD    
Combined

Note. This data display was compiled during the final cross-case analysis with primary reliance on child, parent, and teacher interview data. The cases are coded by group [H, G, GH] and within-group case number (1, 2, 3).

Table 3
Data Display of Selected Emotional Characteristics of Participants

<table>
<thead>
<tr>
<th>Maturity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>Gifted</td>
</tr>
<tr>
<td>AD/HD</td>
</tr>
<tr>
<td>Combined</td>
</tr>
</tbody>
</table>

Note. This data display was compiled during the final cross-case analysis with primary reliance on child, parent, and teacher interview data. The cases are coded by group [H, G, GH] and within-group case number (1, 2, 3).

as "weird," put his differences in perspective by noting, "sometimes my wackiness will prove fun, and, oh well, I'm a pretty good goalie in soccer, and I'm pretty good at catching a ball."

Two of the boys in this group (GH-1, GH-3) were reported to overrespond to situations. For example, the mother of GH-1 reported...
He’s very emotional. He’s easily frustrated. . . . It can be anything from feeling like he’s not going to be able to get his work done at school . . . to thinking [an assignment] is too long . . . He gets scared and just falls apart. He cries and gets upset.

Similarly, the teacher of GH-3 reported that he overresponded to group work in school by rolling around on the floor.

There was evidence that the boys in this group were receiving, or needed, intervention to facilitate their emotional functioning. GH-3 was seeing a school counselor for emotional concerns. Both his mother and his teacher reported that counseling was helping him develop more effective coping strategies. On the CRS-R, both GH-1 and GH-2 were rated by their mothers as average in anxiety but more than two standard deviations above the norm mean on psychosomatic complaints (fathers rated these boys as average on both subscales). GH-1 was described by his teacher and parents as being quite depressed early in the school year when on stimulant medication. Later in the year, when antidepressants were added to his medications, she reported that he became happier.

**Boys With AD/HD Only.** In contrast, boys in the AD/HD group were reported to have fair to good maturity and emotional adjustment (Table 3). Two of the boys in this group (H-1 and H-3) used largely positive self-descriptors and were described by their parents as being happy most of the time. For example, the mother of H-1 said, “My son wakes up very happy.” There were, however, some indications of emotional difficulties among these boys. For example, H-1’s emotional adjustment was only fair; H-2 was described as immature with high levels of emotionality and mixed self-descriptors; and H-3 had elevated scores on the parent CPRS subscale for Psychosomatic Complaints.

There were also some difficulties with school-related emotional adjustment in this group. Two of these boys (H-1, H-2) experienced intense frustration with school. H-1’s mother said that

[School work] really bothers him [and can] put him in a bad mood all day. He’ll come home and he’s real mad . . . and then there’s nothing you can do to make him happy. . . . It usually stems from being at school and not being able to get his work done at the same pace as everyone else. . . . He feels that they’re putting pressure on him.

Similarly, H-2 had difficulty completing his school work. His teacher reported, “On a bad day . . . he’s always the last one to get finished.” When he had to stay after school as a result, his dad reported, “He gets really upset on the phone and starts bawling because he had to tell his dad that he’s done something wrong.”

All three of the boys with AD/HD also overresponded to situations both at home and at school, with H-2 having the most severe problems. H-1 was described by his mother as getting “his feelings bent out of shape a lot quicker than some people would.” H-3 had a problem with temper. “If things don’t go his way,” his mother said, “he gets mad about them.” However, he was also described by his father as getting over things quickly. H-2 was described by his father and his teacher as getting both really upset and really excited. As noted above, he would cry when he was upset about staying after school. His teacher reported that he also got very excited when another child had his full attention: “When somebody does give him their full attention, he just goes crazy. . . . real animated, squirrelly sounds. . . . being silly.” He was also described by his teacher as sometimes going “kind of bonkers” in the late morning right before taking his midday dose of medication. “He gets silly and real loud, you know, lots of movement, and, um, just silly, inappropriate comments, inappropriate laugh.”

**Boys With Giftedness Only.** Giftedness alone did not appear to be associated with emotional intensity or immaturity in this study. The boys in the giftedness-only group rarely overresponded emotionally to situations and were judged to have good to excellent emotional adjustment when their family situation was stable (G-1, G-3) and fair emotional adjustment when their family situation was in transition due to a recent divorce and subsequent remarriage (G-2). They were also described as mature for their age and expressed positive perceptions of themselves (Table 2).

**Peer Relationships**

**Boys With AD/HD and Giftedness.** These boys displayed several characteristics, such as immature, annoying, and irresponsible behavior, that seemed to contribute to social rejection in their self-contained classrooms for gifted students (Tables 3 and 4). They were described as being friendless loners in school who were tolerated by their gifted peers, but seldom picked as work or play partners. Outside the school context, two of the boys (GH-2 and GH-3) were described as having some friends who shared their aggressive social style, and one (GH-1) was described as enjoying imaginative play with neighborhood children but lacking in close friends.

**Immaturity.** The boys in the combined group may have experienced social problems in their gifted classroom because of their immaturity and poor affect regulation (after Table 3). Both GH-1 and
were hard for this student’s more emotionally mature gifted peers to tolerate in the school setting. However, his emotionality and his social relationships were both reported to have improved when he was given medication for depression.

**Annoying and/or aggressive social behavior.** All of the boys in the combined group also exhibited annoying behaviors, and two of the three displayed some aggressive behavior (Table 4). For example, GH-1 made inappropriate physical contact with his peers. His teacher said, “He doesn’t keep his hands to himself. He will grab people. Occasionally he’s kissed someone—out of exuberance. A couple of times, fighting. And that upsets kids, so they react to that.” His mother agreed: “You know, he’s just got to touch you, or whatever, and most children don’t want him doing that. ‘Leave me alone.’ And then there are times when it is more of an aggressive thing.” GH-3’s teacher had similar things to say about his need for physical contact. “He wants to have friends, but he doesn’t know how to relate to them or be friends . . . other than to fight or wrestle.” GH-2 was not aggressive but had personal habits that others found annoying. For example, his mother said, “I realize how irritating some of his habits can be because sometimes they irritate me. He picks. It’s tap, tap, tap—to get your attention. He picks on his fingers, too, and fixates.”

**Irresponsibility.** All of these boys had difficulty getting their school work done and fulfilling their responsibilities in cooperative groups (Zentall et al., in press). This had negative social consequences in classrooms for intellectually gifted students where high academic achievement motivation, responsibility, self-direction, and active participation in group activities were the social norms. For example, the teacher of GH-3 said, “He alienates himself. They know when he is in their group or he is their partner that they are going to end up carrying the load. So, consequently, people don’t really choose him as a partner.” GH-2 had similar difficulties with group work. His teacher said, “No one likes to work with him in small groups because he never gets the task done.” GH-2 himself confirmed this: “I just join a group to sneak off. When I am standing around working, I just all of a sudden back out and just go free. They are doing all of my work. I give people a hard time. I walk away from groups and it gives them a hard time.” Similarly, GH-2 was described by his teacher as having difficulties following directions. GH-3 also had difficulty complying with demands. His teacher stated, “Well, he just barely is able to follow the rules. He doesn’t do homework. He’s very irresponsible.” None of these boys were described as leaders in their classrooms.

**Peer relationships outside of school.** Although socially rejected in school by their intellectually gifted peers, all three of the boys in the
combined group were described as having some friends in out-of-
school contexts. The two boys with the most hyperactive and
disruptive behavior (GH-2, GH-3) developed successful friendships
outside of school with children who shared their physical and
aggressive social styles. Their parents tended to be uncomfortable
with these friendships. For example, GH-2 had a friend from
the neighborhood whom his mother described as “an older boy, 11,
and he is really rough.” His mother continued, “The older boy that he
hangs around with talks about beating kids up at school.” GH-3
described his friends from the neighborhood similarly. “There’s
Daniel. He likes to fight. And then there’s Ryan. And he likes to
fight. They call us the Three Musketeers.”

The other child in this group (GH-1) was described by his parents
as having no really close friends but as enjoying imaginative play
with other neighborhood children. For example, when asked what
this child did with his friends, his father said, “They go out and
play imaginary games with each other—being Ninja Turtles and
that kind of thing.” His mother stated, “He and some of the boys in
the neighborhood formed a club. He was president because it was
his idea. And they were digging traps outside to catch crooks so they
couldn’t break into houses.” She also reported that GH-1 enjoyed
imaginative play with his brother. This child was also very creative
and had the capacity to play happily by himself for long periods of
time. His mother said, “He likes to create things . . . he likes to
think that he’s creating something new and different. His hobbies
are making things. Just making things. He does think he’s going to
build fantastic things when he gets older.” His parents encouraged
both his creativity and his independence.

Boys With AD/HD. The boys in the pure AD/HD group exhibited
many behaviors characteristic of the disorder but with only minor
impact on their social functioning at school. Although described as
hyperactive and annoying (H-1), outcasts (H-1 and H-2), silly and
immature (H-2), and oppositional and aggressive (H-3), none of the
boys in this group appeared to be rejected by their peers at school.
Two were even described by their teachers as well-liked. For example,
H-2’s teacher said, “Everybody likes him.” H-3’s teacher said,
“A lot of students like him. I’d say he’s well-liked.”

Participation in sports. A factor that may have contributed to the
relatively successful social functioning of the boys with pure
AD/HD was their participation in organized team sports. Athletic
participation is high status among young boys and is considered
socially appropriate play. All three boys in the AD/HD-only group
were members of sports teams and were described as being active par-
ticipants in sports throughout the year. H-2’s father said, “[My son]
likes riding, basketball, football, and soccer.” H-3’s respondents
all confirmed his involvement in sports. His mother said, “He’s very
active. He loves sports. He’s a natural athlete. He doesn’t get much of
a chance during the week other than one night a week [for friends].
He has basketball or baseball practice because he’s always in sports.”
His father agreed: “You name it, any kind of physical activity. He’s
pretty athletic.” And his teacher said, “Right now it’s soccer. If they
could not take a ball outside for recess and play soccer, I do not know
what they would do.” Although not as involved as the other two, H-1
said, “I like sports: Football, baseball, basketball, and hockey are
my favorites.” And his mother agreed: “He likes to play basketball.
He likes to go outside and play football.”

Friends. The boys in this group were described as having friends in
their neighborhoods and at school who were similar to themselves,
who shared their active play styles but occasionally got into trouble.
For example, H-3’s teacher said, “He tends to hang around the trou-
blemaker type . . . a lot like him . . . very active, athletic, stimulating.
He is well-liked. He tends to attract other kids who are more domi-
neering, like he is.” H-2’s teacher described H-2’s best friend as
another “outsider.” “They seem to have found each other,” she elab-
orated, “and have some commonalities. They’ll talk back and forth
with each other, joke, work together.” However, concerns were also
expressed by the adults in these boys’ lives about friends who were
mean or troublemakers. For example, the mother of H-1 said, “[My
son] tends to hang around with kids that are a little rougher than nor-
mal, I think.” The teacher of H-2 said he would “occasionally seek
out a couple of others who are not good influences; just any kind of
trouble they can get into.”

Boys With Giftedness. It was difficult to characterize the overall
social functioning of the three boys in the pure GT group as a group
because they were heterogeneous in this area (Table 4). Hence case,
rather than cross-case, analysis will be emphasized in this section. G-
1 was clearly the most mature and socially skilled participant in the
study. He was popular in his gifted classroom at school and in his
neighborhood; he liked his friends and chose to be with them much
of the time. He also participated in sports and considered sports his
hobby. He was described by his teacher as mature, cooperative, well-
adjusted, empathetic, and a leader. He had no annoying behaviors,
was not aggressive, nor was he the recipient of bullying (Table 4). In
summary, G-1 was the only participant in our study whose social
adjustment seemed to match the finding in the literature that the social adjustment of gifted children is typically above average.

G-2 was described as popular with friends but experiencing some recent social problems, such as fighting, which were associated with family transitions (Table 2) and a recent move. He was not active in sports but did participate in Cub Scouts and was able to name two best friends. His biological father stated that, in their old neighborhood, G-2 had many friends but “they were . . . a pretty rough bunch” so the father didn’t like them. In their new neighborhood, he did not yet have friends. This child’s teacher said he had a circle of friends in his gifted classroom who shared his interests in science, space, fantasy, and dramatic play. However, she also stated that he sometimes talked too much or was “too pushy with his thoughts and ideas” in small-group work and that he had recently started getting into fights on the playground.

G-3 was reported by his mother as having difficulties with peer relationships that she attributed to his giftedness. G-3 liked sports but did not seem to be participating in organized athletics. When asked about friends, G-3 said, “Well, I have one friend who was in my class last year and he moved. Now we’re back together again, so that is good.” His mother, on the other hand, reported that he did not have friends at school and that his teacher said the reason he had social difficulties was that he was “too advanced for the other kids when it comes to just being able to relate and play.”

Family Process

Families of Boys With Giftedness and AD/HD. Although all three families of the boys with co-occurring giftedness and AD/HD were categorized as “stable” in structure (Table 2), their family processes tended to be somewhat unstructured and disorganized (Table 5). Rules were a challenge in these families. “Well,” stated the mother of GH-3, “I have rules that they [my children] don’t want to follow. . . . One rule he [GH-3] doesn’t ever seem to follow is don’t throw things in the house. He likes to throw things. He’ll pick up a rock and toss it.” Similarly, the parents of GH-2 described “fighting with him to get stuff done, to keep his room clean” and times of frustration: “He just doesn’t want to pay attention. . . . He is argumentative when he thinks he is right.” The mother of GH-1 also stated, “If we don’t allow [our child] to do something he wants to do, for whatever reason, that doesn’t usually go over real well. Not that he throws a fit about it, but he lets you know he’s not happy with it.”

These families also had difficulty establishing consistent routines, especially in the mornings. For example, GH-1 said, “Breakfast does not go well. . . . Some days we have to get up real quick and get that breakfast done quick . . . The worst pain is on weekdays where I’m having to go to school—that dumb schedule . . . never on time.” Similarly, the mother of GH-2 said, “We fight to get out of bed in the morning . . . We usually run late.” More generally, this mother stated, “We have a very hectic family, a hectic lifestyle.” Her husband also characterized their family life as “hectic, chaotic.” The mean z scores of the parents of GH-2 on the organization subscale of the Family Environment Scale were the lowest of any family in the study (-2.4 mother and -1.9 father). The parents of GH-2 and GH-3 also described unstructured meal patterns as characteristic of their families: “We usually eat later and not always together. . . . It is not very structured. It is not uncommon to find food all over the house,” said the father of GH-2. “We don’t have a scheduled time for meals,” said the single-parent mother of GH-3, “because my hours at work vary.”

The families of the two boys with the most severe hyperactive and disruptive behavior patterns (GH-2 and GH-3) were also characterized by moderate to high levels of conflict (Table 5). For example, the mother of GH-2 described her son as “very difficult to get along with” and described a bad day in her family as “when we are constantly fighting.” Similarly, when GH-3 was asked to tell what he didn’t like about his family, he said, “When we fight. We always yell at each other.” The mother in this single-parent family said her children were “fighting all the time. They’re yelling, they’re fighting. You know, sometimes it’s just—Go ahead. I’m going upstairs to my room and, unless somebody’s bleeding, don’t disturb me.”

The family of GH-1 was less conflicted. On the Family Environment Scale, the parents of GH-1 rated their family low on cohesion (-1.9 mother, -1.2 father), near the mean on control (+0.4 mother, -0.2 father) and conflict (+0.4 mother, -0.2 father), and above the mean on organization (+1.4 mother, +1.4 father), suggesting that they had a balanced and functional family style that emphasized autonomy and differentiation over closeness and cohesion. The mother in this family described family members as both independent and close. No family member mentioned fighting or yelling. A few low-level areas of conflict were identified, but this family seemed to be handling the conflicts that arose constructively. For example, the mother of GH-1 said it helped to sit down and talk with her son when he was upset.
Table 5
Data Display of Selected Characteristics of Participating Families

<table>
<thead>
<tr>
<th>Group</th>
<th>Structure/Routines</th>
<th>Shared family activities</th>
<th>Aggression</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
<td>Moderate</td>
<td>High</td>
</tr>
<tr>
<td>Gifted</td>
<td>G-2b</td>
<td>G-1 (calm)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>G-3 (calm)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>H-1 [tad'1]</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>H-2 [tad'1]</td>
<td></td>
</tr>
<tr>
<td>AD/HD</td>
<td>H-3*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Combined</td>
<td>GH-2</td>
<td>GH-1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>GH-3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Few</td>
<td>Some</td>
<td>Lots</td>
</tr>
<tr>
<td>Gifted</td>
<td>G-2b</td>
<td>G-1</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>G-3</td>
<td></td>
</tr>
<tr>
<td>AD/HD</td>
<td>H-2</td>
<td>H-3</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>H-3</td>
<td></td>
</tr>
<tr>
<td>Combined</td>
<td>GH-2</td>
<td>GH-1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>GH-3</td>
<td>GH-3</td>
<td></td>
</tr>
<tr>
<td>Group</td>
<td>High</td>
<td>Moderate</td>
<td>Low</td>
</tr>
<tr>
<td>Gifted</td>
<td>G-1 (sibling)</td>
<td>G-1 (parent-child)</td>
<td>G-3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>G-2</td>
<td></td>
</tr>
<tr>
<td>AD/HD</td>
<td>H-3</td>
<td>H-1</td>
<td>H-2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>GH-1</td>
<td>GH-2</td>
</tr>
<tr>
<td>Combined</td>
<td>GH-2</td>
<td>GH-3 (sibling)</td>
<td>GH-3 (parent-child)</td>
</tr>
</tbody>
</table>

Recipient of bullying

<table>
<thead>
<tr>
<th>Group</th>
<th>A lot</th>
<th>Some</th>
<th>None</th>
<th>No evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gifted</td>
<td>G-2</td>
<td>G-1</td>
<td>G-3</td>
<td></td>
</tr>
<tr>
<td>AD/HD</td>
<td>H-3</td>
<td>H-1</td>
<td>H-2</td>
<td></td>
</tr>
<tr>
<td>Combined</td>
<td>GH-1</td>
<td>GH-2</td>
<td>GH-3</td>
<td></td>
</tr>
</tbody>
</table>

Conflict

<table>
<thead>
<tr>
<th>Group</th>
<th>High</th>
<th>Moderate</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gifted</td>
<td>G-1</td>
<td>G-3</td>
<td></td>
</tr>
<tr>
<td>AD/HD</td>
<td>H-3</td>
<td>H-2</td>
<td></td>
</tr>
<tr>
<td>Combined</td>
<td>GH-2</td>
<td>GH-3 (sibling)</td>
<td>GH-3 (parent-child)</td>
</tr>
</tbody>
</table>

Note. This data display was compiled during the final cross-case analysis with primary reliance on the child, parent, and teacher interview data. The cases are coded by group [H, G, GH] and within-case number [1, 2, 3].

* Single transition, divorcing family. Double transition, divorcing and recently remarried (father) family.

There are a few times when he has gotten really agitated about something. . . . It usually goes back to something else that has happened that has gotten him upset. . . . As long as we can sit down and talk with him about it, we figure out what's going on.

However, none of the families of boys with AD/HD and intellectual giftedness did very many things together as a family unit, especially in comparison to the other two groups. For example, when asked how often their family did something together, the mother of GH-2 said, “Not very often.” The father said, “Not as often as I would like.” And their son said, “Oh, gosh. Barely never.” Similarly, the sin-
gle-parent mother of GH-3 described their family activities as eating out together every couple of weeks, visits with extended family once a month, and child-centered vacations. The family of GH-1 spent some time together doing things like going out to eat, shopping, and attending church but did not describe any special family activities. The parents of GH-1 described him as “very independent” and themselves as encouraging independence in their children.

Families of Boys With AD/HD Only. The two stable families (H-1, H-2) in the AD/HD-only group were less hectic and conflicted than the families of GH-1 and GH-2. The remaining family in this group (H-3) initiated a divorce during the year of the study and is discussed separately at the end of this section. The parents of H-1 and H-2 were actively working at developing closeness in their families and created many opportunities for family outings and active, shared activities. Both of these families were above the mean on the cohesion subscale of the FES (z scores: +1.8, mother H-1, +1.0, mother H-2, +1.8 father H-2). The mother of H-1 said,

We do a lot together. [Our children] just learned how to golf last summer. So that’s one of our new projects. Something that we can all do together. We try to do a lot of that. And we like to fish. Um, we like to read. Or we play games together. . . . We like to go out for drives in the country. We like going to the lake. We love to go to the mall and watch the people. That’s fun. We like to do a lot together.

H-2’s parents were also actively working at developing positive family times. The mother of H-2 said, “We’re real car enthusiasts. Corvette people. You know, we belong to the Corvette Club. So we do a lot of family activities. Lots of car things and car shows.” The father of H-2 said, “I try to do something with the kids every evening, like play Frisbee or wrestle or just take a walk or something.” H-2 enjoyed this emphasis on family activities. When asked what he liked about his family, he said, “We never just sit around doing nothing.” The families of both H-1 and H-2 also valued traditional, sit-down meals, especially at dinner time, and their children had clear rules, chores, and routines that were consistently enforced by their parents. The parents in these families rated their families above the mean on the organization subscale of the FES (z scores: +0.9 mother H-1, +0.3 mother H-2, +0.9 father H-2).

In contrast, the divorcing family of H-3 was experiencing much lower levels of organization (FES z scores: -2.4 mother, -3.0 father) and high levels of conflict (FES z scores: +2.0 mother, +0.9 father),

They said they were not “extremely disciplined” and probably didn’t have enough rules. Although they did many things together as a family, they described their meals as “kinda hectic” with “some fighting among the children.” The parents in this family had discrepant views of their family cohesiveness (FES z scores on the cohesion subscale: mother -0.4, father -2.7). This family seemed more similar to the families of GH-2 and GH-3 than to the families of H-1 and H-2.

Families of Boys With Giftedness Only. The two stable families in this group (G-1 and G-3) were characterized by strong interpersonal relationships, well-organized family life, and many shared activities. FES z scores for the family of G-1 indicated high cohesion (+1.8 mother, +1.0 father) and organization (+1.4 mother, +0.3 father) and low conflict (-1.2 mother, -1.8 father). The father of G-1 described his family as “an open group that can share thoughts and ideas together, although there’s times when we have to discipline.” FES scores were not available for the family of G-3, however, the interview with the single-parent mother of this family suggested a similar family style. For example, this mother made comments like, “We’re really close, we snuggle every night before bed. Then we both go to bed happy—that’s another rule.”

As with the AD/HD group, the only family in the giftedness group that had problems with stress, conflict, and disorganization was the family in transition (G-2). However, in spite of experiencing a recent divorce, a remarriage, and the birth of a baby, this family of a gifted child was not experiencing as much conflict as two of the stable families with children with both giftedness and AD/HD (GH-2, GH-3) or the transitioning family with an AD/HD child (H-3; see Table 3). On the FES, the stepmother and father of G-2 rated their new family below the mean on cohesion (mother -0.4, father -1.2) and organization (-1.3 mother, -0.8 father), as might be expected for a family in the process of formation; but they also rated themselves below the mean on conflict (-1.2 mother, -0.7 father).

Discussion

Design Strengths and Weaknesses

The internal validity of this study was enhanced by including three comparison groups, collecting data with multiple methods from multiple sources, using theoretical triangulation and peer debriefings to enhance the analyses, and conducting the analyses in three stages using a variety of qualitative data analysis techniques. Threats to the
internal validity of the study included the small number of participants; reliance on self, parent, and teacher reports rather than researcher observations; and missing data. In addition, the many different family configurations of the participants made it difficult to determine whether the characteristics of the children influenced the family environment, the family environment influenced the intra- and interpersonal characteristics of participating children, or both. The study was deliberately designed as a field-based study, so school-based operational definitions of both giftedness and AD/HD were utilized. As a result, we did not have either formal DSM-IV (American Psychiatric Association, 1994) diagnoses for the participants with AD/HD or individual intelligence testing results for the participants with giftedness. Formal psychological diagnoses would have provided more specific information about comorbid disorders, such as depression, oppositional defiant disorder, and conduct disorder, and more accurate assessment of levels of giftedness.

The study took place in a school district with self-contained classrooms for gifted and talented students. This site was deliberately chosen to control for exogenously induced social, emotional, and behavioral difficulties in the gifted participants, a decision to enhance internal validity at the expense of external validity. Intellectually gifted boys with AD/HD placed in heterogeneous classrooms might exhibit different social/ emotional characteristics from those placed in special classes for gifted students, especially in the school context. In addition, all the participants were White males between the ages of 8 and 10; therefore, the findings cannot be generalized to females, minorities, other cultures, or boys in different age groups. These design strengths and weaknesses should be kept in mind when interpreting the results of our study, which are summarized and discussed below.

**Emotional Adjustment**

With giftedness alone, the boys in our study seemed quite well adjusted emotionally and seemed to have good affect regulation skills. Hence, our study provides support for prior research suggesting that gifted elementary school children usually display average to above-average emotional adjustment (for reviews, see Janos & Robinson, 1985; Neihart, 1999; Robinson & Noble, 1991) and self-esteem (for review, see Hoge & Renzulli, 1993). In contrast, all six boys with AD/HD had difficulties with self-esteem and affect regulation, and the three boys with AD/HD who had high IQs appeared to be experiencing greater emotional difficulties than the boys with AD/HD and average IQs. Therefore, our study suggests that high IQ does not buffer the emotional difficulties usually associated with AD/HD in young children (Eisenberg, Fabes, & Losoya, 1997). If anything, being gifted and AD/HD seemed to increase emotional intensity and internal dys synchrony. Children with co-occurring intellectual giftedness and AD/HD, like children with co-occurring intellectual giftedness and learning disabilities (Moon & Dillon, 1995; Reis et al., 1997; Vespi & Yewchuk, 1992), may experience more emotional distress than is typical for gifted children. Teachers and counselors need to be aware that high levels of intelligence do not mitigate, and may exacerbate, the difficulties with emotional adjustment associated with AD/HD at this age.

**Social Development**

Both exceptionalities seemed to be potential risk factors for problems with peer relationships. All of the boys with co-occurring AD/HD and giftedness had problems with school-based peer relationships that seemed to stem from behaviors associated with AD/HD (immaturity, difficulties with affect regulation, and annoying/aggressive behavior). These difficulties appeared similar to, but more extreme than, the problems with peers that have been reported in the literature for children with giftedness and learning disabilities (Reis et al., 1997; Vespi & Yewchuk, 1992; Waldron et al., 1987). The emotionality of these children may have contributed to their social difficulties, since dispositional negative emotionality has been found to be negatively related to socially appropriate behavior, especially in children who have poor attention, emotion, and behavior regulation skills (Eisenberg, Guthrie, et al., 1997). Protective factors for social relationships for these boys were finding similar friends in the community and an imaginative play style.

The boys with AD/HD in our study also had difficulties with social adjustment, although their difficulties were not as severe as those of the boys in the combined group. Protective factors for peer relationships among the participants in this study with AD/HD and average intelligence were participation in sports, lower levels of emotionality, and having friends both at school and at home who were similar to themselves. The boys with giftedness were heterogeneous with respect to social functioning. One of the boys with giftedness only (G-1) was popular and extremely well adjusted socially. The other two had different types of social problems. G-2 was accepted by his peers and got along well with the other students in his classroom at school but had problems with being picked on and getting into fights on the playground. This boy's problems with peers were recent and seemed more related to stressful family transitions than to gift-
edness. G-3 had problems with peers that were attributed to his giftedness by his mother.

Therefore, our study suggests that, although both exceptionalities have the potential to create problems with peer relationships for young children, AD/HD is more likely to do so than giftedness. It also suggests that high intelligence does not protect against the negative impact of AD/HD on social relationships in young children. Indeed, gifted children with AD/HD, like gifted children with learning disabilities, may be at risk for difficulties with social adjustment. Teachers need to be aware that the social/emotional development of gifted children with AD/HD may need facilitation as much, or more, than their academic development. Awareness is not enough, however. Teachers will need concrete strategies for helping gifted children with AD/HD cope with frustration, develop friendships, and work effectively with peers on group projects. Future research might focus on developing and testing specific strategies that can be utilized by teachers and counselors to facilitate the peer relationships of gifted children with AD/HD in different types of classroom settings.

Family Structure and Stress

For the families in this study, stability appeared to have more impact on family functioning than family composition. The families undergoing a current relationship transition were more stressed than those with stable single-parent and stable biological-parent families. Hence, our study provides support for the family process perspective on the association between marital transitions and children's adjustment (Heatherington, Bridges, & Insabella, 1998). However, the small number of participants in our study and the absence of direct observations of family process mean that this finding must be interpreted cautiously. Our study suggests that family transitions should be taken into account in future investigations of the characteristics of families of children with giftedness, AD/HD, or both.

Our study also provided support for the theory that having a child with AD/HD can lead to family stress, disorganization, and conflict (Everett & Everett, 1999, Stormont, 1998). Buffers that mitigated family stress in the families of boys with giftedness and AD/HD in this study were one-on-one conversations with the child about rules and the reasons for them, the ability of the child to play well alone, and parental encouragement of creativity and independence. Buffers that seemed to mitigate AD/HD-related family stress in the families of boys with average intelligence and AD/HD in this study included an emphasis on shared family activities, active recreation, consistent daily routines, and parental understanding of AD/HD and its effect on children's behavior. In summary, our findings suggest that a child with AD/HD is a stressor for all families, regardless of the intelligence level of the child, but that different strategies may be needed to reduce AD/HD-related family stress when the child is intellectually gifted versus of average intelligence. Parents of children with giftedness and AD/HD would appear to need information about the characteristics of both exceptionalities as well as information about the unique frustrations experienced by children with AD/HD and giftedness. Families of children with giftedness and AD/HD who are experiencing high levels of stress, family transitions, or both might also benefit from a parent-training program (Cunningham, 1990) or family therapy (Everett & Everett, 1999, Moon & Hall, 1998).

Future Research

In conclusion, there is a need for much more research on the characteristics of children with co-occurring giftedness and AD/HD as well as on interventions designed to help them fulfill their potential. Research is needed to determine whether there are differences in the characteristics of such children with respect to variables like gender, type and level of AD/HD, type and level of intellectual giftedness, presence or absence of creativity, presence or absence of aggression, ethnicity, personality characteristics, school placement, and parenting styles. The small numbers of such twice-exceptional children make it difficult to examine all of these variables simultaneously using quantitative designs. Multiple-case-study designs, like the one utilized in this study, will continue to be an effective way to investigate the characteristics of this population. However, future multiple case studies would benefit from the inclusion of participant and nonparticipant observation so the behaviors of the children in different settings could be viewed directly by the researchers as well as indirectly through parent and teacher reports. In addition, longitudinal research is needed to examine developmental trends in gifted children with AD/HD from the preschool years to adulthood. For example, longitudinal case studies could investigate the ways in which the emotional characteristics and social relationships of these children change over time and whether intelligence becomes protective for older gifted children and adolescents with AD/HD.

Investigations of interventions designed to facilitate the social/emotional development of children with co-occurring AD/HD
and giftedness are needed, as well. For example, school counselors might develop a differentiated social skills program for gifted children with AD/HD and evaluate its effectiveness. Similarly, techniques for family therapy with families of children with co-occurring giftedness and AD/HD need to be created and evaluated. In addition, research on children with AD/HD should include intellectual giftedness as a grouping variable in order to determine whether there are any interactions between giftedness and AD/HD. In summary, much work needs to be done to build a more complete picture of the nature and nurture of children with giftedness and AD/HD.

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