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The Perceptions of School Involvement of Parents of Students
With Autism Spectrum Disorders: A Systematic Literature Review

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Abstract

Several different types of parent involvement with schools have been identified in the special education and general education literature, including: (a) advocacy, (b) collaborative partnership, (c) home-school communication, and (d) school-based participation. However, it is unclear which types of involvement are addressed in the literature and how parents of children with autism spectrum disorders perceive these types of school involvement. In this systematic literature review, we synthesized this body of literature, which consisted of 37 studies published from 2001-2017. Authors addressed all four types of parent involvement using a range of measures, most frequently addressing home-school communication. Limitations and implications for research and practice are discussed, including the importance of collecting and reporting on the characteristics of survey respondents and identifying and validating common measures across studies.

Keywords: parent involvement, partnership, advocacy, autism spectrum disorders

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The Perceptions of School Involvement of Parents of Students

With Autism Spectrum Disorders: A Systematic Literature Review

Educational policy and theory has established parent involvement as an integral part of the education of all students (Jeynes 2005; 2007). Indeed, there is over 50 years of research in the general education literature about the effectiveness of parent involvement on student outcomes (Author, 2012). However, we still have much to learn about effective involvement in school for parents of children with disabilities, particularly for those students with autism spectrum disorders (ASD).

Many of the legally mandated rights for parents of children with disabilities revolve around participation in the special education process. In the United States, for example, more parent participation relates to parental rights in their child's individualized education program (IEP) meeting. During such meetings, school personnel and parents typically make decisions about the child's eligibility, placement, and special education services. Because of the legal focus on the importance of parent participation during this meeting, the model for parent involvement in special education has primarily emphasized parent participation in IEP meetings (Authors, 2015; Turnbull & Turnbull, 2002). As a result of this focus, many qualitative and quantitative studies have been conducted on parent involvement in IEP meetings. However, research has shown that parents play a less involved role in IEP development than teachers and administrators, rarely demonstrating active, meaningful participation in teacher-controlled meetings (Blackwell & Rosetti, 2014).

However, unlike the IEP meeting which only occurs annually, parent involvement is an ongoing action extending beyond the confines of the IEP meeting. Notably, compared to parents of children with other disabilities, families of children with ASD are more dissatisfied with their

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role in the school and with school communication (Zablotsky, Boswell, & Smith, 2012). These families are also more likely to enact their procedural safeguards by using due process to resolve educational disputes (Zirkel, 2011). As such, it is important to address parent involvement at school for families of children with ASD. By targeting this particular relationship and improving parental involvement, the needs of these families and their children may be met in a way that is less costly and damaging to schools and families (Mueller, 2015). Before developing interventions to improve parent involvement and, subsequently, family-school partnerships, it seems crucial to review the extant literature to better understand what is known about parent perceptions of involvement. Thus, the purpose of this study was to review the literature about parent perceptions of school involvement among families of school-aged children with ASD.

First, it is important to identify the prevalence and quality of published studies about parent involvement among families of children with ASD. Particularly for families of very young children with ASD (i.e., early intervention and early-childhood age), the effects of parent involvement at home have been well documented (National Research Council, 2001). Training for parents of children with ASD often focuses on providing parents with instruction to utilize intervention strategies at home to support their child. Such involvement at home is considered an important part of early intervention programs (National Research Council, 2001) and parent-implemented intervention is identified as a research-based practice for children with ASD (Wong et al., 2015). The focus on parent involvement at home for young children with ASD is evidenced by multiple reviews on this topic (McConachie & Diggle, 2007; McLaughlin, Denney, Snyder, & Welsh, 2012; Patterson, Smith, & Mirenda, 2011).

However, much of what is known about parent involvement for children with ASD relates to the parent being involved with services and training at home, with little attention paid

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to the more traditional forms of school participation identified in the general education parent involvement literature. Higher levels of parent involvement with the school have been associated with increases in student achievement (Sheldon & Epstein, 2005), improvements in school attendance (Epstein & Sheldon, 2002), decreases in behavior problems (Vakalahi, 2001), and decreased drop-out rates (Barnard, 2003). These findings have been synthesized in multiple meta-analyses and consistently show positive results for students without disabilities (Hill & Tyson, 2009; Jeynes, 2005; Jeynes, 2007; Nye, Turner, & Schwartz, 2006). What is less clear is how parents of children with disabilities themselves perceive parent involvement within the school setting.

Second, it is important to identify how parent involvement with the school is framed, measured, and addressed in the extant literature. Although there may be several types of parent involvement, for the purpose of this review, we examined the literature with respect to four types that are especially relevant to families of children with ASD: (1) parent advocacy, (2) collaborative partnership, (3) home-school communication, and (4) school-based participation.

As noted earlier, there are several barriers to equal participation in IEP meetings. Further, parents of children with ASD (versus other types of disabilities) are often more dissatisfied with school services (Rattaz et al., 2014). As a result, parents often engage in *advocacy* within the school setting for their offspring with ASD to receive services and because they feel that they have a duty to hold the schools accountable (Wang, Mannan, Poston, Turnbull, & Summers, 2004).

This second type of parent involvement, *collaborative partnership*, includes the following key characteristics: (a) mutual respect, (b) trust and honesty, (c) mutually agreed-upon goals, and (d) shared planning and decision-making (Keen, 2007). According to Dunst, Trivette,

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and Johanson (1994), a true collaborative partnership requires the reciprocity of these characteristics between professionals and parents. Although parent involvement through collaborative partnerships has the potential to influence important outcomes, research has mostly focused on the barriers to partnership (Blue-Banning, Summers, Frankland, Nelson, & Beegle, 2004), with much yet to learn about building effective collaborative partnership between families and schools (Keen, 2007). This is especially true among families of children with ASD who report poor family-school partnerships and a need for greater collaboration (Russa, Matthews, & Owen-DeSchryver, 2015).

The third area of focus in the literature on involvement for parents of children with disabilities, *home-school communication*, also relates to these collaborative partnerships. Parents have emphasized the importance of open and honest bi-directional communication for the purpose of accessing information and building trust (Blue-Banning et al., 2004) and have identified a lack of formal and informal communication as a barrier to this process (Hess, Molina, & Kozleski, 2006). However, parents of children with ASD continue to identify high quality communication between parents and professionals as an area of need (Stoner et al., 2005).

The final type of parent involvement is *school-based participation*—a term prevalent in the general education literature about parent involvement (Epstein, 2001). Such school-based participation includes activities such as volunteering at school, serving on school committees, helping on school field trips, being present at school for events or observations, and attending school programs (Walker & Hoover-Dempsey, 2008). Beyond IEP meetings, collaborative partnerships, parent advocacy, and home-school communication, parents of children with disabilities—like parents of children without disabilities—are often expected to engage in such

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traditional forms of participation.

To date, no review has synthesized the quantitative literature on parent perceptions of involvement in school for children with ASD. It is important to first identify what we already know about parent perceptions of involvement before moving forward with interventions to increase such involvement and improve student outcomes. Therefore, the purpose of this review is to examine all published quantitative studies that address parent perceptions of involvement in school for children with ASD. To do so, we asked the following research questions: (a) How many published studies include perceptions of involvement at school for parents of children with ASD?; (b) What is the quality of these studies, including design and participant characteristics?; (c) How is parent involvement framed and measured quantitatively in these studies?; (d) What types of parent involvement are addressed?; and (e) What are the results of these studies regarding parent perceptions of involvement with school?

Methods

Eligibility Criteria

Studies were included if they met these inclusion criteria: (a) respondents were parents of school-age children with ASD, (b) the study included a quantitative parent self-report measure that addressed at least one of the four types of parent involvement with the school, and (c) the study was published in English in a peer-reviewed journal from 1990-2017.

Although we use the term *parent* in this review, we included as “parent” participants other types of caregivers, such as grandparents, guardians, and step-parents (Tucker & Schwartz, 2013). The term *school-age* includes children between the ages of 3-21, as defined in American special education law as eligible for school services. Studies that focused on early-intervention services or with a mean child age of less than three years were excluded. Due to the range of

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publication dates and countries, *ASD* was defined broadly, including diagnoses that are no longer recognized in the 5th edition of the Diagnostic and Statistical Manual (e.g., autistic disorder, Asperger's disorder, Pervasive Developmental Disorder- Not Otherwise Specified). Although self-reported perceptions are valued in both qualitative and quantitative research, for purposes of synthesis, we included only quantitative studies in this review.

Parent involvement. We defined parent involvement broadly based on several theoretical models to capture all relevant studies. This definition of school involvement included *parent advocacy* (Trainor, 2010), *collaborative partnership* (Blue-Banning et al., 2004) *home-school communication* (Manz, Fantuzzo, & Power, 2004), and traditional *school-based participation* (Epstein, 2001). Each of these types of involvement is defined below.

Parent advocacy. For this review, parent advocacy was defined as parents engaging in actions to ensure that children have access to appropriate educational services, as defined in special education law (Trainor, 2010). Examples include participating in IEP meetings (Wang et al., 2004), utilizing dispute resolution strategies such as due process (Mueller, 2015), understanding parent rights and responsibilities according to special education law (Author, 2016), and effecting changes in school policy (Trainor, 2010).

Collaborative partnership. We defined this type of involvement based on the work of Blue-Banning and colleagues (2004) as the parent/family and teacher/school working together with mutual respect, trust, and equality on behalf of the child (Summers et al., 2005). Examples include families and schools being equal partners in decision-making (Keen, 2007), identifying mutual concerns and goals (Dunlap & Fox, 2007), asking the parents' opinions (Stoner et al., 2005), incorporating the parents' ideas (Brookman-Fraze, 2004), and respecting the parent as the expert on their child (Kalyanpur, Harry, & Skrtic, 2000).

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Home-school communication. This type of involvement was defined as any verbal or written dialogue between the parent/family and teacher/school that conveys information about the child (Epstein, 2001; Manz et al., 2004). Examples include the parent attending teacher conferences at the school (Epstein, 2001), talking to the teacher in person (Hess et al., 2006), using bi-directional communication notebooks (Stoner et al., 2005), calling the teacher to tell them about something that happened at home (Stoner et al., 2005), and the school sending home frequent progress notes or report cards (Author, 2012).

School-based participation. We defined this type of involvement as the parent engaging in activities at school or with/in the classroom, based on the model created by Epstein (2001). Examples include volunteering in the classroom (Epstein, 2001), participating in fundraisers at the school (Author, 2012), going on class field trips, and attending school association meetings (Walker & Hoover-Dempsey, 2008).

Exclusion. The included types of involvement, although broadly defined, were required to be explicitly related to the school. For example, we excluded studies that focused solely on parent involvement with intensive behavior intervention at an agency, parent involvement in therapy and interventions in the home, and studies that addressed parent involvement with professionals and the community, but did not refer to teachers or the school.

Literature Search

To identify all studies eligible for inclusion, we conducted a systematic literature search in ProQuest. Search terms addressed each eligibility criteria (i.e., population, participant, design, and outcome) and were further refined through an iterative process using pearl growing (i.e., using known eligible studies to improve search terms; see Table 1 for final search terms). The final search was conducted on December 28, 2017 using twelve relevant databases (e.g., ERIC,

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PsycINFO).

After exporting the results of the ProQuest search into Microsoft Excel, we first screened the citations at abstract level. Next, we retrieved and reviewed the full-text of studies for which we needed additional information to determine eligibility. If these studies were excluded during full-text review, we recorded the specific reason for doing so. After identifying eligible studies, we searched the reference lists and conducted a forward citation search of these studies.

Additionally, to find any eligible studies that were not identified in the database search, we hand searched autism specific journals including: *Autism*, *Journal of Autism and Developmental Disorders*, *Focus on Autism and Other Developmental Disabilities*, *Education and Training in Autism and Developmental Disabilities*, and *Research in Autism Spectrum Disorders*.

Data Collection

After identifying eligible studies, we coded the individual studies to collect information that was relevant to the research questions and study quality. This included 28 variables on: (a) general study characteristics, (b) design, (c) parent respondent and child characteristics, (d) research questions, (e) measures, and (f) results. We also identified and coded individual survey items that addressed parent involvement in school ($n = 381$) based on the four categories examined in this review: *advocacy*, *collaborative partnership*, *home-school communication*, and *school-based participation*. If authors did not list individual items from parent involvement measures and we were not able to obtain them from published measures, we contacted authors via e-mail to request this information. To ensure agreement, two coders independently coded all 28 variables from 12 randomly selected studies (32.4%) and we came to consensus about any disagreements. Two coders also independently coded 159 (41.7%) of individual parent involvement items with a kappa of .81 across all four types of involvement, showing a high level

of agreement (Cicchetti et al., 2006).

Results

Study Selection

The process of identifying eligible studies is depicted in Figure 1. Through the search process, we identified a total of 1,061 studies to be screened. During the abstract screening process, we excluded 669 records, leaving 392 studies to be screened for eligibility criteria using full-text. At this level, we excluded an additional 355 full-text articles because they did not meet one of the following inclusion criteria: (a) population, (b) outcome, or (c) study design (see Figure 1). This resulted in a total of 37 studies that met all inclusion criteria.

Description of Studies and Quality

The 37 studies that fit inclusion criteria were all published after 2000, with over half of the studies (64.9%, $n = 24$) published in the last five years (i.e., 2013-2017; see Table 2). Further, seven (18.9%) of the included studies were published in 2017. Sample sizes were highly variable, ranging from 21 participants to 1,380 participants (median = 99), with a total of 6,343 parents of children with ASD included in this review. Studies were conducted by many research groups across countries and regions, with the highest proportion in the United States (51.4%; $n = 19$). Only five research groups had more than one study included in the review; thus, results represent research conducted by many different research groups reporting the perceptions of a large number of global parent respondents.

Design. The large majority of studies in this review (89.2%; $n = 33$) featured cross-sectional designs (see Table 2), while the remaining four studies used longitudinal data. Participant samples mostly reflected samples of convenience (89.2%; $n = 33$) recruited from schools and clinics, service providers, autism organizations, autism databases, and parent support

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groups. Four studies used random sampling to some degree. However, only two of these samples were considered to be nationally representative, and both were conducted in the US (Wei et al., 2014; Zablotzky et al., 2012). Further, response rates for included studies ranged from 20%-100%, and were not reported in almost half ($n = 18$; 48.6%) of studies. Eight of these studies reported not being able to provide response rates due to methods used for online surveys.

Parent characteristics. Studies generally included limited information on the primary respondents' (i.e., parent or caregiver) characteristics. Four studies did not report any type of coded information about the parent respondents who completed the survey, and seven additional studies only included information about one parent characteristic (i.e., age, race, gender/role, education, or household type). See Table 3 for the total number of studies reporting on each coded parent characteristic.

Across the 21 studies that reported on respondent role-- the most commonly reported parent characteristic-- an average of 75.9% of participants identified as mothers. Thus, other than studies that intentionally included mother-father dyads (e.g., Hartley & Schultz, 2015) or fathers (e.g., Potter, 2017), the large majority of respondents in these studies were mothers only. While only approximately half of studies reported on type of household (i.e., 2-parent household), on average, the percentage of respondents who were married or living in a 2-parent household was 79.9%. Of the limited number of studies that reported the age of respondents ($n = 13$), they were, on average, 40.6 years old.

In terms of sample diversity, only about half of the included studies reported on participant race or ethnicity. Given the international nature of this review, participants of included studies ranged from 0-100% White. However, eight of these 20 studies (40%) reported that 80% or more of participants were White, indicating limited diversity in this sample. Studies

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reported on income or socio-economic status (SES) in a variety of ways, including mean annual income category (e.g., \$80-90,000; Benson, 2015), percentage “lower class” SES (e.g., 55%; Renty & Roeyers, 2006), and percentages at different income categories (e.g., 77% annual income \$45,000 or less; Azad et al., 2016). However, a third of studies did not provide any information on parent income and race/ethnicity at all. Similarly, almost half of studies ($n = 17$) did not provide any information on the parent respondent’s level of education, which may be used as a proxy for SES. Of those that did, an average of 31% of participants completed high school or less.

Child characteristics. The child characteristic reported most often, in 75.7% of studies, was child age. The 23 studies that specifically reported child mean age averaged 9.2 years across studies. Reported age ranges included the full span from 2 years old to 24 years old. Other than child age, authors did not consistently report comprehensive information about child participants; six studies (16.2%) did not report information on any child characteristics coded for this review relating to age, diagnosis, or level of need/severity.

In all 37 studies, the child ASD diagnosis was self-reported by parent respondents. This diagnosis was confirmed with a standardized measure in seven studies (18.9%), most frequently using the Autism Diagnostic and Observation Schedule (ADOS; $n = 4$). Only 13.5% reported information on age of diagnosis, which may be considered an indicator of autism severity (Mandell, Novak, & Zubritsky, 2005). These five studies, published since 2006, reported a mean age of diagnosis of 5.6 years. Other coded information on child characteristics that similarly related to the level of functioning of the child with ASD (i.e., cognitive ability, language ability, and school/class placement) were also not reported consistently across studies (see Table 3).

Parent Involvement

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Of the 37 studies included in this review, 43.2% ($n = 16$) included a type of parent involvement directly in the research question (see Table 4). Other studies' primary research questions most often related to school service delivery ($n = 9$), support needs ($n = 4$), stress and family functioning ($n = 3$), and expected child outcomes ($n = 2$).

Measures. As shown in Table 2, researchers measured parent involvement using a range of items and measures. A total of 12 existing measures were used, but only four were included in multiple studies. The *Family Needs Questionnaire* (FNQ; Kreutzer, Complair, & Waaland, 1998) was used most commonly, in four studies. The *Family-Professional Partnership Scale* (Summers et al., 2005) was used in three studies, and the *Parent-Teacher Involvement Questionnaire* (PTIQ; Corrigan, 2002) and *Family Involvement Questionnaire- Elementary* (FIQ-E; Fantuzzo, Tighe, & Childs, 2000; Manz et al., 2004) were each used in two studies. However, these existing measures were often not originally created or validated for this population, but were modified to fit the respondents (i.e., parents of children with ASD) for which they were used in these studies.

The remaining 19 studies used researcher-created measures or items, sometimes referencing other questionnaires from the literature that were adapted or combined (see Table 2). Although most measures used in the included studies were being piloted or were modified from the original version to fit this population, only 56% ($n = 21$) of studies reported information on reliability for the study sample. However, all Cronbach's alphas that were reported were in an acceptable range (0.69 - 0.98). One study reported slightly lower internal consistency of 0.60 for a sub-scale (Bush et al. 2017), but provided a rationale.

Beyond the number of different measures used, studies assessed parent perceptions related to many different "dimensions" of parent involvement (e.g., presence, frequency,

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importance, satisfaction). Further, even when similar “dimensions” were addressed across studies, measures included widely varying scales. For example, seven studies asked parents to report on the frequency of their involvement with school, but this dimension was rated in seven different ways. A response of *1* represented *never, none, as needed, rarely, rare/once a year or less, or daily*. The highest score on the Likert-type scale represented *daily basis* (5; Ivey, 2004), *frequent/daily* (5; Hesse et al., 2013), *several days a week*, (3; Tucker & Schwartz, 2013), *frequent/daily/once a week* (3; Rattaz et al., 2014); *less than 2 times per month* (4; Spann, Kohler, & Soenksen, 2003), and *always* (4; Benson, 2015). Similar inconsistencies in scale were seen across all dimensions that were used in more than one study.

Parent Involvement Types

Across all included studies, studies contained from 1 to 48 items that fit the four parent involvement types, with 381 items total. Four studies included only one item relating to parent involvement with school, with a median of five parent involvement items per study. Looking more closely at the individual involvement items, they were distributed across types, with the highest percentage of items (36.7%; $n = 140$) addressing *home-school communication* closely followed by *collaborative partnership* (35.4%; $n = 135$). Items addressing school-based participation and advocacy were less often included (14.7% and 13.1% of items, respectively).

Within and across studies, authors addressed a variety of involvement types. From most to least frequently addressed across studies, they included: *home-school communication* (81.0% of studies; $n = 30$), *collaborative partnership* (59.5%; $n = 22$), *advocacy* (43.2%; $n = 16$), and *school-based participation* (37.8%; $n = 14$). On average, authors addressed two types of involvement per study. Only one study in this review addressed all four types of parent involvement with the school (Starr, 2001), but almost a third of studies ($n = 12$) addressed three

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different types. These studies all included items on *home-school communication* but varied in the other types of involvement addressed. Thus, although six studies focused on only one type of involvement, the majority addressed a range of types of parent involvement, with *home-school communication* most frequently included.

Perceptions of Parent Involvement

For nine studies, information on parent involvement was reported only descriptively, without identifying its relation to other variables. In ten studies, parent involvement was included as a predictor variable for outcomes such as parent stress and school services. Two of these studies included types of parent involvement as both predictor variables and as outcomes. Therefore, in 20 studies (54.1%), authors either analyzed differences in parent involvement by group membership or predicted the outcome of parent involvement based on a range of child and parent demographics.

Descriptive findings. The nine studies that reported only descriptive information about parent involvement presented varying, but not contradictory results (see Table 4). Across studies there were reports of the presence of parent involvement relating to decision-making, IEPs, communication, collaboration, and the educational process. In addition, parent involvement was considered to be important and, in some studies (e.g., Syrioupoulou-Delli & Polychronopoulou, 2017) perceived positively. However, other studies reported parent stress regarding collaboration (Tissot & Evans, 2006), conflict around the IEP process (Tucker & Schwartz, 2013), and varying levels of satisfaction (Tissot & Evans, 2006).

Parent involvement as predictor variable. The ten studies that included parent involvement as a predictor variable addressed a wide range of outcomes, but significant findings across most studies demonstrated the benefit of parent involvement in special education for

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parents of children with ASD. In terms of the IEP and education, higher satisfaction with school services (and lower use of safeguards) was significantly related to greater involvement (Burke & Goldman, 2015; LaBarbera, 2017; Renty & Roeyers, 2006; Slade et al., 2017), particularly in the form of partnership. Findings across three studies indicated that parent involvement was negatively associated with parent stress, with home-school communication also positively correlating with parenting efficacy (Benson, 2015). Although Hsiao and colleagues (2017) did not find that partnership had a direct effect on parent stress, they did find a significant, positive effect of partnership on family quality of life. In other studies, parent involvement was not a significant predictor of outcomes such as: sibling adjustment (Hesse et al., 2013), family cohesion (Benson, 2015), or parent educational expectations (Bush et al., 2017). Additionally, Burke and Goldman (2015) found that higher levels of advocacy were associated with a greater likelihood of using procedural safeguards (i.e., mediation or due process) to resolve conflict.

Parent involvement as outcome. The 20 studies that included parent involvement as a dependent variable addressed a range of research questions relating to support needs, school services, and parent involvement. The most commonly analyzed moderators or predictor variables of parent involvement included child age, child diagnosis, and parent education (in 8, 5, and 5 studies, respectively).

Most findings relating to the age of the child with ASD indicated a significant negative correlation between child age and parent involvement. In general, parents reported lower levels of involvement or satisfaction with types of involvement, such as participating in IEP development, as children got older. However, child age was positively correlated with parent reported involvement in the IEP development process (Rattaz et al., 2014) and in the likelihood of enacting procedural safeguards (i.e., mediation or due process; Burke & Goldman, 2015).

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Thus, the relation between parent advocacy and age may differ from other types of parent involvement, such as partnership.

Relatedly, there were some mixed findings when the responses of parents of children with ASD were compared to respondents who were parents of children with other disabilities or without disabilities. Parents of children with ASD were more likely to be involved in school issues and advocacy (Kandari et al., 2010), such as having their goals included in their child's IEP (Starr et al., 2006), and were less likely to be satisfied (Zablotsky et al., 2012). However, three studies did not find significant differences related to the child's diagnosis and parent involvement in the forms of collaboration (Starr et al., 2006) and other types of advocacy (Parsons et al., 2009) when comparing ASD and non-ASD groups.

In terms of variables related to parent characteristics, results relating to parent income were generally not significant. However, one study by Potter and colleagues (2017), which focused specifically on fathers, did find that fathers with a higher level of education were more likely to attend meetings at school. Because other correlates of parent involvement were inconsistent across studies, further synthesis of results across studies was not possible.

Discussion

Parent involvement at school, particularly for parents of students with ASD, is highly valuable and important (Russa et al., 2015). In this systematic literature review, we synthesized the existing literature on the perceptions of parents of children with ASD on four different types of school involvement. We identified five main findings.

First, this research topic seems to have gained momentum in recent years. We identified 37 studies that fit our inclusion criteria, and more than half of these studies were published between 2013- 2017, with almost 20% published in the last year. Further, no studies on this topic

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for students with ASD were published prior to 2001. Although delayed, this is, however, consistent with the general trend of increasing research on ASD over time. Relative to other comparable research fields, there has been a rapid rise in publication rates on this population since the year 2000, possibly due to increases in research funding and the establishment of centers of excellence in autism research (Interagency Autism Coordinating Committee, 2012). As demonstrated through this review, more high-quality research is still needed in this area in the coming years to further increase our understanding of perceptions of parent involvement for children with ASD.

Unfortunately, despite the recent increase in the number of studies published on this topic, the quality of included studies was poor. The large majority of studies in this review used samples of convenience without addressing representativeness of the sample. Authors reported generally low response rates, generating even greater concerns about the representativeness of the samples included in this review. When addressing respondent characteristics, authors failed to report comprehensive information about relevant characteristic such as race/ethnicity and SES, which may be used to determine the representativeness of the sample. Similar to parent characteristics, authors did not consistently report information regarding the severity of the child's autism. Because ASD is identified on a spectrum of core characteristics, understanding whether these children might represent a certain subset of children with ASD is important in this body of literature. For example, children with intellectual disabilities (ID) are underrepresented in the literature on ASD (Dykens & Lense, 2011). However, children with more severe autism or comorbid diagnoses, such as ID, have more intense needs and are more likely to exhibit challenging behaviors (Matson & Shoemaker, 2009). Parents of these children also experience greater levels of stress (Lecavalier, Leone, & Wiltz, 2006), and may have difficulty balancing

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other responsibilities with the child's high level of need (Benson et al., 2008). Given this missing information, in addition to the samples of convenience utilized, it is difficult to make statements about how findings apply to the greater population of parents of children with ASD who do represent all racial, ethnic, and socioeconomic groups (Baio, 2014) and levels of severity.

Despite concerns about study quality, we were able to identify the types of school involvement addressed in this recent body of literature. Overall, studies addressed all four types of involvement from the special education and general education literature: *home-school communication, advocacy, collaborative partnership* and *school-based participation*, with *home-school communication* most often included (81% of studies). With communication deficits being a defining characteristic of ASD, clear parent-school communication may be even more vital for these parents and students than it is for others (Azad et al., 2016). However, our findings also indicate that at least some studies considered the more "general education" types of school-based participation like volunteering and attending school events. Therefore, these studies promote a broader understanding of parent involvement in school for students with ASD. It is important to consider all types of involvement for parents of children with ASD beyond those that relate to parent advocacy and IEP meetings (Author, 2012; Authors, 2017), and this body of research is beginning to do so.

However, the measures used in the included studies to address the four types of parent involvement were quite varied and based on a range of theoretical and practical perspectives. Only three validated measures were shared across multiple studies; other established measures used in these surveys were mostly created for different populations (e.g., children with traumatic brain injury) and then modified for parents of children with ASD. Further, authors did not report statistics regarding the internal consistency of modified measures for the study samples. Also,

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studies included a wide range of involvement items, from only 1 item to 48 items that addressed from one to four of the different types of parent involvement. Beyond the number of items, the studies included in this review also measured parent involvement across many different dimensions, using inconsistent scales. This highlights the need for a validated, accepted measure of parent involvement for parents of children with ASD. Self-report of this construct is important in understanding how parents themselves perceive their involvement (Brookman-Frazee, 2004), but more consistency in the field is needed so that findings can be synthesized and interpreted across studies.

Despite the variability in measures used across studies, we were able to descriptively identify some common findings across studies. In general, higher levels of involvement were related to positive parent outcomes such as satisfaction and efficacy. When parent involvement was included as an outcome, the association with child age was most frequently analyzed, indicating lower levels of involvement as children with ASD got older. This highlights the need for additional research on parent involvement during the school-age years, beyond what we already know about the importance of parent involvement in early intervention for children with ASD (National Research Council, 2001). There is a need to better understand why parent involvement decreases over time and whether parents of older children prefer greater involvement than they experience. However, some findings indicated potential differences across the different types of involvement as children age. For example, an increased likelihood of enacting procedural safeguards was positively related to child age. Therefore, although it is promising that multiple types of involvement are being addressed within studies, findings are complex and the different types of involvement should be carefully considered when designing and conducting studies.

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Implication for Research, Policy, and Practice

Future research should continue to build on the literature identified in this review in several ways. First, higher quality studies are needed to better understand parent perceptions of involvement for this population. The large majority of studies included in this review were cross-sectional. Therefore, findings, such as those regarding differences in child age, must be interpreted with caution. It is likely that parent involvement activity and frequency change over time for children with ASD for a variety of reasons, but additional longitudinal studies are needed so that we can better understand when and why these changes happen.

Additionally, in terms of reporting, researchers need to provide more comprehensive information on child and parent characteristics. Such information is necessary to make statements about the representativeness of the sample and to understand the relations between these characteristics and parent involvement in school, as has been supported in the general education literature. This has been identified as a common problem across multiple reviews (McLaughlin et al., 2012; Patterson et al., 2011) but does not seem to be improving in more recent publications. In order for the field to move forward in understanding parent perceptions of involvement, authors must be thoughtful and thorough in reporting relevant information on parent and child characteristics that may theoretically relate to parent involvement.

Further, more consistency is needed across the field, with researchers concentrating greater attention on replicating each other's findings or using common measure or scales (Turnbull & Turnbull, 2002). One of only two measures used in three or more studies in this review, the *Family-Professional Partnership Scale* (Summers et al., 2005) was designed specifically to address partnership for families of children with disabilities. In these three studies, researchers slightly modified the wording of the measure to be more specific to parent

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perceptions of the child's teacher or IEP team. All three studies presented Cronbach's alphas for the study sample that indicated high levels of internal consistency for parents of school-age children with ASD. Therefore, this may be a measure of partnership that should be more consistently utilized across surveys. Another measure, the *Family Involvement Questionnaire* (Fantuzzo, Tighe, & Childs, 2000), was found in the literature on general education parent involvement, and modified to fit parents of children with ASD (Benson, 2015). This measure, which includes three types of involvement from the general education literature (school-based, home-based, and home-school communication), may be more comprehensive in addressing parent involvement for parents of children with ASD. However, additional research is needed to further analyze the psychometric properties of this measure before recommending it as a valid and reliable measure of educational involvement for this population.

Finally, although a range of dimensions and types of parent involvement were identified in this body of literature, more targeted research is needed to better understand these parent perceptions and make recommendations for policy and practice. For example, beyond the self-reported frequency of involvement, do parents desire to be more involved than they currently are? How should schools promote and encourage parent involvement? How does this differ across culture, countries, and educational settings? Parents of children with ASD experience high levels of stress (Benson, 2015) and spend much of their time and resources on caretaking and service coordination (Brown et al., 2012). Some parents may not actually desire to be more involved with their child's school in traditional ways, although they may be expected to act as accountability mechanism for the school. It is necessary to develop a better understanding of what parents of children with ASD want and need in terms of all types of school involvement by conducting more qualitative and quantitative studies that directly address these research

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questions so that research-based recommendations for policy and practice can be made.

Limitations and Conclusion

This literature review has some limitations that should be addressed. First, we chose not to limit our studies to those conducted only in the US. Although we were able to conduct a systematic review and identify all eligible studies globally, this decision introduced some variability in parent and educational characteristics. For example, special education law, as well as the types of school placements and services offered vary greatly depending on the country. Additionally, demographic characteristics such as race/ethnicity and definitions of low-income or SES categories are defined differently across countries. Though we preferred to conduct a comprehensive review, this decision may have complicated some of the interpretations and synthesis of results. Additionally, due to the low quality of included studies, including measurement and reporting procedures, we were unable to present a quantitative synthesis of findings across studies. Finally, the four types of parent involvement that we included in this review were not based on an established theoretical model of school involvement for these parents. However, we found that these four major types of parent involvement, including those more often focused on in the general education literature, were all addressed in the included studies. Findings generally indicated positive outcomes associated with parent involvement types, such as partnership and communication. However, the relations between variables across other involvement types, such as parent advocacy, may vary. As the prevalence of ASD continues to rise, it is important to address parent involvement in school for this population of students. This is an area that requires additional, high-quality research to understand how this important responsibility functions specifically for parents of children with ASD.

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Table 1

Final Search Terms

Level	Criteria	Terms
Abstract	Population	(autis* OR ASD OR "autis* spectrum disorder" OR "autis* spectrum" OR PDD OR "Pervasive Developmental Disorder*" OR Asperger* OR HFA OR "high functioning autism") AND (child* OR student*) AND (parent* OR caregiver*)
Full-text	Participant	AND ("school age*" OR "school-age*" OR "elementary school" OR elementary-school OR pre-school OR preschool OR pre-k OR "Part B" OR high-school OR "high school" OR middle-school OR "middle school" OR school OR "special ed*" OR IEP OR "individualized education* program*" OR "individualized education* plan*")
	Design	AND (descriptive OR survey* OR questionnaire* OR "self-report" OR "self report" OR perspective* OR perception*)
	Outcome	AND ("parent* involvement" NEAR/4 school OR "school involvement" NEAR/4 parent OR "parent* participation" NEAR/4 school OR collaborat* NEAR/4 parent* OR partner* NEAR/4 parent* OR partner* NEAR/4 home OR communicat* NEAR/4 parent OR communicate* NEAR/4 home)

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Table 2

Study Characteristics

Author (Year)	<i>N</i>	Country (State/ Region)	Data type	Sampling procedure	Data collection method	Response rate	Parent involvement measure	Cronbach's alpha
Azad, Kim, Marcus, Mandell, & Sheridan (2016)	39	US	C-S	Convenience	Paper survey and observation	85%	Items from <i>Parent Participation in Problem Solving</i> (Sheridan et al., 2013)	0.88 ^c
Benson (2015)	113	US (MA)	L	Convenience	---	---	Modified version of <i>Family Involvement Questionnaire</i> (FIQ; Fantuzzo, Tighe, & Childs, 2000)	0.74 - 0.86 ^c
Brown, Oullette- Kuntz, Hunter, Kelly, & Cobigo (2012)	101	Canada (Ontario)	C-S	Convenience	Paper survey and phone interview	20%	Modified version of <i>Family Needs Questionnaire</i> (FNQ; Waaland et al., 1993)	0.92
Burke & Goldman (2015)	507	US	C-S	Convenience	Online survey	---	<i>Family-Professional Partnership Scale</i> (Summers <i>et al.</i> , 2005) modified for IEP team	0.95 ^b , 0.94 ^b
							Researcher created <i>Special Education Rights and Advocacy Scale</i>	0.83
Burke, Magaña, Garcia, & Mello (2016)	32	US	L	Convenience	Paper survey	80%	<i>Family-Professional Partnership Scale</i> (Summers <i>et al.</i> , 2005)	0.92 ^b , 0.95 ^b
							Researcher created school- home communication scale	0.87

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Bush, Cohen, Eisenhower, & Blacher (2017)	121	US (Northeast and CA)	C-S	Convenience	Paper survey and interview	---	Modified version of <i>Parent-Teacher Involvement Questionnaire: Parent</i> (PTIQ-P; Corrigan, 2002; NICHD, 2005)	0.60 ^b , 0.94 ^b
Callahan, Henson, & Cowan (2008)	95	US (Southwest)	C-S	Convenience	Paper survey	58% ^a	Researcher created	0.79 - 0.89
Garbacz, McIntyre, & Santiago (2016)	31	US (Northwest)	L	Convenience	Paper survey and in-home interview	86%	<i>Parent-Teacher Relationship Scale II</i> (Vickers & Minke, 1995) <i>FIQ-E</i> (Manz et al., 2004)	0.69 0.94
Hartley & Schultz (2015)	73	US (Midwest)	C-S	Convenience	Paper survey and in-person interview	---	Modified version of FNQ (Waland et al., 1993)	----
Hesse, Danko, & Budd (2013)	200	International	C-S	Convenience	Online survey	---	<i>Parent Involvement Questionnaire- Parent Version</i> (Solish & Perry, 2008), adapted	0.83
Hodgetts, Nicholas, Zwaigenbaum, & McConnell (2013)	113	Canada (Alberta)	C-S	Stratified random sampling + snowball sampling	Paper survey	32%	<i>Measure of Processes of Care</i> (MPOC-20; King, Rosenbaum, & King, 1998)	0.63 - 0.92 ^c
Hodgetts, Zwaigenbaum, & Nicholas (2015)	143	Canada (Alberta)	C-S	Stratified random sampling + snowball sampling	Paper survey	32%	<i>Family Needs Survey-Revised</i> (Bailey & Simeonsson, 1990)	---
Hsiao, Higgins, Pierce, Whitby, & Tandy (2017)	236	US (South)	C-S	Convenience	Online survey	---	<i>Family-Professional Partnership Scale</i> (Summers et al., 2005)	0.98
Ivey (2004)	25	US (Midwest)	C-S	Convenience	---	46%	Researcher created, adapted from Mutua (1999)	0.91

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Jabery, Arabiat, Khamra, Betawi, & Jabbar (2014)	60	Jordan	C-S	Convenience	Paper survey	100%	Reframed from Starr et al. (2006), Whitaker (2007), and Kohler (1999)	0.82
Johnson & Simpson (2013)	261	US	C-S	Convenience	Online survey	---	<i>Parenting Stress Scale: Autism</i> (Phetrasuwan & Miles, 2009)	0.94
Kandari & Qashan (2010)	21	Kuwait	C-S	Convenience	Paper survey	---	Arabic version of the <i>Caregiver Self-Efficacy Scale</i> (Kandari, 2005)	0.92
Kiami & Goodgold (2017)	70	US (MA)	C-S	Convenience	Paper survey	24%	Modified version of FNQ (Waland et al., 1993)	0.78 - 0.89 ^c
Krakovich, McGrew, Yu, & Ruble (2016)	79	US (Midwest)	C-S	Convenience with random assignment	Paper survey	---	<i>Parent-Teacher Alliance Questionnaire</i> , adapted from <i>Parenting Alliance Inventory</i> (Abidin & Bruner, 1995)	0.95
LaBarbera (2017)	28	US	C-S	Convenience	Online survey	---	Researcher created	0.86
Mujkanovic, Memisevic, Mujkanovic, Zecic, & Biscevic (2016)	98	Bosnia & Herzegovina	C-S	Convenience	Paper survey	82%	Researcher created	---
Parsons, Lewis, & Ellins (2009)	66	UK	C-S	Convenience	Online survey	---	Researcher created	---
Potter (2017)	306	UK	C-S	Convenience	Online survey	---	Adapted items from MPOC-20 (King et al., 1998), Inventory of Father Involvement (Hawkins et al., 2002), and Brief COPE Schedule (Carver, 1997)	---
Rattaz et al. (2014)	158	France	C-S	Convenience	Paper survey	41%	Researcher created based on Bitterman et al. (2008),	---

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								Doherty et al. (2000), Kohler (1999), Renty & Roeyers (2006), Spann et al. (2003), and Sperry et al. (1999)	
Renty & Roeyers (2006)	244	Belgium	C-S	Convenience	---	---	Researcher created based on Nesbitt (2000), Sperry et al. (1999), and Westling (1996)	---	
Siklos & Kerns (2006)	56	Canada (BC)	C-S	Convenience	Paper survey	20%	Modified version of FNQ (Waland et al., 1993)	0.90	
Slade, Eisenhower, Carter, & Blacher (2017)	142	US (CA & MA)	C-S	Convenience	Paper survey and interview	---	Modified version of PTIQ-P (Corrigan, 2002; NICHD, 2005)	----	
Spann, Kohler, & Soenksen (2003)	45	US (Midwest)	C-S	Convenience	Phone survey	79%	Modification of Kohler (1999) questionnaire	---	
Starr, Foy, & Cramer (2001)	69	Canada (Ontario)	C-S	Convenience	Paper survey	---	Researcher created	0.88 ^b	
Starr, Foy, Cramer, & Singh (2006)	144	Canada (Ontario)	C-S	Convenience	Paper survey	91%	Refinement of survey from Starr, Foy, and Cramer (2001) pilot study	---	
Syriopoulou-Delli, Cassimos, & Polychronopoulou (2016)	50	Greece	C-S	Convenience with random sampling	Paper survey	50%	Researcher created based on Benson et al. (2008), Georgiou (2000), Kozyva (2009) and Zablotsky et al. (2012)	0.85	
Syriopoulou-Delli & Polychronopoulou (2017)	50	Greece	C-S	Convenience with random sampling	Paper survey	50%	Researcher created based on Benson (2008), Georgiou (2000), Kozyva (2009) and Zablotsky et al. (2012)	0.73	
Tissot & Evans (2006)	738	UK	C-S	Convenience	Paper survey	34%	Researcher created	---	

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Tucker & Schwartz (2013)	135	US (WA)	C-S	Convenience	Online survey	---	Researcher created	---
Wei, Wagner, Christiano, Shatuck, & Yu (2014)	1,380	US	L	Stratified random sampling (nationally representative)	Paper survey and phone interview	---	Multiple sources across 3 datasets	---
Whitaker (2007)	172	UK	C-S	Convenience	Paper survey	49%	Researcher-created from Chell (2006) focus group and National Autistic Society studies (Barnard et al., 2000)	---
Zablotsky, Boswell, & Smith (2012)	142	US	C-S	Cluster random sampling (nationally representative)	Phone interview	---	Developed by the National Center for Education Statistics	---

Note. BC = British Columbia; C-S = Cross-sectional; L = longitudinal; LEA = local education agency; UK = United Kingdom; --- = not reported.

^a Includes parent, teacher, and administrator respondent information.

^b Cronbach's alpha for subscales.

^c Cronbach's alpha from standardization sample, not study sample.

Table 3

Parent and Child Characteristics

Characteristic	% (n) of studies reporting	Average across reporting studies	Range across reporting studies
Parent			
Role (mothers only)	56.8% (21)	75.9%	0% - 100%
Age (years)	35.1% (13)	40.6	34.9 - 49.0
Household type (married or 2-parent)	48.6% (18)	79.9%	36% - 100%
Race (White)	54.1% (20)	67.9.0%	0% - 95%
Education (HS grad or less)	54.1% (20)	31.0%	5% - 65%
Income (annual household)	51.4% (19)	---	---
Child			
Age (years)	75.7% (28)	9.2	5.7 – 12.0
Age of dx (years)	13.5% (5)	5.6	3.3 – 10.5
ASD sub-types	32.4% (12)	---	---
Cognitive ability (ID)	21.6% (8)	44%	6% - 100%
Language ability (nonverbal)	27.0% (10)	36.8%	20% - 58%
School placement (public school)	37.8% (14)	70.4%	0% - 100%
Class placement (partial or full inclusion)	27.0% (10)	57.2%	0% - 90%

Note. HS = high school; dx = diagnosis; ID = intellectual disability; --- = unable to calculate.

Table 4

Parent Involvement Variables and Results

First author (Year)	Research question topic	Parent Involvement			
		RQ	Variable	Outcome	Significant results
Studies with Parent Involvement as Predictor Variable					
Benson (2015)	Maternal educational involvement and family functioning	X	X	Parent stress	School-based involvement and home-school communication negatively correlated
				Parenting efficacy	Home-school communication positively correlated
				Family cohesion	ns
Hsiao (2017)	Parent stress, quality of life, and family- teacher partnership	X	X	Parent stress	ns
				Quality of life	Partnership had a direct effect on satisfaction with quality of life
Krakovich (2016)	Parent stress		X	Parent stress	Lower parent-teacher alliance associated with more stress (parent domain)
Renty (2006)	Support and education services		X	Satisfaction with support and education	Parent involvement positively correlated with satisfaction
Wei (2014)	Special education services		X	School service receipt	Parent involvement associated with lower odds of receiving OT and specialized computer programs, not sig. predictor of receiving other school services
Slade (2017)	Satisfaction with IEP process		X	Satisfaction with IEP	Parents with higher parent-school connectedness reported higher satisfaction
Bush (2017)	Parents educational expectations		X	Educational expectations	Higher expectations associated with more positive perceptions of parent-teacher relationship Not significant after controlling for other variables
Hesse (2013)	Sibling adjustment		X	Sibling adjustment	ns
Studies with Parent Involvement as Predictor Variable and Outcome					

Burke (2015)	Enacting procedural safeguards (i.e., mediation and due process)	X		X	Enactment of procedural safeguards more likely when: Lower partnership (family-focused subscale) More frequent advocacy Income >\$100,000 (versus \$15,000-49,999) More internalizing behavior Older children 0-20% inclusion (versus 81-100%)
LaBarbera (2017)	Teacher and caregiver perspectives of collaboration	X	Role (teacher vs. caregiver)	X	Differences in perceptions of educational practices, family-centered practices, and collaborative practice Parent more likely to rate satisfaction with collaboration highly when they perceived “my child’s teacher makes a conscious effort to hear and understand what I say”
Studies with Parent Involvement as Outcome					
Azad (2016)	Parent-teacher communication and problem solving	X	Observation versus self-report Role (teacher vs. parent)	X	Discrepancies between parent- and teacher-reported and observed problem solving/communication behavior
Burke (2016)	Effectiveness of parent advocacy training	X	Receipt of parent training (vs. control)	X	Intervention group participants reported higher family-focused partnership No differences between groups in parent-school communication
Potter (2017)	Father involvement	X	Education level	X	Fathers with less education less likely to attend meetings at school
Zablotsky (2012)	Parent involvement	X	Parent income # of children 2-parent household Immigrant status	X	ns Parents with 3+ children (vs. 1) less likely to be involved ns ns

			Parent education		ns
			Child age/grade		Parents of older children less likely to be involved in school and dissatisfied with the IEP
			Child diagnosis		Parents of children with ASD (vs. without disabilities and with other disabilities) associated with higher odds of school involvement and lower odds of satisfaction
			Child comorbid conditions		Decreased odds of being involved, dissatisfied with school, and dissatisfied with IEP for children with more comorbid disabilities
			Child gender		ns
			Child race		Parents of African American children less likely to be dissatisfied with the IEP (compared to parents of White children with ASD)
			Child school		Parents less likely to be dissatisfied with the IEP in larger vs. smaller schools
Garbacz (2016)	Family educational involvement and parent-teacher relationships	X	Maternal education	X	ns
			ASD symptoms		ns
			Child communication		Positive effect of child communication, sources of info, and service satisfaction on family involvement
			Total sources of information		
			Early childhood service satisfaction		
			Child hyperactivity		Negative effect of child hyperactivity and positive effect of eligibility satisfaction on parent-teacher relationship
			Education eligibility satisfaction		
Starr (2001)	Collaboration and classroom environment	X	Child age	X	Parents of 4-8 year olds vs. 14-19 year olds rated the education team more highly
			Child language ability		Parents of nonverbal (vs. verbal) children rated the education team more highly
			# of children with PDD		Parents of >1 child with PDD rated the team more highly
Mujkanovic (2016)	Satisfaction with child treatment	X	Maternal education	X	ns

	opportunities and maternal involvement	Child age		Mothers of preschool children (vs. elementary school) more likely to be satisfied with their involvement in IEP creation and implementation
Kandari (2010)	Maternal self-efficacy	Mother age	X	ns
		Child age		ns
		Child gender		ns
		Child disability		ASD > ID in school issues and advocacy
Hartley (2015)	Support needs	Role (mother vs. father)	X	ns
Siklos (2006)	Support needs	Diagnosis (ASD vs. DS)	X	ns
Hodgetts (2013)	Family-centered care (FCC)	Service type	X	ns
		Child age		Parents of preschool children reported higher FCC than parents of school-age children
		Respondent role		Parents rated receiving levels of respectful care higher than professionals self-ratings
Johnson (2013)	Stress and family functioning	Marital status	X	ns
		Participating partner		ns
Callahan (2008)	School program components	Respondent role	X	Parents rated collaboration items as more important than administrators
Starr (2006)	Child Education	Diagnosis (Autism, other ASD, DS, LD)	X	Parents of autism and other ASD (vs. DS and LD) more likely to have their goals included in the IEP ns for collaboration
Jabery (2014)	Service delivery	Parent education	X	ns
		SES		ns
		Child age		ns
		Child gender		ns
		Child language ability		ns
		Years in setting		ns
Parsons	Service	Diagnosis	X	ASD significantly more likely

(2009)	provision	(ASD vs. non-ASD)		to have the knowledge to make decisions No differences for knowing their rights and asking the school to make changes
Whitaker (2007)	Service provision	Parent satisfaction with support and education	X	Satisfied (vs. dissatisfied) parents reported better relationships with the school and felt more informed about their child's progress
Rattaz (2014)	SPED and care services	Child age	X	Parents of younger children had more frequent contact but were less likely to be involved with IEP development.
Studies with Parent Involvement Descriptive Information Only				
Spann (2003)	SPED services and involvement	X		Parents communicate with teachers frequently to share information and are moderately satisfied with the IEP process
Tissot (2006)	Educational service provision	X		Most parents reported receiving the service provision outcome they wanted, but with varying processes and levels of satisfaction. The majority worked together with the LEA to make decisions, but reported stress regarding this collaboration
Tucker (2013)	Collaboration and planning	X		High levels of involvement in child's educational process, variable participation in IEPs, and high conflict
Syriopoulou-Delli (2016)	Collaboration	X		Parents believe that communication and collaboration between parents and teachers is critical
Syriopoulou-Delli (2017)	Communication and collaboration	X		Frequent participation and communication reported, with positive perceptions of collaboration with teachers
Brown (2012)	Support needs			Parent involvement items included as important and unmet support needs
Kiami (2017)	Support needs			Parent involvement items included as important and unmet support needs
Hodgetts (2015)	Support needs			Some parents reported an unmet need relating to needing more time to talk with the child's teacher
Ivey (2004)	Likelihood and importance of child outcomes			Classroom involvement varied widely

Note. RQ = research question; ns = not significant; IEP = individualized education program; ASD = autism spectrum disorder; ID = Intellectual Disability; ns = not significant; OT = occupational therapy; DS = Down syndrome; PDD = pervasive developmental disorder; FCC = family-centered care; LD = learning disability; SES = socio-economic status; LEA = local education agency; SPED = special education.