

Psychosocial Adjustment in Adolescents With Craniofacial Anomalies: A Comparison of Parent and Self-Reports

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Objective: To assess rates of psychosocial adjustment problems in adolescents with craniofacial anomalies (CFAs) and to evaluate the correspondence between adolescent and parent reports of adjustment.

Design: Retrospective chart review.

Setting: Reconstructive plastic surgery department in urban medical center.

Participants: Sixty-four adolescents aged 14 to 18 years with CFAs and their parents.

Main Outcome Measures: Child Behavior Checklist, Youth Self-Report.

Results: Adolescent and parent reports were compared with published norms. Adolescents with CFAs did not differ from norms on rates of self-reported problems in the clinical range. Parents of sons and daughters with CFAs reported elevations in the clinical range for deficits in social and scholastic competence; parents of daughters also reported higher clinical rates of withdrawn and somatic problems. Correlations between adolescent and parent reports were generally higher than seen in norms, especially for boys. Parents and adolescents did not differ in reported rates of problems in the clinical range.

Conclusions: Adolescents with CFAs showed elevated risk for problems with academics and peer relationships; there was limited evidence for clinical levels of other adjustment problems. When parent and adolescent reports differed, parents reported more problems.

KEY WORDS: *adolescents, craniofacial anomalies, psychosocial adjustment*

Children with congenital craniofacial anomalies (CFAs) might find the developmental tasks of adolescence to be particularly challenging. At a period in life when physical attractiveness is highly valued by adolescents and their peers for self-esteem, social acceptance, and dating (Hatfield and Sprecher, 1986; Harter, 1999), adolescents with CFAs may experience mild to profound differences in facial appearance. These deviations from typical facial structure may increase during adolescence, as many teens may have outgrown earlier reconstructive surgery and are waiting for the end of the adolescent growth spurt to have their final corrective surgery (Munro, 1995). As the desire to conform intensifies and adolescents with CFAs cannot hide their difference, they may develop negative self-perceptions and isolate themselves from peers. Typical adolescent peers may themselves exclude others who do not meet their standards of attractiveness, and dating

relationships may be especially troublesome (Reis and Hodgins, 1995). The transition into high school may present additional challenges, with increased academic expectations, a larger unfamiliar peer group, and fewer opportunities to form supportive relationships with teachers. The demands of ongoing medical care may remove adolescents with CFAs from normative peer-group activities and further accentuate their differences (La Greca, 1990). The typical development of increasing autonomy may be compromised if adolescents with CFAs do not have satisfying peer relationships and consequently must continue to rely on their families for companionship and intimacy.

As developmental tasks are not accomplished, the likelihood of disorder increases (Masten and Coatsworth, 1998). To date, little research has investigated the question of whether adolescents with CFAs are at increased risk of psychosocial adjustment problems; most existing research on this population has focused on children younger than 13 years of age or has included older adolescents in a mixed-age sample without conducting age-group analyses (see Endriga and Kapp-Simon, 1999, for a review). In contrast to research on psychosocial adjustment in younger children with CFAs, which has primarily used parents as informants, the research on adolescent adjustment has relied extensively on self-reports. Despite differ-

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ent measures and methodology, adolescents with CFAs have not typically described themselves as experiencing significant psychopathology. However, concerns about social relationships have been reported across several studies (Harper and Richman, 1978; Richman, 1983; Leonard et al., 1991), although adolescents in one study reported both low levels of social independence along with greater numbers of friends as compared with controls (Broder et al., 1994). Internalizing problems have also been reported by adolescents with CFAs (Harper and Richman, 1978; Eliason and Richman, 1987), with one study also reporting greater levels of externalizing problems with increasing age (Eliason and Richman, 1987). It should be noted that all these studies used samples of adolescents with clefts of the lip and palate, so it is not known to what extent these findings would apply to children with a broader range of CFA diagnoses. One of the few studies using parent reports was consistent with self-report research in finding heightened internalizing and social problems, but it was only for boys (Poep and Snyder, 2005).

Because of gains in cognitive and language abilities, it is developmentally appropriate to assess adolescent psychosocial adjustment with self-reports. At an age when adolescents have the cognitive capacity to self-reflect, are typically experiencing private thoughts and feelings, and are likely to have increasing experiences away from parents, it is crucial to elicit their own perceptions of their emotional and behavioral adjustment. However, there is mounting recognition of the importance of obtaining information from multiple informants to increase the validity of clinical and empirical assessment in children with chronic medical conditions (La Greca and Lemanek, 1996). Research conducted with typical adolescents has shown low to moderate parent-child agreement on reports of children's problem behaviors, with adolescents generally reporting more problems than do their parents (Achenbach et al., 1987; Verhulst and van der Ende, 1992). In pediatric samples, on the other hand, parents appear to report more adjustment problems than do children. This finding has been consistent across studies of children with asthma (Kashani et al., 1988; Klinnert et al., 2000), brain tumors (Radcliffe et al., 1996), disabilities (Coleman, 1983), and cerebral palsy (Harvey and Greenway, 1982); only a sample of children with spina bifida reported more adjustment problems than did their parents (Harvey and Greenway, 1982). None of these studies was focused on adolescents, so it is not known how development may affect these findings. In the one study comparing reports of adjustment made by adolescents with CFAs and their parents and teachers, well-adjusted adolescents' views of themselves were similar to those made by adults, whereas poorly adjusted adolescents rated themselves as more attractive and better behaved than did adults (Richman et al., 1985). The paucity of multi-informant studies of adjustment in adolescents with CFAs (or adolescents with any chronic medical condition) does not permit conclusions regarding the degree of concordance that should be expected between adolescent and parent reports.

The existing research is suggestive that adolescents with CFAs may experience some increased risk of psychosocial ad-

justment problems, particularly internalizing problems such as social withdrawal and anxiety. However, the research on this population is limited by small sample sizes, use of poorly validated measures, samples including a broad range of ages but a narrow range of CFA diagnoses (primarily clefts), and an overreliance on single-informant designs (Speltz and Richman, 1997). Our study attempted to address these issues by assessing psychosocial adjustment in a sample of middle to late adolescents with a broad range of CFA diagnoses, using parent and self-reports on a well-established measure. The purposes of the study were to (1) evaluate whether adolescents with CFAs have higher rates of psychosocial adjustment problems compared with healthy adolescents and (2) assess the degree of concordance between parent and adolescent views of the youths' adjustment.

METHOD

Participants

Patient Sample

The sample included 64 adolescents (38 girls) aged 14 to 18 years (mean 15.4 years) whose medical charts contained self-report psychosocial adjustment scales (Youth Self-Report; YSR) and parent-report psychosocial adjustment scales (Child Behavior Checklist; CBCL) completed on the same date. All were patients at an urban university hospital department of plastic and reconstructive surgery between 1994 and 2000; all patients completed psychosocial adjustment assessments as part of routine care during yearly visits to the multidisciplinary team. Parent forms were completed by 38 mothers, 9 fathers, and 17 other guardians. The medical center Institutional Review Board (IRB) did not require written informed consent for this chart review.

Approximately 62.5% of adolescents were white, 7.8% were black, 17.2% were Hispanic, 3.1% were Asian, 4.7% were bi- or multiracial, and 3.1% were other (this information was missing for two adolescents). Their craniofacial conditions included cleft lip and palate ($n = 11$), Crouzon syndrome ($n = 6$), hemifacial microsomia ($n = 5$), cleft palate only ($n = 3$), Pfeiffer syndrome ($n = 5$), Treacher Collins syndrome ($n = 2$), Apert syndrome ($n = 2$), coronal synostosis ($n = 2$) and metopic synostosis ($n = 2$). Additional conditions included cleft lip only, craniofrontal nasal dysplasia, facial asymmetry, frontonasal dysplasia, microtia, mandibular prognathism, Nager syndrome, Pierre Robin sequence ($n = 1$), Tessier clefting ($n = 1$), and unidentified facial anomalies ($n = 15$). Diagnosis was missing for two adolescents. Socioeconomic status (SES) was calculated for this group by using Hollingshead's nine-step scale for parental occupation (Hollingshead, unpublished data). If both parents were wage earners, the higher status occupation was used. The SES of the 41 patient families who completed necessary information was considered to be low (8.9%), middle (44.6%), or upper (46.4%) level.

TABLE 1 Mean Youth Self Report for Adolescents With Craniofacial Anomalies (CFAs) and Achenbach's Normative Reference Group by Gender*

Subscale	Male						Female				
	CFA		n	Norms (n = 637)		CFA		n	Norms (n = 678)		
	M	SD		M	SD	M	SD		M	SD	
Activities Competence	49.0	8.2	22	47.9	7.2	46.6	7.3	31	48.1	7.2	
Social Competence	49.3	7.2	22	47.9	7.1	46.9	8.2	33	48.0	7.3	
Total Competence	52.5	13.9	19	50.2	9.9	47.9	9.7	30	50.1	9.9	
Withdrawn	52.9	4.5	26	53.8	5.7	54.2	5.8	38	54.0	5.9	
Somatic Complaints	52.7	6.5	26	54.1	6.0	53.5	5.3	38	53.9	5.8	
Anxious/Depressed	53.0	6.5	26	54.1	6.0	53.2	5.3	38	54.0	6.2	
Social Problems	53.7	6.9	26	53.8	5.5	54.4	6.4	38	53.9	5.8	
Thought Problems	53.2	5.8	26	54.0	6.1	51.3	3.2	38	54.0	5.9	
Attention Problems	52.8	7.0	26	54.0	6.0	52.6	4.8	38	54.0	5.9	
Identity Problems	55.3	6.6	26	54.0	5.9	—	—	—	—	—	
Delinquent Behavior	53.3	5.3	26	54.0	6.0	53.5	5.5	38	53.9	5.7	
Aggressive Behavior	52.7	5.3	26	54.0	5.9	52.3	5.9	38	54.0	5.9	
Internalizing	44.6	12.5	26	50.1	10.0	49.1	9.3	38	50.1	9.9	
Externalizing	45.8	11.2	26	49.9	9.8	46.8	9.5	38	50.0	9.8	
Total Problems	44.7	12.6	26	50.1	9.9	46.8	9.4	38	50.1	10.1	

* Means for adolescents with CFAs all fall within the normative range as reported by Achenbach (1991c). CFA numbers are lower for some subscales because of incomplete data.

Normative Reference Group

Nonreferred (no mental health services or special classes in the past year; no significant health problems) normative samples of Achenbach (1991a, 1991c) were used as comparison groups in our study. The YSR sample consisted of 637 boys and 678 girls, aged 11 to 18 years. Ethnicities were 72% Caucasian, 16% black, 8% Hispanic, and 4% other. Hollingshead SES was 21% of lower, 45% of middle, and 34% of upper SES levels (Hollingshead, unpublished data).

The CBCL normative sample was composed of 564 caregivers with a son and 604 caregivers with a daughter, aged 12 to 18 years. Ethnicities were 73% Caucasian, 17% black, 8% Hispanic, and 2% other. Hollingshead SES levels were 22% lower, 44% middle, and 35% upper (Hollingshead, unpublished data). Thus, there appears to be good comparability between the study and the normative samples in distribution of ethnicities and SES levels.

Instruments

The CBCL (Achenbach, 1991a) and YSR (Achenbach, 1991c) were used. The CBCL is completed by the parent or guardian of children between the ages of 4 and 18. The aim is to assess, in a standardized format, the adjustment of children as reported by the parent or caretaker. The YSR is the self-report version of the CBCL for adolescents between the ages of 11 and 18. Both measures are normed by age and gender and provide scores on eight syndrome or narrow-band scales: Withdrawn, Somatic Complaints, Anxious/Depressed, Social, Thought, Attention Problems, Delinquent Behavior, and Aggressive Behavior. Both measures yield three broad-band scores: Internalizing (consisting of Anxious/Depressed, Somatic Complaints, and Withdrawn syndromes), Externalizing (consisting of Aggressive Behavior and Delinquent Behavior syndromes), and Total Problems (a global index of the

adolescent's problems based on the total number of problem items endorsed). Both instruments also measure Activities Competence, Social Competence, and Total Competence; the CBCL also measures Scholastic Competence. The YSR includes scholastic competence items in the Total Competence score but does not provide a separate Scholastic Competence score. For the two instruments, raw scores were converted into *T* scores based on norms for age and gender. On competence scales, lower mean level scores are indicative of greater deficits, whereas higher scores on problem scales indicate more problems. The CBCL and YSR specify borderline and clinical ranges for each problem and competence scale. Both measures have adequate validity and reliability and have been extensively used with pediatric samples (Achenbach, 1991a, 1991b, 1991c).

RESULTS

Consistent with Achenbach (1991a, 1991b, 1991c), separate analyses were conducted by gender to capture any discrepancies in psychosocial adjustment between adolescent boys and girls. Exact numbers for each analysis vary because of missing data for some scales and are reported in the tables.

Descriptive Data

Means and standard deviations (based on *T* scores) for the present sample and the normative reference groups are presented for YSR (Table 1) and CBCL (Table 2) by gender. All means for the present sample fell within the Achenbach (1991a, 1991c) normative range.

Frequency of Problems in the Clinical Range: Adolescents With CFAs Versus Norms

To examine the adjustment of CFA and normative groups, the proportions of adolescents with CFAs who scored in the

TABLE 2 Mean Child Behavior Checklist Score for Adolescents With Craniofacial Anomalies (CFAs) and Achenbach's Normative Reference Group by Gender*

Subscale	Male						Female				
	CFA		n	Norms (n = 564)		CFA		n	Norms (n = 604)		
	M	SD		M	SD	M	SD		M	SD	
Activities Competence	44.9	9.0	25	47.7	7.3	45.0	7.8	35	47.8	7.3	
Social Competence	45.8	9.2	25	48.1	7.2	45.8	8.2	36	48.1	7.2	
Scholastic Competence	46.6	9.2	21	48.3	6.7	43.4	7.8	37	48.3	7.2	
Total Competence	49.4	14.2	19	50.3	9.7	45.5	9.4	34	50.4	9.8	
Withdrawn	53.8	6.5	26	54.0	6.2	56.3	8.5	38	53.9	6.0	
Somatic Complaints	55.3	7.8	26	54.0	5.8	57.6	7.5	38	53.9	6.0	
Anxious/Depressed	53.4	8.1	26	54.2	6.1	53.9	5.6	38	54.1	6.1	
Social Problems	56.1	9.9	26	53.8	5.9	54.9	6.0	38	53.9	5.8	
Thought Problems	55.5	7.5	26	53.3	5.6	53.5	5.9	38	53.4	5.8	
Attention Problems	54.6	8.1	26	54.0	5.9	54.0	6.1	38	54.0	5.9	
Delinquent Behavior	53.9	5.6	26	53.9	5.9	54.3	5.5	38	54.0	5.8	
Aggressive Behavior	52.3	4.4	26	54.1	6.2	52.5	4.2	38	54.1	6.3	
Internalizing	48.2	11.8	26	50.3	9.8	52.1	11.2	38	50.0	10.0	
Externalizing	45.3	10.6	26	50.1	9.8	48.7	8.2	38	50.2	9.8	
Total Problems	47.5	12.4	26	50.0	10.0	50.4	10.2	38	50.0	10.2	

* Means for adolescents with CFAs all fall within the normative range as reported by Achenbach (1991a). CFA numbers are lower for some subscales because of incomplete data.

clinical range, according to parent and self-report, were compared with normative groups. The cut-off point for the “borderline” range was used to determine whether the score was in the clinical range, based on the recommendation by Achenbach (1991b), to decrease the number of false negatives and enhance sensitivity to those who may be “at risk” clinically. Differences between adolescents with CFAs and Achenbach’s samples were tested by chi-square analyses.

YSR

As shown in Table 3, no statistically significant differences were found between adolescents with CFAs and norms in the

frequencies of adolescents reporting problems in the clinical range. However, adolescent boys with CFAs reported marginally significant elevations in rates of deficits in Activities Competence, and adolescent girls with CFAs indicated marginally lower rates of Total Problems.

CBCL

As shown in Table 4, parents of both daughters and sons with CFAs reported a significantly higher frequency of clinically meaningful deficits in Social Competence and Scholastic Competence as compared with norms. Parents of daughters with CFAs also reported significantly higher proportions of

TABLE 3 Percentage in Clinical Range on Youth Self Report: Chi-Square Analyses Comparing Adolescents With Craniofacial Anomalies (CFAs) With Achenbach's Normative Reference Group by Gender†

Subscale	Males			Females		
	%	χ ²	n	%	χ ²	n
Activities Competence‡	13.6	3.45*	22	3.2	.20	31
Social Competence‡	4.5	.01	22	9.1	1.16	33
Total Competence§	26.3	.90	19	16.7	.04	30
Withdrawn‡	0	1.37	26	5.3	.01	38
Somatic Complaints‡	7.7	.40	26	2.6	.45	38
Anxious/Depressed‡	3.8	.07	26	2.6	.45	38
Social Problems‡	7.7	.40	26	5.3	.01	38
Thought Problems‡	3.8	.07	26	0	2.00	38
Attention Problems‡	3.8	.07	26	5.3	.01	38
Identity Problems‡	3.8	.07	26	—	—	—
Delinquent Behavior‡	3.8	.07	26	5.3	.01	38
Aggressive Behavior‡	3.8	.07	26	5.3	.01	38
Internalizing§	7.7	1.87	26	15.8	.13	38
Externalizing§	11.5	.74	26	10.5	1.44	38
Total Problems§	11.5	.74	26	7.9	2.63	38

† Means for adolescents with CFAs fall within the normative range as reported by Achenbach (1991c). CFA numbers are lower for some subscales because of incomplete data.

‡ Norms show that the expected percentage of sample to score in the clinical range is 5%.

§ Norms show that the expected percentage of sample to score in the clinical range is 18%.

* *p* < .10.

TABLE 4 Percentage in Clinical Range on Child Behavior Checklist: Chi-Square Analyses Comparing Adolescents With Craniofacial Anomalies (CFAs) With Achenbach's Normative Reference Group by Gender†

Subscale	Males			Females		
	%	χ ²	n	%	χ ²	n
Activities Competence‡	12.0	2.58	25	11.4	3.05*	35
Social Competence‡	16.0	6.37**	25	13.9	5.99**	36
Scholastic Competence‡	14.3	3.81**	21	13.5	5.65***	37
Total Competence§	21.1	.12	19	29.4	3.00*	34
Withdrawn‡	7.7	.40	26	13.2	5.32**	38
Somatic Complaints‡	7.7	.40	26	13.2	5.32**	38
Anxious/Depressed‡	7.7	.40	26	5.3	.01	38
Social Problems‡	11.5	2.34	26	5.3	.01	38
Thought Problems‡	11.5	2.34	26	5.3	.01	38
Attention Problems‡	7.7	.40	26	2.6	.45	38
Delinquent Behavior‡	0	1.37	26	2.6	.45	38
Aggressive Behavior‡	0	1.37	26	2.6	.45	38
Internalizing§	11.5	.74	26	26.3	1.78	38
Externalizing§	11.5	.74	26	10.5	1.44	38
Total Problems§	11.5	.74	26	23.7	.83	38

† Means for adolescents with CFAs fall within the normative range as reported by Achenbach (1991a). CFA numbers are lower for some subscales because of incomplete data.

‡ Norms show that the expected percentage of sample to score in the clinical range is 5%.

§ Norms show that the expected percentage of sample to score in the clinical range is 18%.

* *p* < .10. ** *p* < .05. *** *p* < .01.

TABLE 5 Intercorrelations Between Child Behavior Checklist and Youth Self Report by Gender: Comparison of Craniofacial Anomaly (CFA) and Normative (Achenbach, 1991c) Groups†

Subscale	Male				Female			
	CFA		Norms (n = 736)		CFA		Norms (n = 734)	
	r	n	r	z	r	n	r	z
Activities Competence	.62	21	—	—	.38	31	—	—
Social Competence	.67	22	—	—	.89	33	—	—
Total Competence	.84	16	—	—	.89	29	—	—
Withdrawn	.27	26	.26	-0.26	.61	38	.45	1.30
Somatic Complaints	.78	26	.32	3.37***	.39	38	.36	0.20
Anxious/Depressed	.66	26	.32	2.18**	.46	38	.44	0.15
Social Problems	.87	26	.38	4.41***	.51	38	.39	0.87
Thought Problems	.57	26	.20	2.10**	.43	38	.23	1.30
Attention Problems	.86	26	.38	4.22***	.55	38	.35	1.46
Delinquent Behavior	.05	26	.53	-2.55**	.72	38	.40	2.80***
Aggressive Behavior	.70	26	.39	2.15**	.64	38	.40	1.93*
Internalizing	.72	26	.32	2.72***	.59	38	.48	0.89
Externalizing	.66	26	.46	1.40	.63	38	.42	1.70*
Total Problems	.73	26	.39	2.44**	.59	38	.42	1.33

† CFA numbers are lower for some subscales because of incomplete data.

* $p < .10$; ** $p < .05$; *** $p < .01$.

Withdrawn and Somatic Complaints in the clinical range as compared with norms, as well as marginally significant elevations in rates of deficits in Activities Competence and Total Competence. Individuals with CFAs did not differ from norms on the remaining scales.

Correlations Between CBCL and YSR

Bivariate correlations were computed to test the correspondence between parents' and adolescents' reports of the adolescents' adjustment problems and competencies. Table 5 displays correlations for the CFA sample and for Achenbach (1991c) norm samples (parent-adolescent correlations are not available for competence scales on the norm sample). For boys in the CFA sample, correlations between adolescent and parent reports were moderate to high (.27 to .87), with the exception of a near-zero correlation on Delinquent Behavior. For girls, the range of correlations was similarly moderate to high (.38 to .89). Fisher r to z transformations were used to compare the magnitude of correlations seen in the CFA sample with the norm sample (Cohen and Cohen, 1983). Boys in the CFA sample had significantly greater correspondence to parental reports on all problem scales, except for Externalizing and Withdrawn. Reports for Delinquent Behavior showed a significantly greater correlation for the norm sample than for the boys with CFAs. For girls with CFAs, only the parent-adolescent correlation for Delinquent Behavior was significantly higher than for the norms. All other correlations were higher for the girls with CFAs but did not reach significance. These findings suggest that adolescents (especially boys) with CFAs and their parents have a more similar perspective on the adolescents' adjustment than would be found in a typical sample.

Frequency of Problems in the Clinical Range: Parent Versus Adolescent Reports

To further examine correspondence between parent and adolescent reports, the proportion of parents who reported prob-

lems in the clinical range was compared with adolescent reports. Given that two related samples were used (parents and their children), McNemar tests were used to assess differences in proportions between paired scores (Green et al., 1997). Statistically significant differences were not found between parent and adolescent reports of clinical levels of adjustment problems. Hence, parents and adolescents tended to report comparable levels of serious adjustment problems.

DISCUSSION

Adolescents With CFAs Versus Norms

In most areas, adolescents with CFAs showed comparable adjustment with norms. However, more problems in the clinical range were reported in several areas, primarily by parents. In particular, difficulties with peer relationships (Withdrawn, deficits in Social Competence) were seen more frequently for this sample of adolescents with CFAs. Parents of both boys and girls also reported elevated rates of clinically significant deficits in Scholastic Competence.

The observed pattern of impaired social functioning is consistent with previous findings (Peter et al., 1975; Macgregor, 1990; Pruzinsky, 1992; Kapp-Simon and McGuire, 1997) that revealed that this population may experience significant teasing, rejection, and other negative social responses, and it shows trends toward social withdrawal, possibly as a reaction to the negative responses of others (Rubin and Wilkinson, 1995). In addition, other factors, including parental attitudes and behaviors, may affect the social experiences of children with CFAs. For example, parents may have encountered negative reactions from others as a result of their child's condition and may feel overprotective and hesitant to encourage social interactions (Richman and Harper, 1978; Brantley and Clifford, 1979). Medical and functional limitations may impede adolescents' involvement in sports or other types of activities, thereby re-

ducing opportunities for developing peer relationships. Marginal deficits in Activities Competence were observed in this sample, suggesting that some adolescents with CFAs may be isolated from age-appropriate extracurricular activities. These findings, which replicate those from studies conducted with a range of methodologies and types of CFA samples, further emphasize the need for social interventions for adolescents with CFAs.

Adolescent boys and girls both showed increased risk for clinical levels of deficits in Scholastic Competence, as reported by parents. This finding is consistent with previous research demonstrating elevated rates of learning disabilities in the CFA population (Broder et al., 1998).

Taken together, findings indicate that most adolescents in this sample showed good adjustment. The adjustment problems that emerged were primarily deficits in adaptation (academic and social); there was little evidence of elevated risk for psychopathology in this sample. Difficulties with socialization seem to be a major concern for these adolescents and should be targeted in order to avoid negative implications for adult social competence and mental health (Langlois and Stephan, 1981). Similarly, professionals working with the CFA population need to be aware of the elevated risk for learning disabilities so that appropriate support for academic functioning can be provided.

Parent Versus Adolescent Reports

There was greater correspondence between parent and adolescent reports of adjustment in this CFA sample than would be expected according to normative data. Furthermore, there were no statistically significant differences between parents and adolescents in reported frequencies of problems in the clinical range. These findings may be a result of a close parent-child relationship; other studies have speculated that the need for enhanced caretaking inherent in raising a child with CFA has the capacity to produce an intensely child-focused parenting style (Speltz et al., 1995). Also, if adolescents with CFAs are spending less time in peer interactions and other outside activities compared with typical adolescents, simply spending more time at home with their families might increase parent-child communication. The mechanism behind this finding is unclear and merits further investigation.

Despite these indications of greater parent-adolescent congruence of reports, parents in this sample did tend to report more adjustment problems (compared with norms) than did their sons and daughters. Higher parent reports of adjustment problems have been consistently found in pediatric samples with younger children. The source of discrepant reports is unknown. Parents may overreport problems for reasons such as overprotectiveness (Richman and Harper, 1978; Brantley and Clifford, 1979; Speltz et al., 1995), increased parenting stress (Speltz et al., 1990), apprehension about their child's health (Brantley and Clifford, 1979), and negative expectations about their child's social experiences because of a facial disfigurement. These factors may predispose parents to have a height-

ened level of concern, which may cause them to become overly focused on even minor adjustment issues or to take a pessimistic view of the adolescent's adjustment. Parents also may have a difficult time accurately assessing their child's behavioral adjustment during adolescence because children typically spend less time under parental supervision. Adolescents may choose to reveal personal problems to their peers when they have the opportunity or keep feelings to themselves, rather than disclose them to their parents (Seiffge-Krenke and Kollmar, 1998). Alternatively, adolescents may tend to underreport problems because of social bias (choosing to present a positive image to counter negative societal expectations) or "fake good" to prevent their overprotective parents or professionals from worrying about their difficulties. Another possibility is that adolescents are more aware of their subjective thoughts and feelings; therefore, their reports accurately reflect their experiences.

Caution must be taken when considering which informant provides the most accurate picture. On the one hand, adolescents themselves are best qualified to report on their own subjective thoughts and feelings, as well as report on their experiences in settings outside the family environment. On the other hand, from a developmental perspective, parents have achieved greater cognitive and perspective-taking skills, allowing for more accurate reporting. Consequently, because some adolescents may not yet have acquired the cognitive skills needed for accurate self-observation, they may find it difficult to evaluate their own adjustment. Further research is needed to examine whether parents or adolescents prove to be more accurate reporters by comparing their reports with those of other reporters (such as peers or teachers). In addition, further research is needed to determine whether discrepancies indicate significant differences in the adolescent's actual behavior under different conditions or, alternatively, differences in the person's perceptions or tolerance of certain behaviors (Achenbach, 1991c). In clinical settings, it may be important to use information from adolescents themselves as well as their parents to obtain a more complete assessment of adolescent adjustment.

CONCLUSIONS

The strengths and weaknesses of our study should be used to inform the interpretation of these results. Although chart-review methodology may reduce the problems of bias encountered through typical subject recruitment procedures, it is unclear to what extent these findings can be generalized to other geographic areas or to individuals with CFAs who do not seek surgical intervention. Furthermore, the nonreferred norms of Achenbach (1991a, 1991b, 1991c) are based on a nationally representative sample of children who had not received mental health treatment in the previous year, thus comprising a well-adjusted sample rather than a community sample. If a matched community comparison group were used, the CFA sample might have shown lower rates of problems. Any adjustment difficulties experienced by adolescents in the study sample cannot necessarily be attributed to the presence of CFAs, given

that adjustment problems, especially peer relationship difficulties, are common among children with chronic medical conditions (Reiter-Purtill and Noll, 2003; Wallander et al., 2003). Future studies should therefore use a pediatric comparison group to determine whether the CFA population demonstrates a unique pattern of psychosocial adjustment beyond the impact of stressors common to children with ongoing medical concerns. Another limitation is that the impact of surgeries and severity of disfigurement on adjustment were not measured. Finally, although our study was somewhat unique in evaluating a narrow developmental range—middle to late adolescence—this resulted in a relatively small sample and should be replicated with a larger CFA sample.

Our findings suggest that adolescents with CFAs may not be at heightened risk for major adjustment problems, although some may experience deficits in social and academic competence. Parents and adolescents displayed greater congruence in their reports of psychosocial adjustment than seen in well-adjusted, medically healthy samples, perhaps indicating closer parent-child relationships. When parents and adolescents differed in their reports, parents identified more problems, consistent with findings from other studies of children with medical problems. Professionals working with adolescents with CFAs should involve both parents and adolescents in their assessment of psychosocial adjustment to obtain a complete picture.

REFERENCES

- Achenbach TM. *Manual for the Child Behavior Checklist and 1991 Child Behavior Profile*. Burlington: University of Vermont Press; 1991a.
- Achenbach TM. *Manual for the Youth Self-Report and 1991 YSR Profile*. Burlington: University of Vermont Press; 1991b.
- Achenbach TM. *Integrative Guide for the 1991 CBCL/4–18, YSR, and TRF Profiles*. Burlington: University of Vermont Press; 1991c.
- Achenbach TM, McConaughy SH, Howell CT. Child/adolescent behavioral and emotional problems: implications of cross-informant correlations for situational specificity. *Psychol Bull.* 1987;101:213–232.
- Brantley HT, Clifford E. Maternal and child locus of control and field-dependence in cleft palate children. *Cleft Palate J.* 1979;16:183–187.
- Broder HL, Richman LC, Matheson PB. Learning disability, school achievement, and grade retention among children with cleft: a two-center study. *Cleft Palate Craniofac J.* 1998;35:127–131.
- Broder HL, Smith FB, Strauss RP. Effects of visible and invisible orofacial defects on self-perception and adjustment across developmental eras and gender. *Cleft Palate Craniofac J.* 1994;31:429–436.
- Cohen J, Cohen P. *Applied Multiple Regression/Correlation Analysis for the Behavioral Sciences*. Hillsdale, NJ: Erlbaum; 1983.
- Coleman JM. Handicapped labels and instructional segregation: influences on children's self-concepts versus the perceptions of others. *Learning Disabilities Q.* 1983;6:3–11.
- Eliason M, Richman L. Behavioral characteristics of cleft children related to age, sex, and cleft type. Paper presented at the American Cleft Palate Association; 1987; San Antonio, Texas.
- Endriga M, Kapp-Simon K. Psychological issues in craniofacial care: state of the art. *Cleft Palate Craniofac J.* 1999;36:3–11.
- Green SB, Salkind NJ, Akey TM. Two related samples tests: the McNemar, Sign, and Wilcoxon tests. In: Roberts N, Janzow P, Signoretti N, Kalish I, Rottino M, eds. *Using SPSS for Windows: Analyzing and Understanding Data*. Englewood Cliffs, NJ: Prentice Hall; 1997:435–445.
- Harper D, Richman L. Personality profiles of physically impaired adolescents. *J Clin Psychol.* 1978;34:636–642.
- Harter S. *The Construction of Self*. New York: Guilford Press; 1999.
- Harvey D, Greenway P. Congruence between mother and handicapped child's view of the child's view of the child's sense of adjustment. *Exceptional Child.* 1982;29:111–116.
- Hatfield E, Sprecher E. *Mirror, Mirror: The Importance of Looks in Everyday Life*. New York: State University of New York Press; 1986.
- Kapp-Simon K, McGuire D. Observed social interaction patterns in adolescents with and without craniofacial conditions. *Cleft Palate Craniofac J.* 1997;34:380–384.
- Kashani JH, Konig P, Shepperd JA, Wilfley D, Morris DA. Psychopathology and self-concept in asthmatic children. *J Pediatr Psychol.* 1988;13:509–520.
- Klennert MD, McQuaid EL, McCormick D, Adinoff AD, Bryant NE. A multimethod assessment of behavioral and emotional adjustment in children with asthma. *J Pediatr Psychol.* 2000;25:35–46.
- La Greca AM. Social consequences of pediatric conditions: fertile area for future investigation and intervention. *J Pediatr Psychol.* 1990;15:285–307.
- La Greca AM, Lamanek KL. Assessment as a process in pediatric psychology. *J Pediatr Psychol.* 1996;21:137–151.
- Langlois JH, Stephan CW. Beauty and the beast: the role of physical attractiveness in the development of peer relations and social behavior. In: Brehm SS, Kassir SM, Gibbons FX, eds. *Developmental Social Psychology*. New York: Oxford University Press; 1981:152–168.
- Leonard BJ, Brust JD, Abrahams G, Sielaff B. Self-concept of children and adolescents with cleft lip and/or palate. *Cleft Palate Craniofac J.* 1991;28:347–353.
- Macgregor FC. Facial disfigurement: problems and management of social interaction and implications for mental health. *Aesthetic Plast Surg.* 1990;14:249–257.
- Masten AS, Coatsworth JD. The development of competence in favorable and unfavorable environments: lessons from research on successful children. *Am Psychol.* 1998;53:205–220.
- Munro IR. A description of craniofacial anomalies: the mechanism and rationale of surgery. In: Eder RA, ed. *Craniofacial Anomalies: Psychological Perspectives*. New York: Springer-Verlag; 1995:3–21.
- Peter JP, Chinsky RR, Fisher M. Sociological aspects of cleft palate adults: III. Vocational and economic aspects. *Cleft Palate J.* 1975;12:193–199.
- Pope AW, Snyder HT. Psychosocial adjustment in children and adolescents with a craniofacial anomaly: age and sex patterns. *Cleft Palate Craniofac J.* 2005;42:349–354.
- Pruzinsky T. Social and psychological effects of major craniofacial deformity. *Cleft Palate Craniofac J.* 1992;29:578–584.
- Radcliffe J, Bennett D, Kazak AE, Foley B, Phillips PC. Adjustment in childhood brain tumor survival: child, mother, and teacher report. *J Pediatr Psychol.* 1996;21:529–539.
- Reis HT, Hodgins HS. Reactions to craniofacial disfigurement: lessons from the physical attractiveness and stigma literatures. In: Eder RA, ed. *Craniofacial Anomalies: Psychological Perspectives*. New York: Springer-Verlag; 1995:177–198.
- Reiter-Purtill J, Noll RB. Peer relationships of children with chronic illness. In: Roberts MC, ed. *Handbook of Pediatric Psychology*. New York: Guilford Press; 2003:176–197.
- Richman LC. Self-reported social, speech, and facial concerns and personality adjustment of adolescents with cleft lip and palate. *Cleft Palate J.* 1983;20:108–112.
- Richman LC, Harper DC. Observable stigmata and perceived maternal behaviors. *Cleft Palate J.* 1978;15:215–219.
- Richman LC, Holmes CS, Eliason MJ. Adolescents with cleft lip and palate: self-perceptions of appearance and behavior related to personality adjustment. *Cleft Palate J.* 1985;22:93–96.
- Rubin KH, Wilkinson M. Peer rejection and social isolation in childhood: a conceptually inspired research agenda for children with craniofacial handicaps. In: Eder RA, ed. *Craniofacial Anomalies: Psychological Perspectives*. New York: Springer-Verlag; 1995:158–176.
- Seiffge-Krenke I, Kollmar F. Discrepancies between mothers' and fathers' perceptions of sons' and daughters' problem behavior: a longitudinal analysis of parent-adolescent agreement on internalizing and externalizing problem behavior. *J Child Psychol Psychiatry.* 1998;39:687–697.
- Speltz ML, Arnsden GC, Clarren SS. Effects of craniofacial birth defects on maternal functioning postinfancy. *J Pediatr Psychol.* 1990;15:177–196.

- Speltz ML, Galbreath H, Greenberg MT. A developmental framework for psychosocial research on young children with craniofacial anomalies. In: Eder RA, ed. *Developmental Perspectives on Craniofacial Problems*. New York: Springer-Verlag; 1995:258–286.
- Speltz ML, Richman L. Progress and limitations in the psychological study of craniofacial anomalies [editorial]. *J Pediatr Psychol*. 1997;22:433–438.
- Verhulst FC, van der Ende J. Agreement between parents' reports and adolescents' self-reports of problem behavior. *J Child Psychol Psychiatry*. 1992; 33:1011–1023.
- Wallander JL, Thompson RJ, Alriksson-Schmidt A. Psychosocial adjustment of children with chronic physical conditions. In: Roberts MC, ed. *Handbook of Pediatric Psychology*. New York: Guilford Press; 2003:141–158.