Exceptional Children
2018, Vol. 84(3) 242–260

DOI: 10.1177/0014402917742923
journals.sagepub.com/home/ecx
SAGE

Satisfaction With Individualized Education Programs Among Parents of Young Children With ASD

Nicole Slade[1], Abbey Eisenhower[2], Alice S. Carter[2], and Jan Blacher[3]

Abstract

We examined parents' satisfaction with multiple aspects of their children's individualized education programs (IEPs). Parents (n = 142) raising children ages 4 to 8 years old with autism spectrum disorder (ASD) reported their satisfaction with four aspects of their children's IEPs: (a) content of the IEP document, (b) services provided, (c) perceived level of agreement between the IEP document and the services actually provided, and (d) effectiveness of the IEP team. For each domain, just over half of families reported moderate to high satisfaction, whereas 61% of parents were dissatisfied with at least one of the four facets. Overall IEP satisfaction was positively associated with parent–school connectedness and family financial resources but was unrelated to child characteristics. Contrary to expectation, IEP satisfaction was negatively associated with teachers' years of experience. Findings demonstrate the importance of parent–school relationships and highlight socioeconomic disparities in special education satisfaction.

With the prevalence of autism spectrum disorder (ASD) estimated in 2016 by the Centers for Disease Control to be 1 in 68 children (Christensen et al., 2016), there is heightened demand on schools to provide for the educational needs of students with ASD. The individualized education program (IEP), which serves as a "blueprint" for meeting a child's individualized learning needs, is intended to promote communication between parents and school personnel about the services and supports to be provided to a child with special educational needs. In 2011, over 498,000 students ages 3 to 21 received special education services under the category of autism (U.S. Department of Education, 2016), underscoring the importance of developing effective IEPs.

As part of efforts to improve decision-making processes in special education, researchers have begun to examine parents' satisfaction with the IEP process and level of involvement in the process (e.g., Tucker & Schwartz, 2013; Wagner, Newman, Cameto, Javitz, & Valdes, 2012; Zablotsky, Boswell, & Smith, 2012), although research conducted exclusively with parents of children with ASD is limited. We examined parents' satisfaction with four aspects of the IEP process: (a) content of the IEP document, (b) special education services actually being provided, (c) level of agreement between the document and actual services received, and (d) effectiveness of the special education team (i.e., IEP team). As described in subsequent sections, teacher, classroom, child, and family factors all may

[1]Dry Creek Joint Elementary School District
[2]University of Massachusetts Boston
[3]University of California–Riverside

Corresponding Author:
Abbey Eisenhower, Associate Professor, Department of Psychology, University of Massachusetts, 100 William T. Morrissey Blvd., Boston, MA 02125, USA.
E-mail: abbey.eisenhower@umb.edu

influence predictions of parent satisfaction with the IEP process.

The IEP Process

The provision of IEPs is governed by the Individuals With Disabilities Education Act (IDEA; 2006), which mandates parental participation in educational planning for children with special educational needs. Indeed, the IEP document, which outlines the child's educational goals and the specific services and accommodations that will be provided to meet these goals, must be developed in consultation with parent(s). In practice, many IEPs fall short of legal requirements due to inadequacies, including limited evaluation of the child's needs or inadequate classroom placement or services (Ruble, McGrew, Dalrymple, & Jung, 2010).

In reviews of IEP-related litigation, common violations related to parental involvement included districts failing to notify parents of IEP meetings, changing the IEP without notifying parents, and determining a student's placement prior to developing the IEP (Yell, Katsiyannis, Drasgow, & Herbst, 2003; Zirkel & Hetrick, 2017). Beyond the legality of IEPs, existing research suggests a possible mismatch between evidence-based practice and the services actually provided. Analysis of IEPs for 35 young children with ASD revealed that although certain evidence-based elements (e.g. incorporation of a symbolic functional communication system, inclusion of social skills goals to improve involvement in family and school activities) were present at high rates (77% and 89% of IEPs, respectively), other evidence-based elements (specifically, replacement of problem behaviors with appropriate behaviors, inclusion of an appropriate motivational system) were present in only 37% to 43% of IEPs (National Research Council, 2001; Ruble et al., 2010). In addition to consideration of the legality and quality of IEPs, examining parents' perceptions is an important step in understanding collaborative decision making in the IEP process and the factors that may predict positive student outcomes.

Parental Satisfaction With IEPs

Studies of parents' satisfaction with their children's IEPs among those raising children with ASD have shown mixed results. A mixed-methods study of 135 parents of children ages 3 to 25 years with ASD showed that most parents (66%) reported at least one instance of being excluded from decision making around their child's IEP; perceived barriers to collaboration included a lack of ASD-specific knowledge among school staff and limited opportunities to give input (Tucker & Schwartz, 2013). At the same time, 71% of parents reported a high level of overall involvement in the process; factors associated with greater collaboration included responsiveness of school staff and receiving the schools' help in obtaining outside resources (Tucker & Schwartz, 2013). Other research has found more positive parent perceptions. In a quantitative study of 51 parents whose preschool- through high school-age children had a range of disabilities (21% had autism; 51% were elementary age and 80% were White non-Hispanic), 63% were satisfied with the overall IEP process, although 48% reported sufficient access to information about the special education system (Fish, 2008). Primarily positive ratings were reported in a nationally representative study of 11,000 parents of older youth (ages 11–19) with a range of disabilities; 71% of parents reported satisfaction with their level of involvement in IEP planning, and 28% reported wanting greater involvement (Wagner et al., 2012). The threshold for determining sufficient rates of parental satisfaction is unclear; arguably, a rate reflecting dissatisfaction in over a quarter of parents is too high. Overall, these rates of dissatisfaction appear consistent with the dissatisfaction expressed with special education and health care of children with ASD more broadly. Beyond the IEP process itself, parents of children with ASD report less satisfaction than parents of those with other disabilities with the degree of communication provided by children's schools (Zablotsky et al., 2012), just as they are less satisfied with their children's

health care more broadly, relative to parents of children with other disabilities (Liptak et al., 2006).

Predictors of IEP Satisfaction

Child characteristics. Child characteristics may predict parent satisfaction with the IEP process. Among parents and their children ages 11 to 19 years with disabilities, Wagner and colleagues (2012) found that parents of youth with higher social skills were more satisfied with their involvement in the IEP process. Child factors that predict the intensity of services children may need—such as ASD symptom severity, language, cognitive ability, and behavioral functioning—may also predict parents' IEP satisfaction. Existing research is insufficient to predict a direction of effect. On the one hand, parents of children with more severe needs may find it harder to ensure that their children's complex needs are adequately met. On the other hand, parents of children with less severe needs may find it difficult to demonstrate that children need certain services (Angell, Stoner, & Shelden, 2009).

Parent and family factors. Parental involvement in schools more generally, as well as the quality of parents' existing relationships with school staff, may be key predictors of IEP satisfaction. Esquivel, Ryan, and Bonner (2008) surveyed 17 highly involved parents who were part of a local special education advisory committee. Parents identified three factors as central to their satisfaction with IEP meetings: the quality of existing parent–school relationships, meetings that included contributions from all members, and meetings that embodied a problem-solving quality rather than a predetermined set of services (Esquivel et al., 2008). Barriers that may limit parents' involvement in the IEP process include a parent-perceived lack of sociocultural understanding among school staff and parental mistrust. A qualitative study of 20 parents of preschool- to high school-age children with disabilities identified feelings of depersonalization and powerlessness; parents described a growing reliance on computer-driven IEPs as distancing and distracting, reporting that the IEP felt predetermined and that school staff held unequal power in the process (Zeitlin & Curcic, 2014).

Parents' engagement in the IEP process is of import not only because of its presumed impact on quality of services but because of its potential impact on parental stress and, in turn, on children's well-being. In a survey of 965 mothers of children with disabilities found through state and local agencies, poorer family–school partnerships and lower empowerment in school communication were linked to higher maternal stress (Burke & Hodapp, 2014). Higher parental stress, in turn, is linked to increased behavior problems over time in children with developmental disabilities (Neece, Green, & Baker, 2012; Woodman, Mawdsley, & Hauser-Cram, 2015).

Past research has also highlighted the role of family socioeconomic resources in outcomes related to IEP satisfaction. In a study of 41 parents of elementary through high school children with disabilities (17% with autism), Jones and Gansel (2010) found that parents with higher education and socioeconomic status participated more in the IEP process, as defined by their total number of comments during the meetings. A link between income and satisfaction with the IEP process has also been found among parents of older youth (Wagner et al., 2012).

Teacher and classroom characteristics. Although not yet examined in relation to IEP satisfaction, teachers' levels of experience and ASD-specific training may predict parents' IEP satisfaction. When teachers are experienced, have received ASD-specific training, and feel well prepared to teach children with ASD, parents' satisfaction with the IEP team and IEP process may be higher.

Classroom type may also play a role in IEP satisfaction. Although many factors—first and foremost, children's learning needs—determine whether children are placed in integrated general education versus special education classrooms or a combination, it is

possible that once placed in these classes, special education teachers may demonstrate more ASD-specific expertise that instills confidence in parents relative to general education teachers. On the other hand, given that many parents of children with disabilities describe an integrated classroom experience as a priority for their children (de Boer, Pijl, & Minnaert, 2010), parents whose children are in general education classes may be more satisfied with children's overall IEP. In the current study, we examined this association in an exploratory manner.

The Current Study

The present study examined multiple aspects of satisfaction with the IEP among parents of early elementary-age children with ASD. We addressed the age and diagnostic heterogeneity common in this literature by focusing on an ASD-specific sample. Although children with ASD have varying special education needs, they may as a group face specific challenges to a satisfactory and effective IEP process. Recruiting a community sample and examining multiple dimensions of IEP satisfaction may shed light on the specific challenges and experiences facing parents of children with ASD. We examined parents' satisfaction in relation to (a) the special education services outlined in the IEP document, (b) the special education services actually being provided, (c) the agreement between the IEP document and the services being provided, and (d) the effectiveness of the IEP team. We also assessed whether child characteristics (i.e., severity of autism symptoms, language ability, cognitive functioning, behavioral functioning), parent–school connectedness (i.e., parent-teacher relationship quality, parental school involvement), family financial factors, (i.e., income, financial hardship), and teacher and classroom characteristics (i.e., years of experience, ASD-specific teaching preparedness, professional training in ASD, general vs. special education classroom setting) related to parents' levels of IEP satisfaction.

Method

Procedures

As part of a larger study examining the adaptation to early schooling among young children with ASD (described in Eisenhower, Bush, & Blacher, 2015), we recruited participants through online and print advertisements, autism-related conferences, school districts, clinicians, and autism resource centers. Interested families attended initial eligibility sessions during the summer or fall. After parents provided informed consent, clinicians administered the Autism Diagnostic Observation Schedule (ADOS; Lord et al., 2000) and an abbreviated version of the Wechsler Preschool and Primary Scale of Intelligence (WPPSI-III; Wechsler, 2002) to children. Children who had previously received a formal diagnosis of ASD were eligible for the subsequent longitudinal study if they scored in the autism or autism spectrum range on the ADOS and earned an estimated IQ score of 50 or higher on the WPPSI-III. If children had not already received a formal diagnosis of ASD, the Autism Diagnostic Interview–Revised (Lord, Rutter, & Le Couteur, 1994) was also administered to the parent. Eligible participants subsequently attended three visits over 1.5 years as part of the larger study. Except where otherwise specified, data for the current report were collected at the second such visit (the Time 2 visit), which occurred during the spring roughly 6 to 9 months after enrollment. Parents received $50 per visit. A university institutional review board approved all study procedures.

Participants

Participants were 142 parents raising children with ASD in the Boston, Massachusetts, area ($n = 46$) and in inland Southern California ($n = 96$). These parents represent all participants in the larger study whose child had an IEP and who participated in a Time 2 visit (the session at which IEP satisfaction was assessed). One parent from each family (91% female) completed all surveys and parent interviews, most parents were married (83%) or cohabiting

(8%), and 67% had at least a 4-year college degree. We assessed race with an open-ended parent-report item later aggregated into categories: Children were 4% Asian, 17% bi- or multiracial, 4% Black, 11% Latino/a, 50% White, and 4% other; 12% did not provide race. Forty-nine percent of families had an annual income above $80,000. Specifically, 12% earned ≤$25,000, 16% earned $25,001 to $50,000, 23% earned $50,001 to $80,000, 23% earned $80,001 to $110,000, 16% earned $110,001 to $155,000, and 10% earned >$155,000. Children (85% male) were ages 4 to 7 years (mean = 5 years, 7 months) at enrollment and ages 4 to 8 years (mean = 6 years, 1 month) at the Time 2 assessment of IEP satisfaction. At Time 2, children were in preschool (31%), kindergarten (32%), first grade (30%), and second grade (7%). About half (49%) of children spent at least 50% of their day in general education classrooms, and 94% attended public schools (vs. private or parochial). Of the teachers (n = 121), 88% were female, 69% had a master's degree, and 48% were teaching in a general education classroom.

Measures

Parents' IEP satisfaction. We assessed satisfaction with the IEP process through written survey items and a semistructured interview during lab visits at Time 2, as described in a subsequent paragraph.

IEP satisfaction survey. In a written questionnaire designed for this study, we asked parents about (a) their satisfaction with IEP-documented services ("Overall, how satisfied are you with the services currently outlined in your child's IEP"), (b) agreement between IEP and actual services provided ("How much agreement is there, in your opinion, between the content of your child's IEP document and the services actually being provided?"), and (c) satisfaction with actual services provided ("In practice, how satisfied are you with the special education services actually being provided to your child?"). A 5-point response scale ranged from *not at all satisfied* to *very satisfied* for Items (a) and (c) and from *no agreement* to *very good agreement* for Item (b).

School perceptions interview. Parents completed a semistructured interview (about 40 min) with a study clinician about multiple aspects of their children's school experiences. For this study, we examined the portion of the interview assessing parent perceptions of the effectiveness of the child's IEP team. Within the portion of the interview about IEP team effectiveness, we asked all parents the same initial question: "How do you feel about your child's educational team, aside from her primary teacher?" along with follow-up questions, also asked of all parents, including "Do you feel everyone on your child's educational team is working effectively with your child? Why or why not?" "Do you think there's anything missing from your child's educational team?" and "Are there any services you would like him or her to have that he or she's not currently receiving?" We audio-recorded parents' responses and a team of coders subsequently scored these responses. We assigned a global rating of ineffective (0), somewhat effective (1), mostly effective (2), or effective (3) to indicate parents' perceptions of educational team effectiveness. We designed the interview script and coding manual for this study; the manual provided descriptions and examples of score options. The coding team included a PhD-level special educator, a PhD-level clinical psychologist, a master's student in school psychology, and two PhD students in special education and school psychology. To ensure interrater reliability, coders scored interviews in groups until reaching 80% agreement. The coders then compared scores regularly, with each coder attaining 80% reliability with coding partners on independently rated interviews on 20% of codes. Siegel and Castellan's kappa was chosen as a measure of interrater reliability for its accommodation of more than two coders and its ability to account for bias (Siegel & Castellan, 1988). The resulting kappa, computed for each coder combination and then averaged, was 0.79, indicating substantial interrater agreement (Landis & Koch, 1977).

Child developmental functioning. We assessed child characteristics via both direct assessment and parent report, as outlined in the following paragraphs. With the exception of the measures we had collected initially (i.e., 6 to 9 months earlier)—the first three described here—we gathered these data at Time 2.

Language ability. We assessed language with a standardized assessment as well as parent report and measured expressive language, receptive language, and pragmatics. We administered the Comprehensive Assessment of Spoken Language (CASL-2; Carrow-Woolfolk, 1999), designed for ages 3 to 21, at the initial screening. The core subtests of Basic Concepts, Syntax Construction, and Pragmatic Judgment produced a Core Language Composite, as per the CASL-2 manual. The CASL-2 has shown good construct validity and strong test-retest reliabilities of .92 to .96 across indices (Carrow-Woolfolk, 1999) and has been widely used among children with ASD, language delays, aphasia, and intellectual disabilities (e.g., Reichow, Salamack, Paul, Volkmar, & Klin, 2008). Parents completed the Children's Communication Checklist (CCC-2; Bishop, 2006), a 70-item survey assessing language and social communication in children ages 4 to 16 years that has strong validity in discriminating children with high-functioning autism, Asperger's disorder, or typical development (Verté, Geurts, Roeyers, Oosterlaan, & Sergeant, 2006).

Severity of autism symptoms. We assessed autism severity via the ADOS (Lord et al., 2000), a semistructured, interactive observational assessment of communication, social interaction, play, and restricted and repetitive behaviors. The ADOS involves social probes to elicit behaviors relevant to ASD. Behaviors are coded and a standardized algorithm is applied. We administered this measure at the initial screening. To qualify for our study, children had to fall in the autism or autism spectrum range. Algorithm scores were also used as indicators of symptom severity.

Cognitive functioning. We assessed children's cognitive functioning with the Matrix Reasoning, Picture Completion, and Vocabulary subtests of the WPPSI-III, a widely used assessment of cognitive ability for children ages 2 years, 6 months to 7 years, 3 months that has high subtest and scale reliability (Wechsler, 2002), at the initial eligibility session of this study. We computed an estimated full-scale IQ score from these subtests (Sattler, 2008). This three-subtest version of the WPPSI has demonstrated predictive validity (r = .90) and adequate reliability (r = .95) as an indicator of cognitive ability (Sattler & Dumont, 2004).

Child behavioral and emotional functioning. We used the Teacher Report Form (TRF; Achenbach & Rescorla, 2001) to assess child behavioral and emotional functioning. Teachers completed either the version for ages 1.5 to 5 years (99 items) or the version for ages 6 to 18 years (112 items). We used the broadband Total Problems T score (M = 50, SD = 10) in analyses. The Total Problems T score has shown excellent validity and is correlated with other behavior problems measures (Achenbach & Rescorla, 2001).

Parent–school connectedness. We used the Parent and Teacher Involvement Scale, parent version (PTIS-P) and teacher version (PTIS-T; NICHD Early Child Care Research Network, 2005), to assess both parent–teacher relationship quality and parental school involvement. The PTIS-P is a 20-item scale measuring the parent's involvement with the child's school activities (Parental Involvement subscale) and perceptions of the quality of the relationship with the child's teacher (Parent–Teacher Relationship subscale). The PTIS-T contains 22 items assessing the teacher's perceptions along the same two scales. Both scales have been shown to distinguish between high- and low-risk families (Corrigan, 2002; Miller-Johnson & Maumary-Gremaud, 2000). Internal consistency in the standardization sample was .79 to .89 for PTIS-P (Corrigan, 2002) and .79 to .93 for PTIS-T (Miller-Johnson & Maumary-Gremaud, 2000).

Family financial factors. We used three indicators of financial functioning: gross family income at initial enrollment (6 to 9 months prior to the

IEP satisfaction assessment) and gross family income at the time of the IEP satisfaction assessment, which were based on parent-reported income on a 12-point scale (from 1 = $0–$15,000 per year to 12 = $155,000+ per year), and family financial hardship was based on parent response to a single item, "How hard is it to pay your monthly bills on your income?" Response options ranged from *not hard at all* (0) to *very hard* (4).

Teacher and classroom characteristics. On a teacher-report survey, to determine years of teaching experience, we asked teachers to indicate the number of years of full-time-equivalent teaching experience. To assess ASD-specific teaching preparedness, we asked teachers, "How prepared do you feel to teach children with autism in your classroom?" Response options ranged from *not at all prepared* (1) to *very prepared* (4). Professional training in ASD was based on whether teachers checked a box indicating whether they had any "professional training in autism." To assess classroom placement, we asked teachers, "Please check the educational setting in which you teach this student." Options were general education, resource, or special education; no teachers checked *resource*.

Results

Descriptive Statistics and Missing Data

Means and correlations for IEP satisfaction variables are in Table 1. Correlations between three of the four variables (satisfaction with services outlined in the IEP, satisfaction with actual services provided, and agreement between IEP and actual services) exceeded $r = .8$. The fourth item, which reflected parents' perceptions of the IEP team effectiveness, was correlated with the other three at rs of .55 to .60, ps < .001. Given these high correlations, the four variables were aggregated into a combined IEP satisfaction variable, with a Cronbach's alpha of .91.

As presented in Table 1, 54% of parents felt satisfied or very satisfied with the services currently outlined in their children's IEPs, and 61% felt there was good or very good agreement between the content of their children's IEP and services actually being provided. Fifty-three percent of parents were satisfied or very satisfied with the services actually being provided to their child, and 60% felt their children's IEP teams were mostly effective or effective. Examined another way, 14% and 19% of parents were not satisfied with the content of children's IEPs or the actual services provided, respectively. Thirty-nine percent of parents reported only some, little, or no agreement between the IEP document and the actual services provided, and 40% of parents felt their IEP teams were at least somewhat ineffective.

Given that we examined four aspects of the IEP process (satisfaction with the IEP document, the services provided, the agreement between the document and actual services provided, and the effectiveness of the educational team), we also considered the total number of aspects with which parents were satisfied. As shown in Table 1, 62% of parents were at least somewhat dissatisfied with at least one aspect of the IEP process, whereas 38% of parents were satisfied with all four aspects of the IEP process examined. Examined more closely, 19% of parents were at least somewhat dissatisfied with one or two aspects of the IEP process, whereas 42% of parents were at least somewhat dissatisfied with three or four aspects of the IEP process.

The four IEP satisfaction variables were not related to any of demographic factors examined: child sex, age in months, race, or grade in school; parent gender, education, or race; the number of special education services received; or study site (California vs. Massachusetts). Table 2 gives descriptive statistics for the five domains examined: child developmental functioning, child emotional and behavioral functioning, parent–school connectedness, family financial factors, and teacher variables.

IEP satisfaction data were missing for 0.7% (questionnaire items) and 6% (interview item) of participating families. Little's missing-completely-at-random test was statistically significant, $\chi^2(3) = 9.70$, $p = .021$, suggesting that the data cannot be assumed to be missing completely at random. Missing-

Table 1. Rates of Parental IEP Satisfaction and Correlations Between IEP Satisfaction Variables.

Variable	*M* (*SD*)	Not at all satisfied	Not very satisfied	Somewhat satisfied	Satisfied	Very satisfied	1	2	3	4
Satisfaction with IEP content (*n* = 142)	3.6 (1.1)	4%	10%	32%	30%	24%	—	.86***	.83***	.57***
Satisfaction with actual services (*n* = 142)	3.5 (1.2)	6%	13%	28%	30%	23%	—	—	.83***	.60***
Agreement between IEP content and actual services (*n* = 142)	3.7 (1.1)	No agreement: 3%	Little agreement: 11%	Some agreement: 26%	Good agreement: 34%	Very good agreement: 27%	—	—	—	.55***
IEP team effectiveness (*n* = 136)	1.7 (0.9)	Ineffective: 8%	Somewhat effective: 32%	Mostly effective: 40%	Effective: 20%	—	—	—	—	—
Number of areas of dissatisfaction	0 areas: 39%	1 area: 15%	2 areas: 4%	3 areas: 19%	4 areas: 23%					

Note. Percentages rounded to the nearest full percentage point. IEP = individualized education program.
***$p < 0.001$.

Table 2. Descriptive Statistics for Child, Parent, Financial, and Teacher Variables.

Measure	*M* (*SD*)	Min.	Max.	Correlation or *t* value with total IEP satisfaction (mean of 4 centered IEP items)
Child developmental functioning				*R*
Language: CASL sum of standard scores	159.6 (32.5)	84	244	.02
Language: CCC-2 global communication composite (parent report)	72.2 (12.8)	40	126	0.1
ASD symptoms: ADOS total algorithm score	13.9 (4.0)	4	23	.07
Cognitive Functioning: WPPSI estimated IQ	85.6 (17.2)	46	123	−.01
Child behavioral and emotional functioning				
TRF Total Problems T score (teacher report)	58.6 (9.3)	33	87	−.03
Parent–school connectedness				
Parent–teacher relationship quality (parent report)	36.1 (7.8)	9	45	.47***
Parental school involvement (parent report)	45.9 (9.6)	26	76	.20*
Parent–teacher relationship quality (teacher report)	49.8 (8.0)	26	60	.26**
Parental school involvement (teacher report)	38.6 (8.3)	14	50	.20*
Financial				
Family income at enrollment	6.5 (3.0)	1	12	17*
Family income at IEP satisfaction assessment	6.8 (3.0)	1	12	.15†
Family financial resources	2.0 (1.2)	0	4	.21*
Teacher				
Years of teaching experience	14.3 (9.2)	1	44	−.32***
ASD-specific teaching preparedness	3.0 (0.9)	1	4	.08
Professional training in ASD (% yes)	29%	—	—	*t* = –.35
General education vs. special education classroom	48% general education	—	—	*t* =.23

Note. ADOS = Autism Diagnostic Observation Schedule (Lord et al., 2000); ASD = autism spectrum disorder; CASL = Comprehensive Assessment of Spoken Language (Carrow-Woolfolk, 1999); CCC-2 = Children's Communication Checklist (Bishop, 2000); IEP = individualized education program; TRF = Teacher Report Form (Achenbach & Rescorla,2001); WPPSI = Wechsler Preschool and Primary Scale of Intelligence (Wechsler, 2002).
†p < 0.10, *p < 0.05, **p < 0.01, ***p < 0.001.

ness was negatively associated with parent education but not related to any other demographic variables (child sex, age in months, race, grade in school; parent gender, race; family income; number of special education services received; study site). We used full information maximum likelihood to account for missing data, which provides parameters to utilize all available observed data points (McCoach & Black, 2008). Maximum likelihood estimation techniques have been shown to perform better than imputation, listwise deletion, or pairwise deletion and to produce unbiased parameter estimates, including when data are not missing completely at random (Enders & Bandalos, 2001).

Analytic Plan

We employed structural equation modeling with Mplus 7.0 (Muthén & Muthén, 2010) to examine the extent to which variability in child, parent, family financial, and teacher or classroom characteristics predicted parental IEP satisfaction. As described subsequently, we first ran a measurement model to examine how observed variables loaded onto their hypothesized latent factors. Next, once a good-fitting measurement model was identified, we ran four separate, domain-specific structural models to examine how each domain (child functioning, parent–school connectedness, family financial, and teacher or classroom domains) predicted IEP satisfaction. We then conducted a combined structural model, retaining only the factors from each domain that were significant in the domain-specific models, to produce a final model of factors uniquely contributing to parental IEP satisfaction.

Validity of the Measurement Model

We assessed fit for both the measurement model and structural models using the Tucker-Lewis index (TLI), comparative fit index (CFI), root mean-square error of approximation (RMSEA), and χ^2. Values >.90 for CFI and TLI and values ≤.08 for RMSEA and standardized root mean square residual (SRMR) are considered adequate model fit, as are nonsignificant χ^2 values (Hu & Bentler, 1999).

As shown in Figure 1, we conducted confirmatory factor analysis (CFA) to examine the measurement model for the following four latent factors: (a) IEP satisfaction composite (comprising all four IEP satisfaction items: satisfaction with services outlined in the IEP, satisfaction with actual services provided, agreement between IEP and actual services, and IEP team effectiveness), (b) child developmental functioning (comprising child ASD symptoms [ADOS algorithm score], two language variables [CASL sum of standard scores, CCC-2 global communication composite], and intellectual functioning [WPPSI estimated full-scale IQ]), (c) parent–school connectedness (comprising teacher-reported parent–teacher relationship quality, teacher-reported parental school involvement, parent-reported parent–teacher relationship quality, and parent-reported parental school involvement), and (d) family financial factors (comprising family income at enrollment, family income at IEP assessment, and family financial hardship). We examined child behavioral and emotional functioning (TRF total behavior problems T score) and the teacher–classroom domain (years of teaching experience, ASD preparedness, professional training in ASD, classroom type) as separate, observed variables rather than as part of latent factors.

The CFA, which was performed with the four latent factors and their indicators, produced good model fit: CFI = 0.997, TLI = 0.996, RMSEA = 0.016, confidence interval (CI) = [0.000, 0.050], $\chi^2(82) = 85.03$, $p = .39$, SRMR = 0.057. Completely standardized factor loadings for the IEP satisfaction factor ranged from 0.61 to 0.93. Ranges for the other three latent factors were −0.35 to 0.79 (child developmental functioning), 0.42 to 0.98 (parent–school connectedness), and −0.53 to 1.00 (family financial). All loadings were significant at $p \leq .001$, with the exception of the loading of teacher-reported parental involvement on parent–school connectedness, which was significant at $p = .002$.

Domain-Specific Structural Models: Predictors of IEP Satisfaction

Child factors. We first examined the association between child factors—including the developmental functioning latent factor and the behavioral and emotional functioning score (TRF Total Problems T score)—and parental IEP satisfaction. Fit was excellent, $\chi^2(25) = 17.03$, $p = .881$, CFI = 1.00, TLI = 1.02, RMSEA = 0.00 [0.00, 0.034], SRMR = .032. Neither child developmental functioning nor child behavioral and emotional functioning significantly predicted parents' IEP satisfaction.

Parent–school connectedness. Next, parent–school connectedness was examined as a predictor of parental IEP satisfaction. In addition to the regression of the IEP satisfaction factor

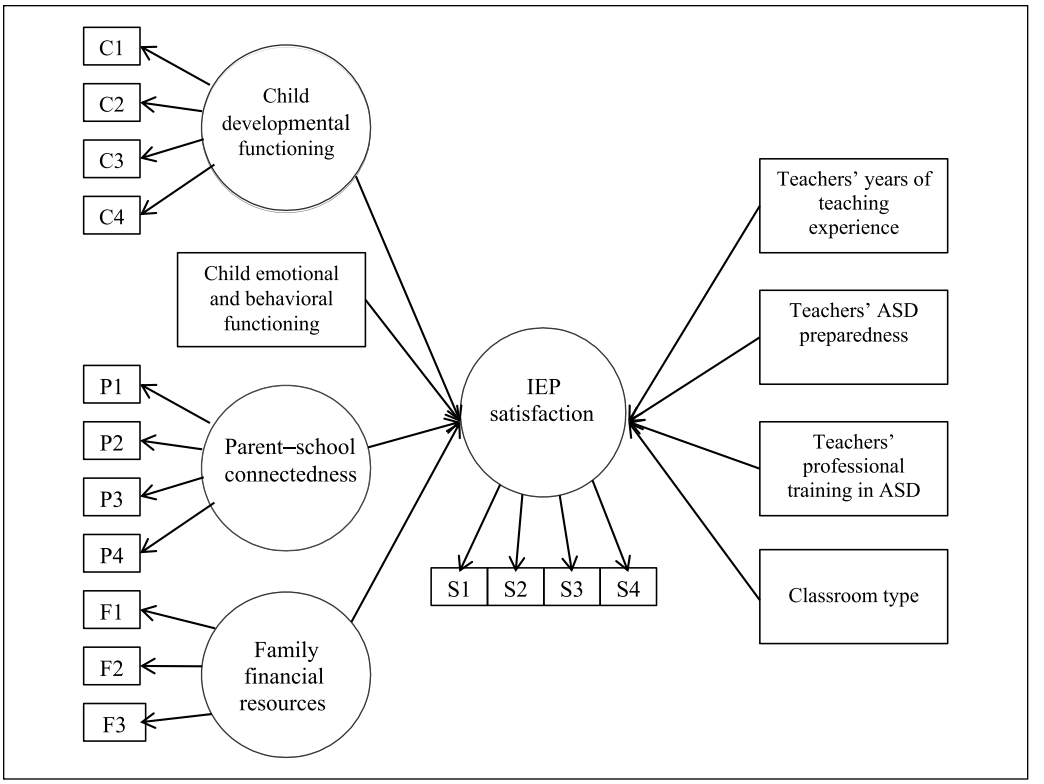

Figure 1. Measurement model for observed and latent variables. C1 = child autism spectrum disorder symptoms (Autism Diagnostic Observation Schedule algorithm score); C2 = child language–performance-based measure (Comprehensive Assessment of Spoken Language); C3 = child language–parent report (Children's Communication Checklist); C4 = child intellectual functioning (Wechsler Preschool and Primary Scale of Intelligence); P1 = Parent–teacher relationship quality–parent report; P2 = parent–school involvement–parent report; P3 = parent–teacher relationship quality–teacher report; P4 = parent–school involvement–teacher report; F1 = family income at enrollment; F2 = family income at individualized education program (IEP) satisfaction assessment; F3 = family financial resources; S1 = satisfaction with IEP content; S2 = satisfaction with actual services; S3 = agreement between IEP content and actual services; S4 = effectiveness of educational team. IEP = individualized education program; ASD = autism spectrum disorder.

onto the parent–school connectedness factor, we included correlations between the four parent–school connectedness variables. Fit was excellent, $\chi^2(14) = 12.24$, $p = .59$, CFI = 1.00, TLI = 1.01, RMSEA = 0.000, CI = [0.000, 0.072], SRMR = .023; and parent–school connectedness predicted IEP satisfaction ($B = 0.48$, $SE = 0.11$, $\beta = 0.54$, $p < .001$).

Family financial domain. In a model with the family financial resources factor as a predictor of IEP satisfaction, fit was excellent, $\chi^2(11) = 6.57$, $p = .83$, CFI = 1.00, TLI = 1.01, RMSEA = 0.00, CI = [0.000, 0.052], SRMR = .015. The family financial factor was associated with IEP satisfaction ($B = 0.30$, $SE = 0.11$, $\beta = 0.31$, $p = .005$.

Teacher and classroom factors. With the four observed teacher and classroom variables as indicator variables predicting the IEP satisfaction factor, model fit was excellent, $\chi^2(17) = 16.56$, $p = .49$, CFI = 1.000, TLI = 1.002, RMSEA = 0.000, CI = [0.000, 0.084], SRMR = .024. Teachers' years of experience was negatively associated with IEP satisfaction ($B = -.35$, $SE = 0.09$, $\beta = -0.04$, $p < .001$.

Counter to expectation, parents whose children had more experienced teachers reported less IEP satisfaction. ASD-specific teaching preparedness, professional training in ASD, and classroom type (general vs. special education) were not associated with IEP satisfaction.

Combined Model Predicting IEP Satisfaction

Next we ran a model combining all significant predictors into one combined model, including the parent–school connectedness factor, the family financial factor, and teacher years of experience. This combined model is shown in Figure 2. Model fit was excellent, $\chi^2(47) = 44.44$, $p = .60$, CFI = 1.000, TLI = 1.004, RMSEA = 0.000, CI = [0.000, 0.054], SRMR = .050, and all three predictors significantly contributed unique variance to IEP satisfaction. Thus, in this final model, parents with higher levels of parent–school connectedness ($B = .36$, $SE = .10$, $\beta = .42$, $p < .001$), higher financial resources ($B = .21$, $SE = .08$, $\beta = .25$, $p = .012$), and less experienced teachers ($B = -.31$, $SE = .08$, $\beta = -.04$, $p < .001$) reported higher IEP satisfaction.

Discussion

Among parents of early school-age children with ASD, we examined satisfaction with four aspects of their children's special education services, including the content of their children's IEP, the special education services provided, the agreement between IEP content and actual services provided, and the effectiveness of the IEP team. Within each of these four domains, slightly over half of parents were satisfied. However, a substantial proportion—61% of our sample—was dissatisfied with at least one of these four aspects of the IEP process. Almost half of parents were at least somewhat dissatisfied with the content of their children's IEPs (46%) and with the actual services provided (47%). Over one third of parents (39%) reported that the IEP document did not agree closely or at all with the actual services being provided. Similarly, 40% of parents felt their IEP teams were at least somewhat ineffective.

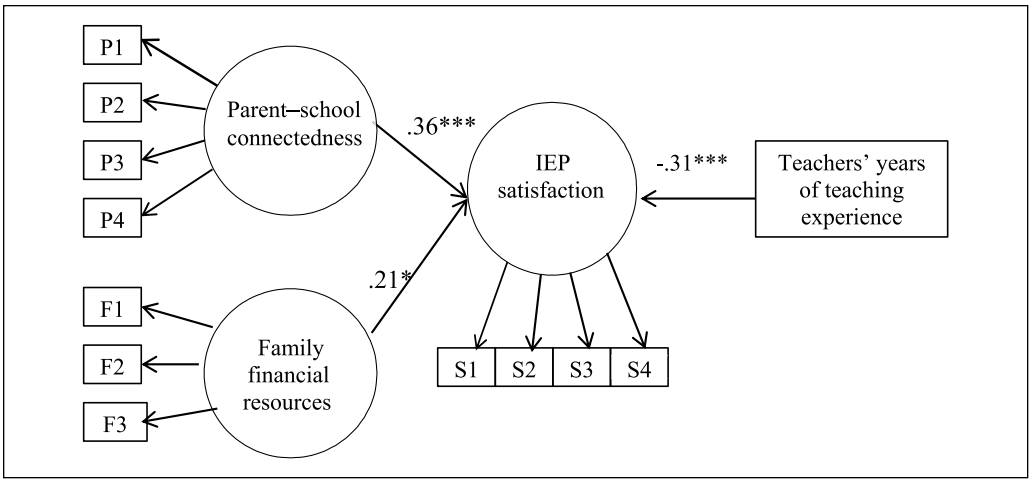

Figure 2. Parent–school connectedness, family financial resources, and teacher experience predict individualized education program (IEP) satisfaction for parents of children with autism spectrum disorder. P1 = Parent–teacher relationship quality–parent report; P2 = parent–school involvement–parent report; P3 = parent–teacher relationship quality–teacher report; P4 = parent–school involvement–teacher report; F1 = family income at enrollment; F2 = family income at IEP satisfaction assessment; F3 = family financial resources; S1 = satisfaction with IEP content; S2 = satisfaction with actual services; S3 = agreement between IEP content and actual services; S4 = effectiveness of educational team. IEP = individualized education program.

Taken together, these rates suggest that although fewer than half of parents were dissatisfied within each domain, a sizeable portion of parents of young children with ASD think that their children are receiving unsatisfactory special education services. As such, substantial improvement is needed to ensure that families experience all aspects of the IEP process and the special education system as effective and appropriate for their children. In addition, whereas our sample consisted of young children whose parents were relatively new to the IEP process, past research suggests that dissatisfaction may increase as children get older and proceed through elementary, middle, and high school (Spann, Kohler, & Soenksen, 2003; Wagner et al., 2012).

It is worth noting that these findings come from Massachusetts and California, two states that differ markedly in levels of spending in education and specifically in special education. In 2014, California ranked 35/50 in overall per-pupil spending on education and 31/50 in special education spending ($9,595 total spending per pupil; $511 special education spending per pupil), and Massachusetts ranked 8/50 and 5/50, respectively ($15,087 total spending per pupil; $1,161 special education spending per pupil), in inflation-adjusted values (U.S. Census Bureau, 2016). Despite these differences in spending, we found no state differences in IEP satisfaction. That similarly low rates of satisfaction are present across both states is particularly striking. Problems with the IEP process appear to go beyond variations in investment.

Parent–School Connectedness in Relation to IEP Satisfaction

Among these parents raising early elementary-age children with ASD, the most salient factors related to IEP satisfaction were parent–school connectedness, teachers' years of experience, and family financial resources. It is interesting to note that child characteristics—including developmental functioning (ASD severity, performance-based and parent-reported language skills, and cognitive functioning) and behavioral and emotional functioning—were not associated with parents' satisfaction with their children's IEPs.

Among these parents raising early elementary-age children with ASD, the most salient factors related to IEP satisfaction were parent–school connectedness, teachers' years of experience, and family financial resources.

It appears that parent satisfaction is not measurably affected by the child's functioning or by the specific educational needs the child presents. Instead, aspects of parent–school connectedness, including parental school involvement and parent–teacher relationship quality, may contribute uniquely to parents' experiences of the IEP process. This finding is consistent with past qualitative and quantitative research suggesting that interpersonal factors—such as equitable involvement in decision-making, a problem-solving-oriented meeting style, a transparent process, and feeling respected as equals—may be important determinants of parents' satisfaction (e.g., Esquivel et al., 2008; Renty & Roeyers, 2006; Tucker & Schwartz, 2013; Zeitlin & Curcic, 2014). Such relational qualities may produce better satisfaction not only with the IEP meeting itself but with the resulting services offered. In turn, if the services provided are more appropriate and well suited to children's needs, they may produce greater child gains and more optimal educational outcomes for children with ASD. Our results indicate that the communication, involvement, and positive regard between parents and school staff, even outside of the IEP meeting context itself, lay an important foundation that carries over to create a more satisfactory IEP process.

Overall, these parent ratings of IEP satisfaction reflect parents' perceptions rather than any objective indicator of IEP quality. Indeed, these results do not tell us whether the services being provided to the child were in fact satisfactory or of high quality by any objective indicators. For instance, we cannot

presume that high levels of IEP satisfaction are associated with higher receipt of evidence-based intervention or with higher quality of services or greater appropriateness of services in relation to the child's needs. Similarly, parental satisfaction with services may or may not relate to the fidelity between IEP-documented services and the actual intensity or quality of services provided or the fidelity with which the intended instructional strategies are being implemented. It would be of interest to examine, ideally through qualitative methods with parents who are both satisfied and dissatisfied with their children's IEPs, what parents have seen or learned about their children's IEPs that leads them to these levels of satisfaction. Such information would be useful in improving the IEP process.

The communication, involvement, and positive regard between parents and school staff, even outside of the IEP meeting context itself, lay an important foundation that carries over to create a more satisfactory IEP process.

Likewise, the observed association between IEP satisfaction and school connectedness reflects a link between parents' school connectedness and their *perceptions* of IEP quality rather than an objective measure of IEP quality. It may be that parents who have better school relationships with teachers and other IEP team members feel more positively about the IEP process regardless of the actual quality of special education services. Moreover, these findings do not suggest a direction of causality. IEP satisfaction may in fact be the driving factor, laying the groundwork for more positive parent–school interactions. Regardless of the directionality, efforts to facilitate positive parent–school connectedness are warranted. Given that the larger special education context can be fraught with budgetary and legal tensions (Ruble et al., 2010), there are barriers to the formation of collaborative relationships between parents and school staff (i.e., teachers, IEP coordinators, and specialists). School staff may benefit from support around establishing open communication, shared goals, and positive relations with parents, even when outside tensions are present. Staff who are equipped with skills to validate parents' points of view and develop a shared understanding of the child may be well prepared to create satisfactory IEP outcomes for families. Parents may also benefit from support and coaching in such communication strategies. Such communication skills may be especially important in the context of cultural or linguistic differences between parents and teachers. For instance, trainings to enhance cultural reciprocity, including an awareness of one's personal and professional biases and how one's beliefs may affect interactions with others, may prepare teachers to connect across differences (Kalyanpur & Harry, 2012). Likewise, training in active listening—a skill set that includes empathetic commenting, asking appropriate questions, and summarizing for the purposes of verification—has potential to promote cross-cultural understanding between teachers and parents. Indeed, in an active listening training not specific to the IEP context, educators' self-perceived preparedness to interact with parents and parent ratings of qualities, such as attentiveness and concern, improved (McNaughton, Hamlin, & McCarthy, 2008).

Family Financial Resources in Relation to IEP Satisfaction

Family financial resources also emerged as associated with parents' IEP satisfaction. Enhanced communication skills on the part of both parents and teachers may be especially important for parents with limited economic resources. Families raising children with ASD face substantial disability-related expenses: Raising a child with ASD costs an additional $17,000 per year on average, according to some estimates (Lavelle et al., 2014). Families with lower financial resources were more likely to experience unsatisfactory IEP content, unsatisfactory services, less effective IEP teams, and lower agreement between the IEP document

and the actual services. Such disparities in quality of services are likely to impact children's developmental outcomes and interfere with children's ability to achieve optimal long-term functioning. These results occur in the context of a fairly well-resourced sample (nearly half of families earned over $80,000 a year). Future research should include a sample with better representation of families with low incomes, for whom associations between financial resources and IEP satisfaction may be especially pronounced. Further research may also shed light on the directionality of this complex finding. For instance, schools may be less effective in ensuring a positive, mutually satisfactory IEP process for families with limited economic resources and related stressors. On the other hand, other variables, such as school connectedness or overall family stress, may mediate this association between income and IEP satisfaction. Further, parents who are better off financially may able to purchase any services that they believe are missing from the IEP outside of school. Likewise, families with more substantial resources may be more likely to bring an advocate or outside therapist to IEP meetings. Both of these factors—access to out-of-school services and the presence of an outside provider at meetings—are likely to improve the IEP process. Our study does not have data on these factors. Future research should examine how such factors, which are intertwined with financial resources, relate to IEP satisfaction.

These disparities in special education satisfaction mirror the disparities present in other systems and in other aspects of care for children with ASD.

These disparities in special education satisfaction mirror the disparities present in other systems and in other aspects of care for children with ASD. Indeed, children with ASD who live in lower-income neighborhoods or in lower-income households are less likely to receive an ASD diagnosis, have decreased access to services, receive fewer evaluations, and are diagnosed at later ages (Durkin et al., 2010; Liptak et al., 2008; Mandell, Novak, & Zubritsky, 2005; Thomas et al., 2012) relative to children with ASD from higher-income households and higher-income neighborhoods. Although previous research has primarily examined disparities in the context of the health care, insurance, and early intervention systems, our research indicates that these disparities are present within the special education system as well. Subsequent research should also examine whether these disparities in satisfaction with IEPs are paralleled by differences in quality of the IEPs and services. Such research would be needed to determine whether parents with higher financial resources not only were more satisfied but were actually receiving IEPs and services for their children that were of greater quality and appropriateness.

Teachers' Experience in Relation to IEP Satisfaction

Perhaps most surprising, teachers' years of experience were negatively associated with IEP satisfaction: Parents reported higher satisfaction when teachers had fewer years of experience. It is possible that less experienced teachers bring certain other qualities not measured here—such as more up-to-date training, enthusiasm, or a greater knowledge of ASD—that may make it easier for them to establish satisfactory outcomes for students. Alternatively, in line with qualitative research suggesting that parents may feel intimidated communicating with teachers (Esquivel et al., 2008; Zeitlin & Curcic, 2014), parents may feel more comfortable approaching less experienced teachers with their ideas. In addition, teachers who are newer to the system may have less entrenched views and be more willing to view parents as partners in the process or to be flexible about aspects of the IEP process (e.g., the length of IEP meetings). More-recently trained teachers may also have been exposed to more preservice classes focused on students with ASD, which were less available or typical in education training programs in the past. It would also be interesting to know if there is any correlation between length of IEP

meeting and satisfaction. More detail about the quality and nature of IEP meetings, including the length and degree of collaboration in these meetings, would be useful to examine in future research, especially as these factors may relate both to teacher years of experience and to satisfaction with the IEP process. Mixed-methods research may be beneficial to understand this phenomenon regarding teacher experience and to examine perceptions of parents and teachers who are involved in a child's IEP process concurrently.

ASD-specific teaching preparedness, professional training in ASD, and classroom type (general vs. special education) did not relate to IEP satisfaction. This pattern of findings may suggest that regardless of teachers' self-perceived preparedness to teach students with ASD, parents' own perceptions of the teacher and team are related to other, unexamined factors, such as teacher personality, or to classroom quality indicators, such as teacher–student ratio or teacher communication style. Notably, our study did not examine characteristics of other members of the IEP team, such as the IEP coordinator or specialists (e.g., speech-language pathologist, occupational therapist, applied behavior analysis therapist) from whom the child may receive services through the IEP. These individuals certainly may bring qualities that contribute to parents' level of satisfaction. Future work should also examine the quality or intensity of the services themselves or the extent to which the content of the IEP objectively matches the child's possible needs.

Implications, Limitations, and Future Directions

With scarcely over half of parents expressing satisfaction with each aspect of the IEP process, these findings suggest a need for better support and training for teachers and staff involved in the IEP process. Such supports might involve improved training in skills for communicating with families, including around problem solving and shared goal setting, as well as competencies in communicating across cultural differences and in legal IEP standards and practices. Such training ought to be offered not only to classroom teachers and specialists but also to school psychologists and others who often coordinating the IEP process. To the extent that such training happens within schools or districts, school psychologists—assuming they have access to sufficient training in these arenas themselves—may be well positioned to train, support, and coach the teachers in their schools and districts as they navigate these interactions with parents. Parents may also benefit from access to training that equips them with knowledge of special education laws and IEP requirements as well as support that empowers them to advocate effectively for their children.

With scarcely over half of parents expressing satisfaction with each aspect of the IEP process, these findings suggest a need for better support and training for teachers and staff involved in the IEP process.

These findings also suggest that a systematic revision of the overall IEP process may be warranted to ensure that all stages of the IEP process—not only the meeting itself but also the ways in which IEP-documented services are provided, evaluated, and communicated about with parents—are effective and inclusive of parents. Such a systematic revision needs to ensure that all stages of the IEP process support parents in sharing their opinions and support school personnel in communicating and responding to parents in a culturally responsive manner.

The IEP process is a powerful tool in the work of special education teachers and specialists as well as parents of children with disabilities, as it provides a way for school staff and parents to identify academic and behavioral needs and communicate about their goals, to outline how those goals will be met, and to monitor children's progress. Past literature on IEP satisfaction has produced varied results regarding the extent to which

parents are satisfied with the IEP process (e.g., Fish, 2008; Tucker & Schwartz, 2013; Wagner et al., 2012). Our findings add to this understanding by examining multiple facets of the IEP process and by focusing specifically on parents of children with ASD. There is still much to be learned, particularly by utilizing a larger sample with greater racial, ethnic, and socioeconomic diversity. The current sample included parents with relatively high levels of education and income and is therefore less representative of the population of families of children with ASD than a more socioeconomically diverse sample. Future research ought to include more families with lower educational and financial resources in order to reach more generalizable conclusions about the factors that predict levels of IEP satisfaction. Another limitation of the current study is the lack of information on the actual services being offered and received. Future research should incorporate measurement of the actual services offered and received in order to examine how the level, quantity, and types of services relate to IEP satisfaction. Finally, future research in this area lends itself to a mixed-methods approach, including interviews that are analyzed qualitatively using a theme-based approach. Such an approach would yield valuable insights into the factors affecting IEP satisfaction. Other factors to be considered include parents' access to advocates or legal representation, more specific measures of the parents' role in decision-making during the IEP process, the appropriateness of the IEP-documented services in light of specific child needs, and the quality of designated support services, such as speech, occupational, or physical therapy.

References

Achenbach, T. M., & Rescorla, L. A. (2001). *Manual for the ASEBA school-age forms and profiles*. Burlington: University of Vermont, Research Center for Children, Youth, and Families.

Angell, M. E., Stoner, J. B., & Shelden, D. L. (2009). Trust in education professionals: Perspectives of mothers of children with disabilities. *Remedial and Special Education*, *30*, 160–176. doi:10.1177/0741932508315648

Bishop, D. (2006). *Children's Communication Checklist—2* (U.S. ed.). San Antonio, TX: Harcourt Assessment.

Burke, M. M., & Hodapp, R. M. (2014). Relating stress of mothers of children with developmental disabilities to family-school partnerships. *Intellectual and Developmental Disabilities*, *52*, 13–23. doi:10.1352/1934-9556-52.1.13

Carrow-Woolfolk, E. (1999). *CASL: Comprehensive assessment of spoken language*. Circle Pines, MN: American Guidance Service.

Christensen, D. L., Baio, J., Braun, K. V., Bilder, D., Charles, J., Constantino, J. N., . . .Yeargin-Allsopp, M. (2016). Prevalence and characteristics of autism spectrum disorder among children aged 8 years: Autism and Developmental Disabilities Monitoring Network, 11 sites, United States, 2012. *MMWR Surveillance Summaries*, *65*, 1–23. doi:10.15585/mmwr.ss6503a1

Corrigan, P. W. (2002). Testing social cognitive models of mental illness stigma: The Prairie State Stigma Studies. *Psychiatric Rehabilitation Skills*, *6*, 232–254. doi:10.1080/10973430208408434

de Boer, A., Pijl, S. J., & Minnaert, A. (2010) Attitudes of parents towards inclusive education: A review of the literature. *European Journal of Special Needs Education*, *25*, 165–181, doi:10.1080/08856251003658694

Durkin, M. S., Maenner, M. J., Meaney, F., Levy, S. E., DiGuiseppi, C., Nicholas, J. S., . . . Schieve, L. A. (2010). Socioeconomic inequality in the prevalence of autism spectrum disorder: Evidence from a U.S. cross-sectional study. *PLoS ONE*, *5*, 1–8. doi:10.1371/journal.pone.0011551

Eisenhower, A., Bush, H. H., & Blacher, J. (2015). Student-teacher relationships and early school adaptation of children with ASD: A conceptual framework. *Journal of Applied School Psychology, 31*, 256–296. doi:10.1080/15377903.2015.1056924.

Enders, C. K., & Bandalos, D. L. (2001). The relative performance of full information maximum likelihood estimation for missing data in structural equation models. *Structural Equation Modeling: A Multidisciplinary Journal*, *8*, 430–457. doi:10.1207/S15328007SEM0803_5

Esquivel, S., Ryan, C., & Bonner, M. (2008). Involved parents' perceptions of their experiences in school-based team meetings. *Journal of Educational and Psychological Consultation*, *18*, 234–258. doi:10.1080/10474410802022589

Fish, W. W. (2008). The IEP meeting: Perceptions of parents of students who receive special education services. *Preventing School Failure: Alternative Education for Children and Youth*, *53*, 8–14. doi:10.3200/PSFL.53.1.8-14

Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, *6*, 1–55. doi:10.1080/10705519909540118

Individuals With Disabilities Education Act, 20 U.S.C. §§ 1400 *et seq*. (2006 & Supp. V. 2011).

Jones, B. A., & Gansel, K. A. (2010). The effects of a mini-conference, socioeconomic status, and parent education on perceived and actual parent participation in individual education program meetings. *Research in the Schools*, *17*, 23–38.

Kalyanpur, M., & Harry, B. (2012). *Cultural reciprocity in special education*. Baltimore, MD: Brookes.

Landis, J. R., & Koch, G. (1977). The measurement of observer agreement for categorical data. *Biometrics*, *33*, 159–174.

Lavelle, T. A., Weinstein, M. C., Newhouse, J. P., Munir, K., Kuhlthau, K. A., & Prosser, L. A. (2014). Economic burden of childhood autism spectrum disorders. *Pediatrics*, *133*, e520–e529. doi:10.1542/peds.2013-0763

Liptak, G. S., Benzoni, L. B., Mruzek, D. W., Nolan, K. W., Thingvoll, M. A., Wade, C. M., & Fryer, G. (2008). Disparities in diagnosis and access to health services for children with autism: Data from the National Survey of Children's Health. *Journal of Developmental and Behavioral Pediatrics*, *29*, 152–160. doi:10.1097/DBP.0b013e318165c7a0

Liptak, G. S., Orlando, M., Yingling, J. T., Theurer-Kaufman, K. L., Malay, D. P., Tompkins, L. A., & Flynn, J. R. (2006). Satisfaction with primary health care received by families of children with developmental disabilities. *Journal of Pediatric Health Care: Official Publication of National Association of Pediatric Nurse Associates & Practitioners*, *20*, 245–252. doi:10.1016/j.pedhc.2005.12.008

Lord, C., Risi, S., Lambrecht, L., Cook, Jr, E. H., Leventhal, B. L., DiLavore, P. C., . . . Rutter, M. (2000). The Autism Diagnostic Observation Schedule–Generic: A standard measure of social and communication deficits associated with the spectrum of autism. *Journal of Autism and Developmental Disorders*, *30*, 205–223. doi:10.1023/A:1005592401947

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. https://doi.org/10.1007/BF02172145

Mandell, D., Novak, M., & Zubritsky, C. (2005). Factors associated with age of diagnosis among children with autism spectrum disorders. *Pediatrics*, *116*, 1480–1486. doi:10.1542/peds.2005-0185

McCoach, D. B., & Black, A. C. (2008). Evaluation of model fit and adequacy. In A. A. O'Connell, & D. B. McCoach (Eds.), *Multilevel modeling of educational data* (pp. 245–271). Charlotte, NC: Information Age.

McNaughton, D., Hamlin, D., & McCarthy, J. (2008). Learning to listen: Teaching an active listening strategy to preservice education professionals. *Topics in Early Childhood Special Education*, *27*, 223–231.

Miller-Johnson, S., & Maumary-Gremaud, A. (2000). *Parent and Teacher Involvement Measure–Teacher* (Technical report). Available at http://www.fasttrackproject.org/.

Muthén, L. K., & Muthén, B. O. (2010). 1998–2010 *Mplus users' guide 6.0*. Los Angeles, CA: Muthén and Muthén.

National Research Council. (2001). *Educating children with autism*. Washington, DC: National Academy Press, Committee on Educational Interventions for Children with Autism, Division of Behavioral and Social Sciences and Education.

Neece, C. L., Green, S. A., & Baker, B. L. (2012). Parenting stress and child behavior problems: A transactional relationship across time. *American Journal on Intellectual and Developmental Disabilities*, *117*, 48–66. doi:10.1352/1944-7558-117.1.18

NICHD Early Child Care Research Network. (2005). Predicting individual differences in attention, memory, and planning in first graders from experiences at home, child care, and school. *Developmental Psychology*, *41*, 99–114. doi:10.1037/0012-1649.41.1.99

Reichow, B., Salamack, S., Paul, R., Volkmar, F. R., & Klin, A. (2008). Pragmatic assessment in autism spectrum disorders: A comparison of a standard measure with parent report. *Communication Disorders Quarterly*, *29*, 169–176. doi:10.1177/1525740108318697

Renty, J., & Roeyers, H. (2006). Satisfaction with formal support and education for children

with autism spectrum disorder: The voices of the parents. *Child: Care, Health and Development*, *32*, 371–385. doi:10.1111/j.1365-2214.2006.00584.x

Ruble, L. A., McGrew, J., Dalrymple, N., & Jung, L. A. (2010). Examining the quality of IEPs for young children with autism. *Journal of Autism and Developmental Disorders*, *40*, 1459–1470. doi:10.1007/s10803-010-1003-1

Sattler, J. (2008). *Assessment of children: Cognitive foundations* (5th ed.). San Diego, CA: Jerome M. Sattler.

Sattler, J. M., & Dumont, R. (2004). *Assessment of children: WISC-IV and WPPSI-III supplement*. San Diego, CA: Jerome M. Sattler.

Siegel, S., & Castellan, N. J. (1988). *Nonparametric statistics for the behavioral sciences* (2nd ed.). New York, NY: McGraw-Hill.

Spann, S. J., Kohler, F. W., & Soenksen, D. (2003). Examining parents' involvement in and perceptions of special education services: An interview with families in a parent support group. *Focus on Autism and Other Developmental Disabilities*, *18*, 228–237. doi:10.1177/10883576030180040401

Thomas, P., Zahorodny, W., Peng, B., Kim, S., Jani, N., Halperin, W., & Brimacombe, M. (2012). The association of autism diagnosis with socioeconomic status. *Autism: The International Journal of Research & Practice*, *16*, 201–213. doi:10.1177/1362361311413397

Tucker, V., & Schwartz, I. (2013). Parents' perspectives of collaboration with school professionals: Barriers and facilitators to successful partnerships in planning for students with ASD. *School Mental Health*, *5*, 3–14. doi:10.1007/s12310-012-9102-0

U.S. Census Bureau. (2016). *Public elementary–secondary education finance data*. Retrieved from http://www.census.gov/govs/school/

U.S. Department of Education, National Center for Education Statistics. (2016). *Digest of education statistics, 2014, Table 204.30*. Retrieved from http://nces.ed.gov/pubs2016/2016006.pdf

Verté, S., Geurts, H. M., Roeyers, H., Oosterlaan, J., & Sergeant, J. A. (2006). The relationship of working memory, inhibition, and response variability in child psychopathology. *Journal of Neuroscience Methods*, *151*, 5–14. doi:10.1016/j.jneumeth.2005.08.023

Wagner, M., Newman, L., Cameto, R., Javitz, H., & Valdes, K. (2012). A national picture of parent and youth participation in IEP and transition planning meetings. *Journal of Disability Policy Studies*, *23*, 140–155. doi:10.1177/1044207311425384

Wechsler, D. (2002). *Wechsler preschool and primary scale of intelligence–Third edition (WPPSI-III)*. San Antonio, TX: Psychological Corporation.

Woodman, A. C., Mawdsley, H. P., & Hauser-Cram, P. (2015). Parenting stress and child behavior problems within families of children with developmental disabilities: Transactional relations across 15 years. *Research in Developmental Disabilities*, *36*, 264–276. doi:10.1016/j.ridd.2014.10.011

Yell, M. L., Katsiyannis, A., Drasgow, E., & Herbst, M. (2003). Developing legally correct and educationally appropriate programs for students with autism spectrum disorders. *Focus on Autism and Other Developmental Disabilities*, *18*, 182–191. doi:10.1177/10883576030180030601

Zablotsky, B., Boswell, K., & Smith, C. (2012). An evaluation of school involvement and satisfaction of parents of children with autism spectrum disorders. *American Journal on Intellectual and Developmental Disabilities*, *117*, 316–330. doi:10.1352/1944-7558-117.4.316

Zeitlin, V. M., & Curcic, S. (2014). Parental voices on individualized education programs: "Oh, IEP meeting tomorrow? Rum tonight!" *Disability and Society*, *29*, 373–387. doi:10.1080/09687599.2013.776493.

Zirkel, P. A., & Hetrick, A. (2017). Which procedural parts of the IEP process are the most judicially vulnerable? *Exceptional Children*, *83*, 219–235. doi:10.1177/0014402916651849

Authors' Note

This study was funded by the Institute of Education Sciences (R324A110086; J. Blacher, P.I.) Support was also provided by the SEARCH Family Autism Resource Center in the Graduate School of Education, University of California–Riverside. We are indebted to the participating families and teachers and to our staff and students.

Manuscript received December 2016; accepted October 2017.