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How Are Schools Doing? Parental Perceptions of Children with Autism Spectrum Disorders, Down Syndrome and Learning Disabilities: A Comparative Analysis

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Abstract: Parents of 209 children (162 males and 46 females) with autism spectrum disorders, Down syndrome or learning disabilities ranging in age from 4 to 21 years were surveyed about their perceptions of the education of their children. Items on the survey were categorized into 7 areas: school personnel's knowledge about the disability, best practices, behavioural concerns, parent/school collaboration, education team, individual education plan, and miscellaneous other items. Group differences were observed on a number of items and in almost every case parents in the learning disabilities group rated the items significantly lower than one or more of the other groups. In addition, numerous items were paired such that parents were asked to rate if a certain educational "best practice" was being utilized with their child and if they felt their child required it. Examination of the paired items indicated many significant differences between what parents felt was being offered their child, and what their child needed to achieve their maximum potential across diagnostic groups. The implications of these and other results are discussed.

Autism spectrum disorders (ASD), Down syndrome (DS), and learning disabilities (LD) are certainly not new exceptionalities, but what is new is the inclusion of children with ASD and DS in general education classrooms. The estimated prevalence of autism spectrum disorders has increased considerably since the early epidemiological studies—10/10,000 for autism itself, and 27.5/10,000 for all spectrum disorders (Fombonne, 2003), and the number of children with a spectrum diagnosis being served by the educational system has skyrocketed in the last 10 to 15 years (National Research Council, 2001). Children with all but the most severe learning disabilities have routinely been educated in general education classrooms, although usually with resource withdrawal for at least part of the day. However, children with more severe autism and DS have typically received their education in full time special education settings and have not been the responsibility of general education teachers. This situation has changed dramatically in the last decade or so as many school boards move to "full inclusion" philosophies, or parents insist on having their child in the general education classroom. Ideally, the child's needs are met through the use of education teams that include parental membership who decide together on educational goals and strategies. How effectively these needs are met can depend on the presence of an effective education team, how well the classroom teacher understands the disability, the teacher's knowledge of how to implement effective interventions, and on how well the parent and the teacher can work together.

Autism spectrum disorders can pose particular challenges to teachers of general education classrooms. Individuals with ASD experi-

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ence difficulties in three domains: reciprocal social interaction, verbal and nonverbal communication, and stereotyped and repetitive behaviors (American Psychiatric Association, 1994). These can vary in severity from mild to severe. Thus, an individual at the mild end of the spectrum (e.g. with Asperger syndrome [AS]) may be extremely verbal but have difficulties with pragmatic aspects of language, desire and seek out social interaction albeit in an idiosyncratic manner, may have difficulties with and experience extreme anxiety dealing with changes in routine or transitions, and may have very intense interests that might seem odd to other people (Klin, McPartland, & Volkmar, 2005). Individuals at the severe end of the spectrum may be nonverbal or echolalic, avoid social interaction, become extremely upset when their routines are altered, demonstrate self-injurious behavior, and spend long periods of time engaging in such repetitive behavior as flapping their hands, lining things up, or repeatedly flushing the toilet. Up to 80% of those with ASD also have an intellectual disability ranging from mild to severe (American Psychiatric Association; National Research Council, 2001). This wide range of behavior can be very perplexing to teachers unfamiliar with these disorders. This can result in misunderstandings so that students with ASD are punished because of their disability, particularly when students demonstrate superior skills in some areas and are completely uncomprehending of apparently much simpler things developmentally.

Down syndrome is the most common of genetic causes of moderate intellectual disability resulting from the presence of an extra chromosome (Lovering, 2003). This genetic difference results in numerous physical characteristics and potential medical problems. The stereotype of individuals with DS being friendly and affectionate and stubborn at times has sometimes interfered with objective assessment and treatment of other potential comorbid psychiatric disorders including autism (Ghaziuddin, Tsai, & Ghaziuddin, 1992; Lovering). Although children with DS have a slower rate of learning and a diminished capacity, their developmental progression is similar to children without DS (Tien et al., 1999). Children with DS often have speech and expressive language difficulties that can render comprehension by others difficult and this can often result in inappropriate and disruptive behaviours. These children do not easily generalize skills taught in one setting to another, and tend to have difficulty with short and long-term memory and in learning abstract concepts (Tien et al.).

Children with learning disabilities also have unique learning difficulties that need to be understood by teachers. By definition, although children with LD have at least an average intellectual ability, they are extremely heterogeneous in their learning strengths and weaknesses. They may have significant difficulties in one or more areas including reading, written expression, spelling, mathematics or social skills (Heward, 2006).

Many, perhaps most, students with ASD, DS and LD *can* be successful in general education classrooms, depending on the nature of their strengths and needs, but only if teachers, educational assistants, and special education personnel are knowledgeable about each exceptionality, understand the individual students for whom they are responsible, and are able to provide effective support for the students. Parents of children with disabilities tend to be the best advocates for their children as they go through the education system since it is they who know their child's strengths and needs most intimately. Parents need to be considered essential collaborators in their child's education and important members of their son's or daughter's Individual Education Plan [IEP] team at school. Legislation both in the United States and Canada either requires the participation of the parents, or at least gives them the right to participate in their child's education (Heward, 2006).

A number of studies have examined the perceptions and satisfaction of parents regarding the education of their children with developmental disabilities ranging in severity (Hodapp, Freeman, & Kasari, 1998; Leyser, 1985; Lovitt & Cushing, 1999; Westling, 1996, 1997; Westling & Plaute, 1999), but most have either not specified the nature of the disability of the children or have not analysed the data by etiological classification. The need to look at perceptions from an etiological perspective has been highlighted by a number of recent studies (Fidler, Hodapp, & Dykens, 2002; Hodapp et al., 1998; Kasari, Freeman, Baum-

inger, & Alkin, 1999) as perceived needs and satisfaction with what is offered in the educational system will likely vary depending on a child's diagnosis. Hodapp et al. (1998), in examining parental educational perceptions based on the child's type of intellectual disability (DS or Prader-Willi syndrome) and current placement, found that although there were some similarities, there were indeed differences depending on diagnostic group. Parents of children with DS identified more inclusive settings as the "ideal" educational placement compared to parents of children with Prader-Willi. Parents of children with Prader-Willi expressed more concerns about educators' lack of knowledge about the syndrome and its characteristic behaviours whereas parents of children with DS never mentioned this as a concern.

Kasari et al. (1999) examined the effects of diagnosis (autism or DS), age, and current educational placement on parents' perception toward inclusion for their child and found that diagnosis did make a difference in parent attitudes towards inclusion. While the majority of parents of children with autism felt that their children's educational needs could not be met in an inclusive setting, only 25% of parents of children with DS felt similarly.

Most studies conducted to date that have considered etiology, however, tend to be more concerned with examining parental attitudes toward inclusion, rather than looking more broadly at specific aspects or educational techniques that are used within educational settings. There is a considerable literature now on both specific characteristics of individuals in different diagnostic groups and effective teaching strategies, and it is of interest to examine parental perceptions and satisfaction related to the use of these strategies in the education of their children.

A pilot study by Starr, Foy and Cramer (2001)surveyed the perceptions and satisfaction of parents of children with ASD regarding their children's education. Results revealed that these parents were fairly satisfied with, and had positive perceptions of their children's education. At least 70% of the sample of parents of 69 children positively endorsed 17/24 Likert items related to "best practices" in terms of teaching children with ASD, and 14/19 items related to effective education team functioning. There was some indication that parents of younger children, and children who were nonverbal had more positive perceptions than those of children who were older or verbal, with the parents of the youngest (primary grade) children expressing the most positive perceptions. Although only a few specific items were statistically significant, almost all individual items showed this trend, leading to the conclusion that perhaps children with more obvious disabilities are more likely to have behavioural differences regarded as part of their disability, and are more likely to have their needs met compared to children who are higher functioning and may have more subtle needs. Parents of younger children may have been more satisfied because of the customary greater contact parents may have with the school and teachers (volunteering in the classroom, picking their children up), and the fact that the developmental gap is not as prominent at young ages. This age difference, in terms of satisfaction, may also reflect the greater length of time (and concomitant frustration) that parents of older children have experienced trying to have their child's educational needs met. When parents were asked what would better meet the needs of their child, the three most commonly cited were more education for professionals (mentioned by almost 29% of the sample), more time with an educational assistant (22.4%), and having a better IEP for their child (18.4%).

The purpose of the current study was to extend the rather limited findings of the initial pilot (Starr et al., 2001) and other parental perception studies, and compare the perceptions of parents of children with either ASD, DS or LD. The investigators wished to examine parental satisfaction by looking at a wide range of educational practices and determine whether any pattern existed between the parents of the different groups of children in terms of their perceptions of the efficacy of different aspects of their child's education.

These particular populations were selected because they are of fairly high incidence and there are many children who have these exceptionalities attending school, either in general education classrooms or a combination of general education/special education settings.

It was hypothesized that there would be

differences in parental perceptions and satisfaction depending on the etiology and severity of their child's disability. It was thought that parents of children who were lower functioning and whose disability was more obvious would generally be more satisfied with their child's education since educational needs were more self-evident, given limited verbal and cognitive abilities (i.e., children with more severe autism and DS). It was thought that these children's behaviour would more likely be seen as part of their disability, and their learning needs would less likely be "ignored." The more subtle social disabilities often exhibited by children with learning disabilities and high functioning autism on the other hand, are often attributed to "willfulness" or deliberate misbehaviour rather than the disability by teachers unfamiliar with these exceptionalities and thus it was hypothesized that these parents would be more dissatisfied with the education provided for their child.

It was also important to examine the congruence between whether parents felt that certain aspects of education were being provided and whether parents felt that their child *needed* such assistance. Obviously, if parents feel their child does not need such assistance, then it is not a source of dissatisfaction if the assistance is not provided.

Method

Participants and Survey Distribution

Parents of children with ASD were recruited through the placement of notices in the local chapter newsletters of the provincial autism parent association, in the provincial newsletter of the organization, in the newsletter of an autism resource centre, and through flyers available at an autism conference. Parents of children with LD and DS were recruited through notices placed in local chapter newsletters (where they existed), or through announcements at meetings of their respective parent organizations throughout the province of Ontario. Interested parents then contacted the first author (ES).

Surveys were sent to parents of 168 children with ASD, 24 children with Down Syndrome, and 57 children with learning disabilities who indicated their interest in participating in the study. Return of the completed survey constituted informed consent. A return rate of 91%, 83.3%, and 82.5% was achieved for the ASD, DS, and LD groups respectively after reminders had been sent.

Three surveys from the ASD group were excluded from analyses at the outset because the children had not yet begun attending school, and two were excluded because the children were in programs other than a school program. Within the ASD group, there were two parents who indicated that they were unsure of their child's diagnosis and one who indicated that their child had Childhood Disintegrative Disorder (CDD)—an autism spectrum disorder but one with a very particular course of regression. These surveys were also excluded from all analyses. Children whose parents checked only "autism" as a diagnosis, or "autism" and "PDD" (a commonly given global diagnosis), were included in the "Autism" group. A number of children had been given different ASD diagnoses (n = 10) by different clinicians (e.g., autism, AS and PDD). For the purposes of this study, all of the children who had received diagnoses of AS, atypical autism, pervasive developmental disorder not otherwise specified (PDD-NOS), or different diagnoses from different clinicians were included in the "Other ASD" group since more specific diagnoses within the ASD spectrum (outside of "Autistic Disorder") is notoriously difficult (Wing, 2005).

One survey from the LD group was excluded because the entire demographic section of the survey was not completed, while no surveys from parents in the DS group were excluded. Thus, the final sample consisted of 144 parents whose children had ASD (57 Autism, 87 Other ASD), 45 whose children had an LD, and 20 parents of children with DS for a total of sample of 209 individuals. The majority of surveys were completed by the mothers (92.3%), while 2.4% were completed by fathers and 5.3% were completed by both parents.

Instrument

The current survey was developed as a refinement to the survey used in the pilot study (Starr et al., 2001) and through a study of the literature as to best teaching practices of indi-

TABLE 1

Demographic Information

		Percent Within Diagnostic Category (N)				
		Autism N = 57	*Other ASD group N = 87*	*Down Syndrome (DS) N = 20*	*Learning Disability (LD) N = 45*	*Total N = 209*
Gender	Male	87.7 (50)	79.3 (69)	35 (7)	81.8[a] (36)	162
	Female	12.3 (7)	20.7 (18)	65 (13)	18.2 (8)	46

[a] 1 missing

viduals with the disabilities concerned in the survey. As closely as possible, the format of the survey followed the recommendations for survey construction of Dillman (1978). The autism and Other ASD group survey consisted of a total of 106 questions, the DS survey contained 118 questions, and the LD survey consisted of 103 questions. Depending on the survey, between 55 and 67 items were measured on a Likert scale. There were also numerous open- and closed-ended questions concerning aspects of parents' perceptions of the classroom and teaching environment, the education team, and what they felt would better meet their children's needs (these will be the subject of another paper). Other questions addressed demographic information and information about their child (e.g., diagnosis, co-morbidity, class placement, communication ability). Many of the Likert items were paired in that the parents were first asked about the extent to which they felt an aspect was present and then asked to rate their perception of their child's level of need regarding that aspect. For example, one question asked parents to rate their agreement with the statement "My child is provided with an individual visual schedule," followed by "I feel that my child needs an individual visual schedule." This pairing was considered extremely important as it is the congruence between what parents feel their child is provided with and what they feel their child needs that will contribute the most to their satisfaction with their child's education.

Results

Demographics

Geographic location. Although participants were primarily recruited from across Ontario, one Autism group participant lived in New Brunswick, while four Autism and 9 Other ASD group participants came from Nova Scotia. Participants were asked to identify whether they lived in a rural, urban or suburban area. Approximately one third lived in each of these settings and a one-way analysis of variance (ANOVA) revealed no significant differences among the diagnostic groups according to where they lived, $F(3, 198) = 1.11$, $p = .343$.

Gender. As expected from the literature, there were more than four times as many boys as girls having a diagnosis of ASD (Bryson, 1997) or LD (Gargiulo, 2003; Lovering, 2003). Within the DS group 65% of the children of the participants were female. Because DS is an autosomal genetic disorder, no specific sex difference was expected and the predominance of females is coincidental. Just over 77% of the children were male ($N = 162$), while 22.1% were female ($N = 46$) (see Table 1).

Age. The mean age of the children in this study was 121.2 months (10 years old) and ranged from 48 to 256 months. A one-way ANOVA revealed significant differences in the age of the children of the participants in that children in the Autism group were significantly younger than those in the Other ASD

TABLE 2

Mean Age and Mean Age at Diagnosis (in months)

	Autism *N = 57*	*Other ASD group* *N = 87*	*DS* *N = 20*	*LD* *N = 45*	*F*
Mean Age (SD)	95.7 (36.7)	114 (40.5)	141.8 (50.7)	156.4 (30.5)	23.34* (3, 205)
(Range)	(54-180)	(48-216)	(62-256)	(98-234)	
Mean Age at Diagnosis (SD)	39.7 (16)	62.3 (37.9)[†]	—	93.7 (29.2)[‡]	37.97*** (2, 183)
(Range)	(17-108)	(20-175)		(30-162)	

[†] 1 missing
[‡] 2 missing
* $p < .05$
*** $p < .001$

group, $F(3, 205) = 23.34$, $p = .023$, as well as those in the DS and LD groups ($p < .001$) (see Table 2). Children in the Other ASD group were also significantly younger than those in the DS group ($p = .033$), and the LD group ($p < .001$). There was no significant difference in age between the DS and LD groups.

The mean age at diagnosis for all children (excluding those with DS since they are diagnosed at, or slightly after birth) was 62.66 months with a range of 17 to 175 months. Not surprisingly, those in the Other ASD group and LD groups were diagnosed at a significantly older age than those with autism, $F(2, 183) = 37.97$, $p < .001$, since problems often do not become evident prior to the child entering the school system (see Table 2). Although those in the Other ASD group were diagnosed at a later age than those in the Autism group, it was still at a significantly younger age than those with LD ($p < .001$).

Communication ability. Parents of the children with ASD and Down syndrome were asked if their children were able to communicate spontaneously in sentences of at least three words in length and containing a verb. This criterion was used to coincide with that used in the Autism Diagnostic Interview-Revised (Lord, Rutter, & Le Couteur, 1994), a diagnostic instrument of established reliability and validity. Parents of children with learning disabilities were not asked this question as it was assumed that although the children may experience pragmatic language difficulties, there was not a question of their being able to speak in sentences.

Of the total sample, 152 of the children (72.7%) were verbal (including the LD group), and 57 children (27.3%) were nonverbal (Table 3) according to the definition provided. Although 42.1% of the Autism group and the majority of children in the Other ASD and the DS groups were rated as being verbal because they were able to speak in at least three word sentences, parents indicated that the speech of 25% of the verbal Autism group, 19% of the verbal Other ASD group, and 55.6% of the verbal DS group was actually not understandable by strangers. Despite this, parents reported that augmentative or alternative communication was effectively utilized by only three of these individuals. Of the nonverbal group, approximately half used some form of communication other than speech to communicate.

School and class placement. Of the total sample, 68.3% of the children attended publicly funded nondenominational schools. Another 29.8% attended publicly funded Catholic schools, while four children (1.9%) attended private schools. Of these four, three (one in the Autism group and two in the LD group) attended these schools specifically because of their program for students with autism or LD. Over three-quarters (77.5%) of the children attended the neighbourhood school that they would attend regardless of the presence of a disability. However, 22.5% were attending schools other than the one they would normally have attended if they did not have a disability. A one-way ANOVA revealed no differences between diagnostic groups in terms

TABLE 3

Communication Level, Class Placement and Support School

	Percent Within Diagnostic Category (N)				
	Autism N = 57	*Other ASD group N = 87*	*DS N = 20*	*LD N = 45*	*Total N = 209*
Ability to communicate in sentences					
Verbal	42.1	73.6	95	NA[a]	152
	(24)	(64)	(19)		
Speech understood by strangers	75	81	44.4	NA	77
	(18)	(51)	(8)		
Speech not understood by strangers	25	19	55.6	NA	28
	(6)	(12)	(10)		
Use of AAC[b] by those not understood	0	8.3	20	NA	3
		(1)	(2)		
Nonverbal	57.9	26.4	1.8	NA	57
	(33)	(23)	(1)		
Use of AAC by Nonverbal	48.5	56.5	0	NA	29
	(16)	(13)			
Class Placement					
General Education	63.2	51.2	36.8	34.9	102
	(36)	(44)	(7)	(15)	
Special Education	15.8	10.5	26.3	4.7	25
	(9)	(9)	(5)	(2)	
Combination	21.1	38.4	21.1	18.6	57
	(12)	(33)	(4)	(8)	
Resource Teacher	0	0	15.8	41.9	21
			(3)	(18)	
Student has Educational Assistant	91.2	81.6	90	29.5	154
(EA)	(52)	(71)	(18)	(13)	
Fulltime EA	74.5	50	60	9.5	100
	(41)	(43)	(12)	(4)	
Part-time EA	16.4	31.4	30	19	50
	(9)	(27)	(6)	(8)	
Mean hours per week for part-time	9.58[c]	12.9[d]	17.58[e]	6.5[f]	—
EA (range)	(4.8–15)	(1.5–27)	(10–24.3)	(5–10)	

[a] NA = not applicable
[b] Alternative and Augmentative Communication
[c] 5 missing
[d] 5 missing
[e] 2 missing
[f] 4 missing

of who attended their neighbourhood school, $F(3, 205) = .701$, $p = .553$.

Over 60% of children in the Autism group were educated in the general education classroom for the entire day, while about 50% of children from the Other ASD group were in full-time general education settings (see Table 3). Similar to the students with Down syndrome, slightly more than one-third of children with LD were in the general education classroom 100% of the time. Almost half of the students with LD went to a resource classroom for a portion of the day, while almost 20% received their education through a combination of special education and general education settings (a "combination" was defined by the researchers as students spending roughly half of the time in each setting

whereas "resource" was defined as students receiving teaching from a resource teacher for one or two subjects–e.g., reading and mathematics). A very small proportion of the students with LD (4.7%) were in full-time special education settings. The greatest number of students receiving their education in full-time special education settings were those with Down syndrome (a little more 25% of these students), while almost another quarter were in combination settings. Three of the students with Down syndrome were primarily in the general education setting, but received resource help through the day. Of the children in the autism and Other ASD groups, none went to a resource teacher for specific subjects, but many (21.1% and 38.4% respectively) were in combination settings. Relatively few of the students in the Autism or Other ASD groups were in special education settings 100% of the time (15.8% and 10.5% respectively).

Verbal ability of the students did not dictate the class placement for the children. Even though 57.9% of parents in the Autism group and 26.4% of the Other ASD group indicated that their children were nonverbal and presumably lower functioning, over half of these children were in a full time general education setting (54.5% and 60.9% of the autism and Other ASD groups respectively) and just over a quarter of each group were in "combination" settings. Among the children who were verbal, 75% of the Autism group and 47.6% of the Other ASD group were in fulltime general education settings and 12.5% and 42.9% of each group respectively were in combination settings. The only child with DS identified as being nonverbal was in a fulltime special education setting. Of the verbal children with DS, 38.9% were in fulltime general education placements, 22.2% were in combination settings, and 22.2% attended a resource room.

Educational assistants. At least 80% of the students in each of the Autism, Other ASD group and the DS groups had the help of an educational assistant (EA) with at least 50% of children in these three groups having a fulltime assistant. Only 30% of students in the LD group had an EA, and only 9.5% of this group had a full-time EA. For those who had the assistance of a part-time EA, the hours per week ranged most dramatically for the Other ASD group but a one-way ANOVA showed that the mean number of hours per week that students had a part-time EA did not differ as a function of group membership, $F(3, 30) = 2.404$, $p = .087$.

Overall Satisfaction with Education and Placement

In terms of overall satisfaction, 40.9% of the total sample was satisfied with their child's education (circled either numbers 4 or 5 on a scale ranging from 1 to 5 on the overall satisfaction question), 30.7% were dissatisfied (circled either numbers 1 or 2), and 28% were neutral (circled number 3). Within each group, 49.1% of the Autism group, 45.9% of the Other ASD group, 47.4% of the DS group and 20.5% of the LD group were satisfied, while 28.1%, 22.4%, 26.3% and 52.3% of the respective groups were dissatisfied, and 22.8%, 31.8%, 26.3% and 27.3% were neutral in terms of overall satisfaction. A one-way ANOVA revealed a significant difference in overall satisfaction depending on diagnostic group, $F(3, 202) = 4.76$, $p < .05$, with both the autism and Other ASD groups being significantly more satisfied than the LD group.

However, given that the children in the LD group were significantly older than children in the Autism and Other ASD groups, a one-way analysis of covariance (ANCOVA) controlling for age was conducted. When age differences were partialled out, the group differences were no longer significant $F(3, 206) = 2.07$, $p = .11$, partial $\rho^2 = .03$. Thus, age was indeed a significant covariate. To investigate this further, the children were categorized by age such that children of primary age (Kindergarten to grade 3 age level), junior/intermediate age (grades 4 to 8 age level), and secondary age (grade 9 and up age level) were grouped and nonparametric Kruskall-Wallis tests were conducted comparing the overall satisfaction means of the diagnostic groups within each age category. Results indicate that the difference in overall satisfaction between the diagnostic groups originates in the junior/intermediate age group in which the parents of children in the LD group are significantly less satisfied than the other groups, $\chi^2(3, N = 78) = 8.006$, $p < .05$.

Although the group means were not signif-

icantly different from each other, it is telling that parents of children of secondary age were the least satisfied overall in all but the DS group (Autism = 2.0, Other ASD = 2.6, DS = 3.4, and LD = 2.3). Interestingly, it was parents of children with DS in the youngest age group who were the least satisfied (M = 2.8) although differences between the diagnostic groups at this age level were not significant. No significant correlation was found between verbal ability and overall satisfaction.

A one-way ANOVA examining overall satisfaction and class placement was not significant, but it is interesting to look more closely at parents' satisfaction with their child's current class placement. Although the results are not statistically significant, 75.4% of the Autism group of parents indicated they were satisfied with their child's current placement, compared with 83.7% and of the Other ASD group, 80% of the DS group, and 65.9% of parents in the LD group. These results are interesting in light of the overall satisfaction of the groups indicating that it is not *where* the children received their education that was so much an issue as *what* happened within the placement (although "where" did seem to be more of an issue for the parents of the children with LD).

Not surprisingly, the placement for almost all of the students was determined through the Identification, Placement and Review Committee (IPRC) procedure mandated by Education Act of the Ontario government, although in some cases the placement decision was a "non-issue" since the specific school board had a full inclusion policy. Of the 11 parents in the Autism and Other ASD groups who indicated what kind of placement they felt would be more appropriate for their child, all but one (who desired more integration), would have preferred either smaller classes, more one-on-one time with teachers, or self-contained classes that were autism-specific. Of the 12 parents in the LD group who made suggestions as to what setting would better meet their children's need, four would have preferred their children to be in a full time special education setting with children having similar needs, three would have liked to see more in-class support, five would have preferred more resource teacher support, and one commented on how the full-inclusion model of their school does not allow for much one-on-one assistance. One parent commented that her child has a central auditory processing disorder but because the school has both a full inclusion policy and is open-concept, no other placement is available.

Categorical Analyses

The survey items were divided into seven theoretical packages: knowledge about the disability, best educational practices, behavioural concerns, parent/school collaboration and communication, education team, IEP, and a miscellaneous category of unclassified items that did not easily fit into the previous categories and yet seemed worthy of inclusion in the survey. Using the diagnostic category as the grouping (independent) variable, each of the item packages was analyzed with a nonparametric MANOVA, followed, if significant, by univariate Kruskall-Wallis nonparametric tests. These results are presented in Table 4. Although most items were the same across groups, there were a few that pertained more specifically to one group or another and thus were not asked of all groups. Scoring for the Likert items ranged from 1 (strongly disagree) to 4 (strongly agree). A number of items were negatively worded but these are noted on Table 4 and have been reversed scored so that higher scores always indicate more positive perceptions.

Knowledge about the disability. The first package involved four survey items: the education team understands the child's needs; the parent is considered the "expert" on the disability concerned by the school personnel; school personnel are knowledgeable about the disability; and school personnel are willing to learn about the disability. Results showed a significant multivariate effect, Wilks' $\Lambda = .889$, $F(12, 519) = 1.971$, $p = .025$. Follow-up univariate tests were significant only for the "school personnel are willing to learn" item, $\chi^2(3, N = 207) = 12.99$, $p = .004$. Ryan-Enoit-Gabriel-Welch F-tests showed that the LD group (mean rank = 82.1) scored significantly lower than each of the autism (111.9), Other ASD groups (103.7), and DS (133.6) groups.

Best Educational Practices. Only four items in this package—visual aids supplement classroom instruction; the teacher uses positive

TABLE 4

Categorical Analysis of Item Agreement

	Autism *M* (*SD*)	*ASD* *M* (*SD*)	*DS* *M* (*SD*)	*LD* *M* (*SD*)	*F*	*Group differences*
Knowledge about the Disability						
School personnel are willing to learn about disability	3.07[a] (.85)	2.94 (.84)	3.2 (.77)	2.33 (1.14)	12.99** (3, *N*)	Aut, ASD, DS > LD
Team understands child's needs	2.82 (.96)	2.82 (.91)	2.59 (1.06)	2.31 (1.08)		
	2.80 (1.03)	2.72 (1.02)	2.24 (1.03)	2.50 (1.05)		
Parent regarded as expert on disability						
School personnel knowledgeable about disability	2.30 (.94)	2.22 (.88)	2.56 (.96)	2.10 (1.01)		
Best Practices						
	3.09 (.82)	2.83 (.86)	2.89 (.96)	2.31 (.97)	15.00** (3, *N*)	Aut, ASD, DS > LD
Visual aids supplement classroom instruction						
	3.42 (.83)	3.35 (.73)	3.53 (.51)	2.83 (1.10)	9.49* (3, *N*)	Aut, ASD, DS > LD
Teacher uses positive methods when teaching						
Visible class timetable is present	2.49 (1.01)	2.57 (1.12)	2.92 (1.04)	2.22 (1.34)		
Life skills appropriate to child's level are being taught	2.58 (.98)	2.73 (.83)	2.59 (1.06)	2.63 (.82)		
Child's daily routine is predictable	3.18 (.72)	3.08 (.75)	3.17 (.79)	—		
	2.48 (.87)	2.61 (.85)	2.81 (.91)	—		
Child's classroom is a calm environment						
Child provided with individual visual schedule	2.69 (.886)	2.70 (1.14)	2.64 (1.22)	—		
Teacher structures free time and recess for child	2.51 (1.05)	2.30 (1.03)	1.94 (1.18)	—		
Age appropriate social skills are taught to child	—	—	3.17	2.51	4.27* (1, *N*)	DS > LD
Child is prepared for changes in classroom routines	2.82 (.74)	2.91 (.79)	—	—		
	—	—	2.87 (.83)	2.41 (.99)		
Teacher helps child generalize learning						
Teacher uses organizational strategies	—	—	2.73 (1.16)	2.56 (1.07)		
Teacher uses cognitive strategies	—	—	3.25 (.86)	2.30 (1.08)		

TABLE 4—(*Continued*)

	Autism *M* (*SD*)	*ASD* *M* (*SD*)	*DS* *M* (*SD*)	*LD* *M* (*SD*)	*F*	*Group differences*
Behavioural Concerns						
Child has been suspended from school	16.1%	14.9%	20%	22.2%	—	
Teacher can usually find cause of challenging behaviour	2.52 (.93)	2.43 (.91)	2.50 (.94)	2.0 (.93)		
School does not make parent feel responsible for behaviour of child (R)	3.25 (.96)	3.15 (.91)	3.13 (1.31)	2.36 (1.44)		
Parent meets with school personnel at times other than when there is a problem (R)	2.98 (.96)	3.15 (.91)	3.13 (1.31)	2.36 (1.45)		
Child does not spend too much time in "time-out" (R)	3.31 (.97)	3.34 (.89)	3.56 (.73)	3.39 (.83)		
Parent/School Collaboration						
No difficulty in understanding vocabulary used by school personnel (R)	3.67 (.55)	3.61 (.58)	3.58 (.77)	3.52 (.93)		
School listens to parent concerns (R)	3.09 (1.06)	2.92 (.98)	2.95 (1.08)	2.49 (1.12)		
School communicates what child does *well*	3.28 (.86)	3.15 (.91)	3.10 (.97)	2.77 (1.12)		
Parent meets frequently with teacher informally	2.76 (1.07)	2.65 (1.08)	2.10 (1.17)	2.25 (1.19)		
Communication book used between home and school	2.88 (1.2)	2.89 (1.22)	3.15 (1.23)	2.28 (1.30)		
Education Team						
Child has an education team	91.2%	90.8%	80%	81.8%	—	
Parent feels they are a contributing member of team	80.4%	68.6%	65%	60%	—	
If parent is not a contributing member—would like to be	90.9%	96.2%	100%	94.4%	—	
Child's team is effective	2.77 (1.02)	2.79 (1.03)	2.44 (1.09)	2.05 (1.0)	14.82** (3, *N*)	Aut, ASD > LD
Goals and objectives are discussed during meetings	3.14 (.96)	3.16 (.93)	2.78 (1.06)	2.68 (.91)	11.10* (3, *N*)	Aut, ASD > LD

TABLE 4—(*Continued*)

	Autism *M* (*SD*)	*ASD* *M* (*SD*)	*DS* *M* (*SD*)	*LD* *M* (*SD*)	*F*	*Group differences*
Team meetings regularly scheduled	2.30 (1.04)	2.24 (1.05)	2.0 (1.08)	1.79 (.99)		
Team meets as frequently as parent would like (R)	2.07 (1.03)	2.09 (1.12)	1.76 (1.03)	1.80 (.94)		
Parent feels comfortable when talking with team members (R)	3.20 (.92)	3.09 (.89)	3.24 (1.25)	3.16 (1.09)		
Parent feels team does what is best for child	2.71 (1.11)	2.75 (.90)	2.59 (1.0)	2.40 (.90)		
Parent feels they are viewed as a partner in child's education (R)	3.11 (1.01)	3.14 (1.02)	3.10 (1.21)	2.60 (1.24)		
Individual Education Plan						
Child has written IEP	3.50 (.93)	3.49 (.96)	3.65 (.81)	3.75 (.72)		
IEP is a detailed written document	2.95 (1.11)	2.74 (1.14)	2.84 (1.07)	2.88 (1.05)		
Parents' goals and objectives are included in IEP	3.11 (.88)	3.02 (1.06)	2.58 (1.07)	2.53 (1.03)	8.78* (3, *N*)	Aut, ASD > LD, DS
Other Items						
Child is progressing as well as s/he could (R)	2.58 (1.12)	2.73 (1.12)	2.94 (1.16)	2.19 (1.02)	8.98* (3, *N*)	ASD, DS > LD
Child's assistant assumes primary responsibility for child	2.72 (1.23)	2.62 (1.19)	3.35 (.70)	1.82 (1.08)	10.91* (3, *N*)	Aut, ASD, DS > LD
Teacher assumes primary responsibility for child	2.37 (1.20)	2.57 (1.11)	2.05 (1.03)	3.23 (1.01)	9.23* (3, *N*)	LD > Aut, ASD, DS
Child understands what is required of him/her in the classroom	2.56 (.90)	2.78 (.89)	3.21 (.79)	2.72 (.91)		
Teacher sets up opportunities for peer interactions.	2.69 (1.06)	2.73 (1.04)	2.59 (.93)	2.84 (.85)		
Child is included in most classroom activities	3.17 (.86)	3.36 (.79)	3.16 (.90)	3.45 (.63)		
Classroom layout makes it easy to locate areas for working and other activities	3.07 (.69)	3.08 (.79)	3.33 (.69)	—		
EA more knowledgeable about child's needs than teacher	2.59 (1.16)	2.82 (1.13)	—	—		
Teacher has positive attitude toward having child in class	—	—	3.39 (.92)	2.89 (.94)		

[a] higher numbers indicate greater agreement with item
[b] R = item was reversed scored

methods when teaching; a visible class timetable is present; and life skills appropriate to the child's level are being taught—were asked of all four groups. Results showed a significant multivariate effect, Wilks' $\Lambda = .892$, $F(12, 344) = 2.011$, $p = .023$. Followup univariate tests were significant for Visual Aids, $\chi^2(3, N = 186) = 15.00$, $p = .002$. and Use of Positive Methods, $\chi^2(3, N = 189) = 9.49$, $p = .023$. REGW-F showed that parents in the LD group (mean rank = 65.3) scored significantly lower than parents in each of the DS (97.8), Other ASD (93.5), and autism groups (108.5) for use of visual aids, and significantly lower than each of the other groups on the use of positive methods (LD mean rank = 73.0, Other ASD = 96.2, autism = 104.1 and DS 105.2). Another item—Age Appropriate Social Skills are taught to the child—that was asked only of the DS and LD parent groups also proved to be significant $\chi^2(1, N = 57) = 4.27$, $p = .039$. REGW-F showed that parents in the LD group (mean rank = 26.1) scored significantly lower than parents in the DS group (35.4).

A number of other items in this package were only included on the ASD and the DS surveys, just the ASD survey, or just the DS and LD surveys, as seen in Table 4, but there failed to be significant differences on these items between the groups.

Behavioural concerns. This package was made up of five survey items: whether the child is suspended from school (a frequency item); teachers can identify the cause of challenging behaviour; the school makes parents feel responsible for challenging behaviour demonstrated by the student; school personnel meets with the parents only when there is a problem; and too much time is devoted to timeouts. Results showed no significant multivariate effect on the Likert items, Wilks' $\Lambda = .892$, $F(15, 392) = 1.101$, $p = .353$. As a result, no follow-up univariate tests were conducted. The rate of suspension across the groups ranged from 14.9% to 22.2%.

Parent/School collaboration and communication. This package similarly involved five survey items: the vocabulary used by school personnel is difficult to understand; school personnel does not listen to the parents comments, suggestions or concerns; the school communicates what the child does well; parents meet informally with the teacher on a regular basis; and parents and teachers use a communication book. Results showed no significant multivariate effect, Wilks' $\Lambda = .896$, $F(15, 492) = 1.330$, $p = .179$ and thus no follow-up univariate tests were conducted.

Education team. This package involved ten survey items: the child has an education team; parents are contributing members of the team; would the parent *like* to be a contributing member if they aren't currently (the preceding items being measured as a frequency percentage); the team is effective; team goals and objectives are discussed during meetings; team meetings are regularly scheduled; the team fails to meet as regularly as the parents would wish; parents feel uncomfortable talking with the team; the parent feels the team is doing their best for the child; and parents feel they are viewed as opponents in their child's education. Results showed a marginally significant multivariate effect for the Likert items, Wilks' $\Lambda = .781$, $F(27, 459) = 1.502$, $p = .052$. Follow-up univariate tests were significant for both team effectiveness, $\chi^2(3, N = 194) = 14.82$, p = .002, and team goals and objectives are discussed, $\chi^2(3, N = 198) = 11.10$, $p = .011$. REGW-F tests of mean ranks showed that for team effectiveness, parents in the LD group (mean rank = 66.3) scored significantly lower than both parents in the Autism (105.6) and Other ASD group (107.0) groups; parents in the DS group (88.7) did not differ significantly from the other groups. The same pattern was observed for the discussion of goals, wherein parents of children with LD (mean rank = 78.3) scored significantly lower than both parents of children in the Autism (107.5) and Other ASD groups (108.4); parents of children in the DS group(86.9) did not differ significantly from the other groups. The percentage of children having an education team ranged from 80% for the DS group to 91.2% for the autism group. Between 60% and 68.6% of parents currently feel that they are contributing members of their child's education team, (with the notable exception of the parents in the Autism group where 80% felt they were already contributing members) although between 90.9% and 100% would like to be contributing members.

Individual education plan. This package involved three survey items: a written IEP has been prepared; the IEP is a detailed written

document; and the parents' goals and objectives are included in the IEP. Results showed a significant multivariate effect, Wilks' $\Lambda = .907$, $F(9, 487) = 2.209$, $p = .020$. Follow-up univariate tests were significant only for parents' goals and objectives being included, $\chi^2(3, N = 208) = 10.41$, $p = .003$. An examination of mean ranks showed that parents in the LD group (mean rank = 82.1) scored significantly lower than parents in all other groups: Autism (111.9), Other ASD group (103.7), and DS (133.6).

Other miscellaneous items. This final package consisted of six items asked of all groups that were relatively homogenous: the child is not progressing as well as s/he could; the educational assistant assumes primary responsibility for the child's education; the teacher assumes primary responsibility for the child's education; the child understands what is required of him/her in the classroom; the teacher sets up opportunities for peer interaction; and the child is included in most classroom activities. Results of the Kruskal-Wallis nonparametric ranks analysis showed significant differences for three variables. For the child progressing as well as s/he might, $\chi^2(3, N = 202) = 8.98$, $p = .030$; Ryan-Enoit-Gabriel-Welch *F*-tests showed that the parents in the LD group (80.6) scored significantly lower than parents in each of the Other ASD (108.5) and DS groups (120.0), whose ranks did not differ. For the educational assistant assuming primary responsibility, $\chi^2(3, N = 154) = 10.91$, $p = .012$; Ryan-Enoit-Gabriel-Welch *F*-tests showed that parents in the LD group (46.7) scored significantly lower than parents in each of the Other ASD (75.4), Autism (79.4), and DS groups (100.8), whose ranks did not differ. For the teacher assuming primary responsibility, $\chi^2(3, N = 167) = 9.23$, $p = .026$; Ryan-Enoit-Gabriel-Welch *F*-tests showed that on this variable parents in the LD group (114.1) scored significantly higher than parents in each of the Other ASD (86.8), Autism (79.0), and DS groups (65.6), whose ranks did not differ. There were four additional items that were asked only of some of the groups but none of these proved to be significant (see Table 4).

Examination of Paired Items

As mentioned earlier, a number of items were paired since knowing whether or not certain educational methods are used with their children alone, without knowing if the parent feels that their child is in need of those methods can lead to erroneous interpretations of the results. Results of these paired *t*-test analyses are found in Table 5.

Looking first at the items asked of the Autism and Other ASD group parents, it is evident that for all items the parents felt that desired supports and procedures are provided far less than they feel their child needs them—all items show a significant difference between provision and need. Of the item pairs within the Down's group that are shared with the Autism groups, most items also showed a significant difference between provision and perceived need with the exception of the teacher setting up peer interactions, use of a daily communication book, and having a written IEP. However, for this group the difference between provision and perceived need was not nearly as pronounced as for the two autism spectrum groups suggesting that teachers are better at recognizing and providing for the needs of this group relative to the other groups. Only three of the additional paired items that were asked of the DS group resulted in a significant difference between provision and perceived need (structuring free time, provision of an orientation session about Down syndrome to the other students in the child's class, and the teaching of lifeskills at school).

Parents of children in the LD group, however, seemed to feel the same as those of children in the Autism groups in that the difference between provision and perceived need was highly significant on all but two items asked of all the groups (the exceptions being the teacher setting up peer interactions and having a written IEP). Interestingly, on the paired items shared with the Down's group (portion of student's day is spent in special education setting; generalization of skills is taught; and strategies to help the child remain organized are taught), the differences between provision and perceived need were highly significant for the LD group but not significant for the Down's group. One other

TABLE 5

T-tests of Paired Items Showing Significance

	Autism		*Other ASD group*		*DS*		*LD*	
	Provided	*Needed*	*Provided*	*Needed*	*Provided*	*Needed*	*Provided*	*Needed*
Use of visual aids	3.09	3.71***	2.83	3.59***	2.89	3.67**	2.31	3.81***
Visible class timetable present	2.52	3.54***	3.70	2.46***	2.92	3.46*	2.27	3.62***
Regular documentation provided	2.69	3.69***	2.46	3.67***	2.61	3.67**	1.90	3.48***
Teacher sets up peer interactions	2.67	3.53***	2.73	3.15*	2.60	3.27(ns)	2.84	2.91(ns)
Good education team	2.77	3.95***	2.79	3.91***	2.44	3.88***	2.05	3.90***
Use of daily communication book	2.91	3.68***	2.91	3.53***	3.15	3.60(ns)	2.28	3.53***
Written IEP	3.50	3.93**	3.49	3.92***	3.65	4.0(ns)	3.74	3.88(ns)
Provision of predictable routine	3.18	3.73***	3.08	3.80***	3.17	3.67*	—[a]	—
Use of individual visual schedule	2.70	3.32***	2.70	3.45***	2.64	3.43*	—	—
Child is prepared for changes	2.82	3.59***	2.91	3.70***	—	—	—	—
Portion of student's day spent in special education setting	—	—	—	—	2.82	2.76(ns)	2.58	3.48***
Generalization of skills taught	—	—	—	—	2.87	3.33(ns)	2.41	3.50***
Teaching of strategies to help child remain organized	—	—	—	—	2.73	3.33(ns)	2.56	3.85***
Structured free time	—	—	—	—	1.94	2.88**	—	—
Orientation session on disability with child's regular class	—	—	—	—	1.22	3.11**	—	—
Teaching of lifeskills at school	—	—	—	—	2.58	3.12*	—	—
Individualization of student's instruction (accommodations)	—	—	—	—	—	—	2.25	3.45***

[a] a dash indicates question was not on the survey of group concerned

* $p < .05$

** $p < .01$

*** $p < .001$

pair of items was asked of the LD group that concerned the teacher's individualizing instruction for the student as needed (i.e., accommodations such as additional time for tests; use of a scribe, provision of overheads ahead of time, etc.). There was a significant difference between provision and perceived need on this item as well.

Discussion

There are a number of limitations that need to be considered when interpreting results of this study. First, it is difficult to know the motivation for participation in the study and whether those who volunteered were parents who were particularly disgruntled with the education system or not. Although this may be particularly true for parents in the LD group, since they were the least satisfied with their child's education overall, the parents in the other groups were more evenly divided between being satisfied, dissatisfied or neutral overall.

Second, the investigators did not determine the diagnoses of the children but relied on parental report. Determining the diagnosis of children in the Other ASD group proved especially problematic since these children seem to have received different diagnoses from different professionals over time. Although these children may not clearly fit criteria for Autistic Disorder (American Psychiatric Association, 1994) all do seem to meet criteria under the broader term of Pervasive Developmental Disorder (American Psychiatric Association) given the various diagnoses they have been given. This suggests that these children may have fewer symptoms and be higher functioning than those in the Autism

group, such that professionals disagree on which subtype diagnosis is most appropriate. There is considerable disagreement in the literature as to the diagnostic validity of PDD subtypes and this is often reflected in diagnoses given to children (Wing, 2005).

The lack of significant difference on most items and overall satisfaction between the Autism and Other ASD groups may be due to the heterogeneous nature of the Other ASD group and the fact that many of these children's strengths and needs overlap with those of children in the Autism group. However, the important point is that all of these children likely have similar educational needs. Despite these limitations, the current study serves to highlight what parents perceive is happening in terms of their children's education, their satisfaction with it, and concerns they have regarding what is, or is not being provided to their children.

Turning now to the categorical analysis of the items, the results show that a total of only nine items resulted in statistically significant differences between the groups across all the categories. It appeared that some support was found for our initial hypothesis regarding the relationship between "obviousness" of disability and satisfaction. Parents of the LD group were significantly less satisfied overall than the other groups, and in almost every instance it was the parents of the children with LD who ranked the items lower. However, further analysis revealed that age was a significant covariate. This rather muddies the water in terms of determining etiological differences in parental perception. It seems more likely that all parents of children with special needs have fairly similar perceptions and concerns regarding their child's education. For example, numerous parents across all the groups commented that once their child began encountering rotary subjects and multiple teachers, few teachers seemed to follow the modifications and accommodations recommended in the IEP.

One notable difference in this trend is the item "teacher assumes primary responsibility for child" in which parents in the LD group ranked the item significantly higher. This, of course, is to be expected since children with LD rarely have an EA and most of these students spend either all, or most of their time in the general education classroom. Although relatively few items were significantly different between the groups, it is important to point out the often low agreement across the board on the items that are either considered "best practices," or that generally are considered desirable in delivering special education services and this needs to be addressed in both teacher and inservice education.

Given that 86% of the children discussed by participants in this study spend at least a portion of their day in general education settings, the need for teachers to know etiological specific information and concordant "best practice" teaching strategies is paramount. This is not a new issue and it has been highlighted by numerous researchers over the years (Heward, 2006; Muskat & Redefer, 1996; National Research Council, 2001; Simpson, 2004; Simpson, Whalen, & Zabel, 1993), yet it remains a primary concern of parents and reason for dissatisfaction with their children's education. This is reflected both in the low agreement across the groups on the item concerning school personnel's knowledge about the disability, and in the parents' comments about what would better meet their child's needs. Forty percent of parents of DS children, 41.2% of parents of children in the two autism spectrum groups, and 51.1% of parents of children with LD indicated that they felt school personnel need more training in how to effectively teach their children. Regardless of group membership, this was the most commonly cited need and mirrors the findings of the pilot study (Starr et al., 2001).

Despite philosophies of inclusion and noncategorical approaches to special education, it remains crucial that teachers *do* understand the nature and characteristics of specific disabilities to be able to provide an optimal education. Certainly many teaching techniques are useful regardless of diagnosis, but that does not negate the need for etiology-specific knowledge.

Very much related to this are issues involving behaviour. As seen in Table 4, parents of children in all groups tend to feel that teachers generally are not able to determine the cause of challenging behaviour. Although this may be true for teachers of children without disabilities as well, it is particularly important in cases where behavioural difficulties are not

uncommon and where the nature of the disability is particularly important to understand. In fact, Spearman's rho correlation of overall satisfaction with the ability to determine causes of challenging behaviour and whether school personnel were knowledgeable about the disability resulted in significant positive correlations between all items at the .01 level, and a significant negative correlation at the .01 level existed between overall satisfaction and whether the child had been suspended.

The high rate of suspensions among the populations included in this study is of concern. Almost a quarter of children in the LD group have been suspended from school at least once. When only the parents who indicated overall dissatisfaction are considered, 37.5% of children in the Autism group and 36.8% of children in the Other ASD group had been suspended! Within the "satisfied" group of parents, only 7.4% of the children in the Autism group and 5.1% in the Other ASD had been suspended (although numbers for the satisfied DS and LD groups are similar to those presented in Table 4). Not surprisingly, significant negative correlations at the .05 level existed between school suspensions, school personnel's knowledge about the exceptionality, and teachers' ability to determine the cause of behaviour. These findings highlight the necessity of all school personnel learning about functions of behaviour and being able to conduct functional behavioural assessments. This need only increases as more children with more significant needs are included in general education classrooms (Carr, Langdon, & Yarbrough, 1999).

Results of the paired *t*-tests on the paired items emphasize the need for strong collaboration between parents and school personnel. As mentioned above, the overwhelming majority of parents do want to be involved in their child's education and yet a much smaller percentage actually feels that they are. No doubt, this contributes to the discrepancies found in Table 5. Parents do tend to know their children and their needs better than school personnel and are able to be effective advocates for their children. The only way such discrepancies between what parents feel are needed and what is actually provided for the children can be reduced is by creating meaningful collaboration opportunities.

In conclusion, this study explored parental perceptions and satisfaction on a variety of aspects related to providing an effective education to children with autism spectrum disorders, Down syndrome, and learning disabilities. It was found that age of the child was a significant factor contributing to satisfaction, and although only limited support was found for group specific perceptions and overall satisfaction, etiology-specific knowledge and training is certainly desired by parents. It is evident from written comments of the satisfied parents that having a knowledgeable and supportive staff, feeling a part of decision-making concerning their child, and having teachers who are willing to learn about the disability and make appropriate adaptations are among the key ingredients contributing to their satisfaction. It is thus incumbent on school personnel to incorporate these elements so that children with exceptionalities may achieve their potential.

References

American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author.

Bryson, S. (1997). Epidemiology of autism: Overview and issues outstanding. In D. Cohen & F. Volkmar (Eds.), *Handbook of autism and developmental disorders* (2nd ed., pp. 41–46). New York: John Wiley & Sons.

Carr, E. G., Langdon, N. A., & Yarbrough, S. C. (1999). Hypothesis-based intervention for severe problem behavior. In A. C. Repp & R. H. Horner (Eds.), *Functional analysis of problem behavior* (pp. 9–31). Belmont, CA: Wadsworth.

Dillman, D. A. (1978). *Mail and telephone surveys: The total design method.* New York: John Wiley & Sons.

Fidler, D. J., Hodapp, R. M., & Dykens, E. M. (2002). Behavioral phenotypes and special education: Parent report of educational issues for children with Down syndrome, Prader-Willi syndrome, and Williams syndrome. *Journal of Special Education, 33,* 80–88.

Fombonne, E. (2003). Epidemiological surveys of autism and other pervasive developmental disorders: An update. *Journal of Autism and Developmental Disorders, 33,* 365–382.

Gargiulo, R. M. (2003). *Special education in contemporary society: An introduction to exceptionality.* Belmont, CA: Wadsworth/Thomson Learning.

Ghaziuddin, M., Tsai, L. Y., & Ghaziuddin, N. (1992). Autism in Down's syndrome: Presentation

and diagnosis. *Journal of Intellectual Disability Research, 36,* 449–456.

Heward, W. L. (2006). *Exceptional children: An introduction to special education.* Upper Saddle River, NJ: Pearson Education.

Hodapp, R., Freeman, S., & Kasari, C. (1998). Parental educational preferences for students with mental retardation: Effects of etiology and current placement. *Education and Training in Mental Retardation and Developmental Disabilities, 33,* 342–349.

Kasari, C., Freeman, S., Bauminger, N., & Alkin, M. (1999). Parental perspectives on inclusion: Effects of autism and down syndrome. *Journal of Autism and Developmental Disorders, 29,* 297–305.

Klin, A., McPartland, J., & Volkmar, F. R. (2005). Asperger syndrome. In F. Volkmar, R. Paul, A. Klin & D. Cohen (Eds.), *Handbook of autism and pervasive developmental disorders* (3rd ed., Vol. 1, pp. 88–125). Hoboken, NJ: John Wiley & Sons.

Leyser, Y. (1985). Parent involvement in school: A survey of parents of handicapped students. *Contemporary Education, 57*(1), 38–43.

Lord, C., Rutter, M., & Le Couteur, A. (1994). Autism diagnostic interview revised: A revised version of a diagnostic interview for caregivers of individuals with possible pervasive developmental disorders. *Journal of Autism and Developmental Disorders, 24,* 659–685.

Lovering, J. S. (2003). Down syndrome: Characteristics and health issues. In I. Brown & M. Percy (Eds.), *Developmental disabilities in Ontario* (2nd ed., pp. 171–188). Toronto: Ontario Association on Developmental Disabilities.

Lovitt, T. C., & Cushing, S. (1999). Parents of youth with disabilities: Their perceptions of school programs. *Remedial and Special Education, 20*(3), 134–142.

Muskat, L. R., & Redefer, L. A. (1996). *Pitfalls in educational programming for autistic children in the United States of America.* Paper presented at the Meeting of the Annual World Congress of the International Association for the Scientific Study of Intellectual Disabilities, Helsinki, Finland.

National Research Council. (2001). *Educating children with autism.* Washington, DC: National Academy of Sciences.

Simpson, R. L. (2004). Finding effective intervention and personnel preparation practices for students with autism spectrum disorders. *Exceptional Children, 70,* 135–144.

Simpson, R. L., Whalen, R. J., & Zabel, R. H. (1993). Special education personnel preparation in the 21st century: Issues and strategies. *Remedial and Special Education, 14*(2), 7–22.

Starr, E. M., Foy, J. B., & Cramer, K. M. (2001). Parental perceptions of the education of children with pervasive developmental disorders. *Education and Training in Mental Retardation and Developmental Disabilities, 36,* 55–68.

Tien, B., Armour, H., Clelland, C., Eckert, K., Lehn, M., Shyry, C., et al. (1999). *Effective teaching strategies for successful inclusion: A focus on Down syndrome.* Calgary, AB: PREP Program.

Westling, D. (1996). What do parents of children with moderate and severe mental disabiliteis want? *Education and Training in Mental Retardation and Developmental Disabilities, 31,* 86–114.

Westling, D. (1997). What parents of young children with mental disabilities want: The views of one community. *Focus on Autism and Other Developmental Disabilities, 12,* 67–78.

Westling, D., & Plaute, W. (1999). Views of Austrian parents about special education services for their children with mental disabilities. *Education and Training in Mental Retardation and Developmental Disabilities, 34,* 43–57.

Wing, L. (2005). Problems of categorical classification systems. In F. R. Volkmar, R. Paul, A. Klin & D. Cohen (Eds.), *Handbook of autism and pervasive developmental disorders* (Vol. 1, pp. 583–605). Hoboken, NJ: John Wiley & Sons.

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