Unheard Voices: Examining Factors Related to Student Participation During Individualized Education Program Meetings

By

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DEDICATION

To Angie, my OTL - Your patience, kindness, love, and support made this possible. I truly couldn't have done this without you. Thank you.

To Ben and Owen – My world. You amaze me every day. This is for you.

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CHAPTER 1

INTRODUCTION

As determined by the Individuals with Disabilities Education Act (IDEA, 2004), an Individualized Education Plan (IEP) is a written statement outlining educational services for each eligible student with a disability. This document must be developed, reviewed, and revised in an annual meeting (§ 300.324). A range of salient topics are covered during IEP meetings, from the student's classroom placement to learning supports to goals for the year ahead. In essence, the IEP is a roadmap, detailing a student's learning goals and outlining the supports and services that will help the student achieve those goals (Mereoiu, Abercrombie, & Murray, 2016). Considering the IEP is all about the student, one would surely think the student plays a large role in these crucial IEP meetings. Unfortunately, this is not always the case (deFur, Getzel, & Kregel, 1994; Williams & O'Leary, 2000).

While IDEA does require certain people to attend the IEP meeting (i.e., the IEP team), surprisingly, the student is not one of them. The IEP team is largely comprised of school personnel, including special education teacher(s), general education teacher(s), a local education agency (LEA) representative, and relevant related service providers, such as speech pathologists and/or occupational therapists. In the most recent reauthorization of IDEA (2004), parents are also listed as required IEP team members. IDEA does mention student attendance at the meeting, insisting that transition-aged students (students aged 16 and older) are required to be *invited* to attend their IEP meeting. Otherwise, IDEA is vague on this topic, only noting that students should attend whenever appropriate (§300.321[a]).

Perhaps because IDEA does not mandate — or even offer much guidance on — student attendance at IEP meetings, students are often not fully included in this important planning meeting (Test et al., 2004). This is unfortunate, since existing literature has shown several benefits to student participation in the IEP process (Barnard-Brak & Lechtenberger, 2010; Benz, Lindstrom, & Yovanoff, 2000; Martin et al., 2006). To address this problem, several interventions have been designed to boost student attendance and participation during IEP meetings. To provide a comprehensive look at student attendance and participation during IEP meetings and a context for the current study, I review this body of research prior to outlining the methodology of the current study.

A Review of the Literature

The literature surrounding student attendance and participation during IEP meetings primarily falls into three groups: (1) descriptive studies reporting rates of student attendance and participation; (2) the benefits of student participation; and (3) interventions used to influence student participation during IEP meetings. I begin by reviewing these three primary groups of studies. Next, I outline two studies that have examined predictors of student participation during IEP meetings. Finally, a summary of the literature is provided before I present the research questions that drive the current study.

Rates of Student Attendance and Participation during IEP Meetings. The literature is mixed on student attendance and participation during IEP meetings, with a wide-range of attendance and participation rates being reported. While existing studies do provide us with valuable information, most focus on only one age group (e.g., high school students) or students

with select disabilities (e.g., students with autism). As a consequence, we are left to piece together information from various sources to get a comprehensive view of student attendance at IEP meetings across all school-aged children with disabilities.

The vast majority of studies on student attendance and participation report on transition-aged students (i.e., high school students), since these students (a) may be able to provide input about their academic and post-school plans and preferences (Test et al., 2004) and (b) are required by law to be invited to IEP meetings (if aged 16 and over; IDEA, 2004). Most studies paint a bleak picture of student attendance. Williams and O'Leary (2000) reported that approximately one-third of schools did not invite students to attend their IEP meetings. deFur, Getzel, and Kregel (1994) found that less than half of students aged 14 years and older attended their IEP meetings. Other studies, however, described findings that are more positive. Two studies in particular (Martin, Marshall, & Sale, 2004; Wagner, Newman, Cameto, Javitz, & Valdez, 2012) have reported attendance rates of over 70% for middle and high school students with disabilities.

Very few studies examined IEP attendance and participation for younger, elementary-aged students. Using data from the Special Education Elementary Longitudinal Study (SEELS), a large-scale survey study with waves of data collection occurring from 2000 – 2003, Barnard-Brak and Lechtenberger (2010) found that less than 50% of students aged 7- 12 years old attended their IEP meeting. However, this study failed to (a) report detailed participant demographics (i.e., percentage of students at each age) and (b) break down attendance by student age (year) or grade. Readers are left to wonder how much of the sample was comprised of older students (i.e., 12-year olds) and how this may have influenced the results.

Attendance rates and participation may also vary by student disability. Specifically, students with low-incidence disabilities may be less likely to attend and/or participate in educational planning meetings. In analyzing data from the first wave of the National Longitudinal Transition Survey – 2 (NLTS-2), Shogren and Plotner (2012) found that, compared to every other disability group, students with Autism Spectrum Disorder (ASD) were the least likely to attend their transition planning meetings. This study also found that, compared with students with other disabilities, students with either intellectual disability (ID) or ASD had significantly higher levels of no or limited participation in transition planning. Additionally, students with other disabilities (i.e., not ID or autism), were up to 5 times more likely to assume a leadership role in their transition planning meeting. Weidenthal and Kochlar-Bryant (2007) studied student attendance during IEP meetings of middle and high school students with specific learning disabilities. They found that the majority of these students were either "almost always present" (56%) or "frequently present" (30%) at their IEP meetings. However, this study's small sample of teacher reporters (n = 77) were all from one large suburban school district and, thus may not accurately reflect national trends.

Even when students do attend their IEP meetings, few are active participants (Powers et al., 2005; Thoma, Rogan, & Baker, 2001). As noted above, data from the first wave of the NLTS-2 showed that over half of transition-aged students with ID (57%) or ASD (67.3%) either did not attend their meeting or, if present, participated very little or not at all (Shogren & Plotner, 2012). Martin and colleagues (2006) observed over 100 educational planning meetings of high school students and found that, on average, students attending IEP meetings spoke only 3% of the meeting time. While student attendance at IEP meetings is critical, relevant participation should be the ultimate goal.

Benefits of Student Participation during IEP Meetings. Student participation in IEP meetings is linked to positive outcomes. Barnard-Brak and Lechtenberger (2010) found a significant, positive relationship between IEP participation and academic achievement in elementary aged students with disabilities. Benz, Lindstrom, and Yovanoff (2000) found that students who participated in transition planning during their IEP meetings exhibited a greater ability to set and accomplish goals. Additionally, students with disabilities who were active participants at IEP meetings had a better understanding and more positive views of the entire IEP process (Martin et al., 2006).

Student participation in IEP meetings has also been positively associated with the development of self-determination (Wehmeyer, 2005; Wehmeyer & Schwartz, 1997). Self-determination, or intentionally acting as one's own causal agent, can lead to such behaviors as self-monitoring, making choices, setting goals, and self-advocacy (Wehmeyer, 2005). Self-determination encompasses a particularly important skill set for adolescents, as these students are planning and preparing for their transition to post-school life. Adolescents who engage in self-determined behaviors are more likely to attain personal goals and demonstrate improved post-school outcomes (Stodden & Conway, 2002; Wehmeyer & Schwartz, 1997). Although participating in the IEP process can enhance self-determination skills, these skills are not innate and must be explicitly taught to students with disabilities (Martin, Marshall, & Sale, 2004). Participation in the IEP process provides an opportunity for students to actively engage in their academic planning, while developing and practicing self-determination skills and behaviors (Williams-Diehm, Wehmeyer, Palmer, Soukup, & Garner, 2008).

Interventions Used to Influence Student Participation during IEP Meetings. Several curricula have been designed to increase student participation during the IEP process. These

interventions are often promoted as tools to enhance both IEP participation and the development of self-determination for adolescent students. Though several such curricula exist, the *Self-Advocacy Strategy* and the *Self-Directed IEP* are two of the most well-known and oft-used self-advocacy curriculums.

Created by Van Reusen, Bos, Schumaker, and Deschler (1994), the *Self-Advocacy Strategy* is a published curriculum created to explicitly teach middle and high school students with disabilities how to actively participate in IEP meetings. Students are a taught to inventory their strengths, needs, goals, and preferences. Using mnemonic devices, students learn appropriate communication behaviors; self-determination skills, such as identifying and sharing preferences; and IEP-specific skills, such as naming goals and requesting learning supports. Skills are practiced in individual and group settings over the course of several weeks, leading up to an actual IEP meeting. Teachers can work with students to generalize skills and behaviors learned through the *Self-Advocacy Strategy* to settings beyond IEP meetings.

The *Self-Directed IEP* (Martin, Marshall, Maxson, & Jerman, 1996) aims to promote active student engagement in the IEP process. Students learn about the IEP process and the skills needed to actively participate in an IEP meeting. Skills include stating the purpose of the meeting, reviewing past goals and progress, stating new academic and transition goals, and stating support needed to achieve these goals. Skills are taught to students over 11 sequential 45-minute lessons. Lessons include a combination of direct instruction, video-modeling, and student workbook activities designed to provide students an opportunity to practice and apply skills learned in the lesson.

Although the *Self-Advocacy Strategy* and the *Self-Directed IEP* share many similarities, they ultimately conceptualize student participation in different ways. The *Self-Advocacy Strategy*

primarily considers participation to be the student providing input or sharing preferences about IEP content, such as courses the student would like to enroll in and/or goals the student would like to work on. On the other hand, the *Self-Directed IEP* considers participation to be the student conducting administrative-type tasks. These administrative IEP behaviors include such duties as introducing IEP team members and/or stating future IEP goals. While both notions of student participation do make sense, we are left to wonder if these are two separate types of student participation (i.e., student input and student IEP behavior) or if they are actually related and all fall under the umbrella of student participation.

Researchers have examined the effect of these self-advocacy curricula (and others) on student participation during IEP meetings. These curricula can increase both the quantity (Chambers, 1999; Lancaster et al., 2002 – IH; Lancaster et al., 2002 – LI; Martin et al., 2006; Meglemere, 2010; Royer, 2011; Uphold, 2008; Van Reusen, Deschler, & Schumaker, 1989) and quality of student participation (Cease-Cook et al., 2013; Cook, 2001; Kelley et al., 2011; Neale & Test, 2010; Test & Neale, 2004; Van Reusen & Bos, 1994). Although the vast majority of these intervention studies focused on high school students, one study (Neale & Test, 2010) demonstrated increased quality of contributions for students in 3rd and 4th grade. This shows that younger students, like older students, have the ability to meaningfully participate in IEP meetings if given the opportunity and the training.

Predictors of Student Attendance and Participation

Two sets of researchers have examined predictors of student attendance and participation during IEP meetings (Griffin, Taylor, Urbano, & Hodapp 2014; Wagner et al., 2012). Focusing

on children aged 11-19, Wagner and colleagues (2012) used data from the SEELS and NLTS-2 to identify predictors of student attendance and participation. Findings from this study suggested that the following variables predict student participation during IEP meetings: higher functional cognitive skills, higher social skills, age (older students participated), spending more time in general education, household income over $50,000, high parental expectations for post-school education, and academic support from parents in the home setting.

Griffin and colleagues (2014) also used NLTS-2 data to identify predictors of transition meeting attendance and participation for high-school students with ASD. The following variables significantly predicted attendance at transition meetings by students with ASD: higher expressive communication, greater percentage of time in general education, and more frequent discussions at home about post-school plans. Parental involvement at school was negatively associated with student attendance. In regard to student participation, Griffin and colleagues found that student IEP meeting participation was predicted by higher self-advocacy skills, greater percentage of time in general education, age, and more frequent discussions at home about post-school plans. Results were similar to those demonstrated in Wagner et al.'s (2012) study.

Findings from these two studies are important but somewhat ambiguous. Both studies analyzed extant data from the NLTS-2, which provided a large sample but limited the variables researchers were able to examine. Due to the way the NLTS-2 worded survey questions, both studies were limited to examining student participation as a dichotomous (yes/no) variable. Neither study was able to break down student participation to understand *how* students were participating -- neither study measured the extent to which students provided input, shared preferences, or engaged in types of participatory behaviors during meetings. Additionally, Griffin et al. (2014) and Wagner et al. (2012) did not consider parent-school partnership

variables as potential correlates to student attendance or participation. Yet the parents' relationship with school personnel would seem related to whether the student attends and/or meaningfully participates in the meeting.

Summary

Studies on student involvement in IEP meetings reveal several findings. First, many students with disabilities are not attending their IEP meetings. Even studies that paint the most promising pictures of student attendance (i.e., Martin, Marshall, & Sale, 2004), report attendance rates below 80%. Even in the most liberal of estimations, at least 1 in 5 students with disabilities are not attending their IEP meetings. Moreover when students do attend their meeting, most are not meaningfully participating (Martin et al., 2006; Shogren & Plotner, 2012).

Second, there are several benefits to student participation. Student participation in IEP meetings is positively linked to academic achievement (Barnard-Brak & Lechtenberger, 2010) and accomplishing goals (Benz, Lindstrom, & Yovanoff, 2000). Perhaps most importantly, student participation in IEP meetings is associated with the development of self-determination skills in adolescents with disabilities (Wehmeyer, 2005). Self-determination skills correspond to self-advocacy and the ability to set and accomplish goals. Although imperative for all students, these skills are particularly critical for adolescent students as they prepare for a post-school life that may include fewer supports than those previously available to them in the school setting (Bouck & Joshi, 2016; Sanford et al., 2011).

Third, from this literature review, we know that students can be taught the skills needed to successfully participate in IEP meetings. Self-advocacy curriculums can increase both the

quantity and quality of participation by students from elementary school through high school (Sanderson & Goldman, under review). This means that all students have the ability to meaningfully participate in IEP meetings if given the opportunity and the training.

Fourth, student participation has been defined and analyzed in several different ways. Some studies (Griffin et al., 2014; Wagner et al., 2012) have examined student participation as a yes/no variable. While this type of examination provides a general sense of whether students are participating, it fails to provide details as to how students are participating. Self-advocacy curriculums have attempted to outline student participation, with varying results. The *Self-Directed IEP* defines participation as the student performing administrative-type tasks (e.g., introductions, closing the meeting), while the *Self-Advocacy Strategy* focuses on the amount of input students provide about different aspects of their educational plan. However, we are left to wonder if these two types of participation (student IEP behaviors and student input) are actually separate concepts or all group together to form a single, unified construct of "student participation."

Finally, two studies (Griffin, 2014; Wagner et al., 2012) have examined predictors of student attendance and participation during IEP meetings. Both studies used the same database (NLTS-2) to examine this topic (Wagner et al. [2012] also used SEELS); however, Griffin et al. (2014) focused on high-school students with autism, while Wagner and colleagues (2012) examined middle and high-school students with a variety of disabilities. These studies had similar findings, both identifying percentage of time in general education, higher functional ability, and greater parent involvement at home as predictors to student participation.

Although these studies do shed light on student participation in IEP meetings, we must also recognize these studies' limitations. First, many of these studies were conducted several

years ago and/or use data that is several years old (i.e., the second wave of NLTS-2 data is from 2003) and collected before the 2004 reauthorization of IDEA. Compared to the previous (1997) authorization of IDEA, the 2004 reauthorization put a heavier emphasis on student participation in the transition planning portion of the IEP process (for students aged 16 and older). As such, these studies' rates of student attendance and participation may not reflect today's trends in special education. Second, most studies solely focus on secondary students. While some could argue that it is most important for these students to attend their IEP meetings to voice their post-school goals and preferences, we nevertheless need a comprehensive picture of student attendance and participation across all school-aged children with disabilities. Even younger, elementary-aged students can meaningfully participate in their IEP meetings (Neale & Test, 2010). Finally, although other studies have examined predictors of student attendance participation during IEP meetings (Griffin, 2014; Wagner, 2012), both used the second wave of NLTS-2 data from the 2003 school year. These two studies also measured student participation as a dichotomous variable, simply measuring if the student participated (yes/no). While these studies did examine a variety of potential predictors, neither considered the parent's relationship with the school as a potential predictor of student attendance or participation.

The current study is designed to attain a more complete picture of the correlates of student IEP attendance and participation. Specifically, this study will examine current trends in IEP meetings, providing educational stakeholders with an up-to-date evaluation of student attendance. Instead of only focusing on one particular age group, attendance rates will be reported for school-aged children aged 5 through 21 years. Rather than measuring participation as a binary yes/no variable, this study will get a more in-depth understanding of student participation during the IEP meeting. Using a participation measurement scale, this study

determined (a) the areas of the IEP meeting in which students are sharing their input and preferences and (b) the degree to which they are doing so. Student IEP behaviors were also measured to understand the extent of the student's leadership role in the meeting. Moreover, this study determined if the extent of student participation (i.e., the extent to which the student shares input and preferences) is related to the extent to which the student demonstrates student IEP behaviors. Finally, in addition to examining characteristics of the parent and student, variables related to the parent-school partnership were also analyzed as potential correlates to student attendance and student participation. Findings from this study will inform future intervention research on this topic, allowing researchers to (a) target students who may be less likely to attend or participate in IEP meetings and (b) design or modify interventions to meet the needs of particular student groups.

Research Questions

The following research questions guide this study: (1) What percentage of students with disabilities attend their IEP meetings? (2) To what extent do students who attend IEP meetings (a) engage in student-led IEP behaviors and (b) provide input related to their IEP? (3) To what extent are student-led IEP behaviors related to students providing input or preferences about IEP content during the IEP meeting? and (4) Which characteristics of the student, the parent, or the parent's relationship with school personnel relate to (a) student attendance at IEP meetings and (b) the extent of student participation during the IEP meeting? By examining the results of a national, web-based survey, this study provides insight into the degree of student attendance and participation at IEP meetings, as well as factors related to these topics.

CHAPTER 2

METHOD

Participants

Participants included 1,183 parents or legal guardians of school-aged children with disabilities (hereafter collectively referred to as "parents" or "parent respondents"). Participants were eligible if they were (a) 18 years or older and (b) the parent or legal guardian of at least one child with disabilities. At the time of their survey, their child must have (a) been between the ages of 5-21 years and (b) had a current IEP. Survey instructions stated that only one parent or legal guardian per family should participate. If the family had more than one child meeting the above criteria, the respondent was directed to answer survey questions about their oldest qualifying child only.

Respondents were primarily White, highly-educated, and female. Most respondents (80.4%) were married or in a domestic partnership. While the majority of respondents were biological parents, approximately 10% were adoptive parents. Parents ranged in age from 19 – 77 years, with a mean age of 44.14 years (*SD* = 8.73). The majority (68.9%) of respondents worked outside of the home; over one-third of employed respondents worked in the disability field. The median annual household income was $80,000 - $100,000. See Table 1 for detailed parent respondent demographics.

The children of respondents (i.e. students with disabilities) were largely male and ranged in age from 5 through 21 years, with a mean age of 11.75 years (*SD* = 4.09). Children were evenly dispersed across grade categories, with approximately 25% of children belonging to each

Table 1
Demographics of Parent Respondents

		Mean (SD)	*% (n)*	*Total N per variable*
Gender	Female		95.3% (1125)	1181
Parental Role	Biological Parent		87.3% (1033)	
	Adoptive Parent		9.8% (116)	
	Legal Guardian/Other		2.9% (34)	1183
Age in Years		44.14 (8.73)		
Age Categories	< 29		2.4% (28)	
	30-39		26.6% (311)	
	40-49		47.9% (560)	
	50-59		19.5% (228)	
	60+		3.7% (43)	1170
Ethnicity	Caucasian		87.4% (1031)	
	Latino/Hispanic		4.9% (58)	
	African American		4.2% (49)	
	Asian and Other		3.6% (42)	1180
Education	High School or Less		5.7% (67)	
	Some College		18.3% (216)	
	College Degree		36.0% (426)	
	Some Graduate School		7.0% (83)	
	Graduate School Degree		32.7% (387)	1179
Employment	Employed		68.9% (814)	
	Unemployed		31.1% (367)	1181
Marital Status	Married/ Domestic Partner		80.4% (951)	
	Single/Divorced/Widow		19.1% (226)	1177
Household Income	< $20,000		6.0% (69)	
	$20,001 - $50,000		16.9% (195)	
	$50,001-$80,000		20.7% (238)	
	$80,001 - $100,000		18.4% (212)	
	> $100,000		38.0% (438)	1152

*Please note that respondents were not required to answer every survey item; this resulted in varying *n* for each demographic variable.

category (i.e., K - 2, grades 3 - 5, grades 6 - 8, and grades 9 and over). The mean functional ability level, measured by the WeeFIM™, was 97.22 (*SD* = 21.83; on a scale of 17-119); for reference, the majority of students in this sample were able to eat and use the restroom without assistance. Approximately one-third of students had a behavior plan at school. Almost all children (97.1%) resided at home with their parent respondent. The most common disabilities included ASD, Speech and Language Impairment (SLI), and Specific Learning Disability (SLD; all above 30%). Please note that percentages in the disability categories do not add to 100% because respondents could select more than one disability category. See Table 2.

Procedures

This survey was developed based on student IEP participation literature (e.g., Martin, Marshall, & Sale, 2004; Martin et al., 2006; Test et al., 2004). An iterative process was used during development. After a preliminary draft was prepared, the survey was sent to members of my doctoral committee for review. Revisions were made according to committee members' feedback. Next, the survey was pilot tested by two individuals with a master's degree in special education. These individuals provided feedback regarding branching logic, wording of questions, and length of time to complete the survey. Revisions were made according to feedback from these pilot testers before submitting the survey to the Vanderbilt University Institutional Review Board.

Recruitment. In an effort to attain a diverse sample, participants were recruited in a variety of ways. E-mails, social media posts, and flyers were distributed to local, state, and national disability organizations. Organizations included approximately 200 state and local

Table 2
Demographics of Child with Disability

		Mean (SD)	*% (n)*	*Total n per variable*
Gender	Female		31.8% (370)	1165
Age		11.75 (4.09)		1172
Grade Categories	K-2		24.6% (286)	
	3-5		24.0% (279)	
	6-8		23.0% (267)	
	9+		28.4% (330)	1162
Disability Category	Autism Spectrum		43.1% (510)	
	Speech/Language Impairment		30.8% (364)	
	Specific Learning Disability		30.2% (357)	
	Developmental Delay		29.5% (349)	
	Other Health Impairment		29.2% (346)	
	Intellectual Disability		20.5% (243)	
	Multiple Disabilities		15.0% (178)	
	Emotional Disorder		14.6% (173)	
	Down Syndrome		7.3% (86)	
	Hearing Impairment		7.0% (83)	
	Orthopedic Impairment		6.9% (82)	
	Visual Impairment		5.5% (65)	
	Cerebral Palsy		5.5% (65)	
	Traumatic Brain Injury		4.0% (47)	
Functional Ability (possible range: 17 – 119)			97.22 (21.83)	1090
Physical Health	Poor/Fair		14.5% (171)	
	Good		36.3% (430)	
	Very Good		32.8% (388)	
	Excellent		16.4% (194)	1183
Behavior Plan	Yes		33.9% (398)	
	No		66.1% (777)	1175

*Please note that respondents were not required to answer every survey item; this resulted in varying sample sizes for each demographic variable. Respondents were also able to select more than one disability category to describe their child with a disability.

chapters of The ARC, 67 University Centers for Excellence in Developmental Disabilities (UCEDDs), and numerous parent support groups (e.g., Parent Training and Information [PTI] Centers). Emails were sent to over 7,000 agencies listed in the Wrightslaw Yellow Pages for Kids with Disabilities (http://www.yellowpagesforkids.com/). Phone calls and emails were also sent to disability organizations that specialize in providing services to diverse families of youth with disabilities (e.g., Fiesta Educative). Recruitment flyers were distributed to current and past participants of the Volunteer Advocacy Project (VAP); an advocacy training offered by the Vanderbilt Kennedy Center, largely attended by parents of children with disabilities. The recruitment flyer was also posted on social media sites, such as Facebook.

Incentive. To attract participants, the survey featured an incentive. Fifty participants, who completed the survey between September 7 and January 2, 2018, were randomly selected to receive a $20 e-gift card to the store of their choice. Gift cards were emailed to these participants in February 2018.

Survey availability. The survey was posted on-line from September 2017 through January 2, 2018 using REDCap, a secure web-based application for creating and managing online surveys. The survey took approximately 30 minutes to complete; all survey responses were submitted electronically. Respondents had the option to either read the survey themselves or enable a text-to-speech function offered by REDCap. In order to complete statistical analyses, responses were transformed into SPSS datasets directly from the REDCap software.

Survey

The survey consisted of four sections. These sections included information about: (1) the parent respondent (e.g., respondent demographics); (2) the respondent's child with a disability (e.g., demographics, functional ability, and maladaptive behavior); (3) the student's most recent IEP meeting (e.g., both parent and student attendance and participation); and (4) the respondent's relationship with IEP team members (e.g., parent-school partnership). Finally, the survey concluded with three open-ended questions, asking respondents to provide (a) more information on their IEP meeting experiences; (b) advice to other parents of students with disabilities; and/or (c) guidance to school personnel on how to better incorporate students into the IEP process. The majority of responses were on a Likert-type scale, asking participants to rate the extent to which they agree with a statement or experienced an event; however, some questions were categorical (e.g., yes/no) or asked the participant to write-in a response. Branching logic was used throughout the survey; participants were presented with certain questions based on responses to previous, related questions.

Analyses

Dependent variables. The dependent variables in this study were student attendance and student participation during IEP meetings. Questions related to student attendance and participation were located in the survey's third section, featuring questions about the student's most recent IEP meeting. To measure these concepts, I analyzed responses to the following survey questions:

- Did your child attend his/her last IEP meeting? (Responses: yes/no)

- During your child's most recent IEP meeting, to what extent did YOUR CHILD participate in the following activities: (a) introducing IEP team members; (b) stating the purpose of the meeting; (c) reviewing past goals; (d) stating future goals; (e) stating post-school preferences; and (f) closing the meeting. (Responses on a 5-point scale: [1] not at all – [5] extensively)
- During your child's most recent IEP meeting, to what extent did YOUR CHILD share his/her input or preferences about: (a) school courses; (b) classroom placement; (c) strengths; (d) area(s) of need; and (e) IEP goals. (Responses on a 5-point scale: [1] not at all – [5] extensively)

From this point on, the above-mentioned survey questions will be referred to as student attendance, the student IEP behavior scale, and the student input scale, respectively. Both the student behavior scale and student input scale were developed by the author to capture different facets of student participation. The student behavior scale is derived from participatory behaviors developed in the *Self-Directed IEP* curriculum (Martin et al., 1996). The student input scale is based on behaviors promoted in the *Self-Advocacy Strategy* curriculum (Van Reusen et al., 1994).

Student attendance at IEP meetings. To determine student attendance during IEP meetings, I first measured the overall percentage of students who attended their IEP meetings. Then, I determined student attendance for each grade category (i.e., kindergarten [K] through grade 2, grades 3-5, grades 6-8, and grades 9 - 12) and each disability group (e.g., students with ASD; students with ID).

Extent of student IEP behaviors and student input during IEP meetings. Means and standard deviations were calculated for each of the (a) six variables in the student IEP behaviors

scale and (b) nine variables in the student input scale. For both the student IEP behavior scale and student input scale, means were calculated for both individual variables and the total scale. Mean levels of student IEP behaviors and student input were also calculated for each disability group (e.g., students with autism; students with intellectual disabilities) and each grade category (i.e., kindergarten [K] through grade 2, grades 3-5, grades 6-8, and grades 9 -12).

Relatedness of student IEP behaviors and student input. Correlations and a factor analysis were conducted to answer the research question, "To what extent are student IEP behaviors (e.g., introducing team members; stating the purpose of the meeting) related to sharing input (e.g., course preferences, input for IEP goals) during the IEP meeting?"

Correlations. Correlations, using Pearson's *r*, were conducted to determine the relationship between student IEP behaviors and student input during IEP meetings. The two scales (student IEP behaviors and student input) were entered into a correlation matrix.

Factor analysis. A factor analysis with a varimax rotation was conducted to determine the relationship between student IEP behaviors and student input during IEP meetings. The factor analysis determined if variables were interrelated by detecting similar patterns of response between variables. Variables with similar patterns of response can then be combined into factors, thus, simplifying the data (Brown, 2015). Participant responses to the survey items -- from both the student IEP behavior scale and student input scale -- were entered into the factor analysis. An a priori decision was made to combine related variables (as determined by the factor analysis) and treat this factor as student participation during subsequent univariate and regression analyses.

Independent variables (potential correlates). Independent variables were examined to determine which characteristics of the student, the parent, or the parent-school relationship

related to (a) student attendance and (b) the extent of student participation during the IEP meeting. Variables were first examined independently (through chi-square tests, t-tests, and ANOVAs). Next, two separate regressions were conducted; a logistic regression was used to evaluate correlates of student attendance due to the dichotomous nature of the attendance variable and a multiple linear regression was used to evaluate correlates of student participation. Table 3 provides a complete list of potential correlates to student attendance and/or participation during IEP meetings.

Table 3

Potential Correlates to Student Attendance and/or Participation during IEP Meetings

Student	Parent	Parent-school relationship
• Grade • Disability • Physical health status • Time in general education classroom • Functional ability level (WeeFIM) • Problem behavior (SIB-R) • Anticipated high school diploma	• Age • Education • Marital status • Ethnicity • Income • Employment status • Physical health status	• Frequency of communication with teacher • Satisfaction with teacher (FPP) • Relationship with IEP team members

Characteristics of the student. Characteristics of the student included:

- disability diagnosis for each of Table 2's 14 disability categories *(0 = no, 1 = yes)*;
- physical health status (*1 = poor/fair, 2 = good, 3 = very good, 4 = excellent*);
- time in general education (*1 = all day in general education setting, 2 = less than all day in the general education setting*);
- anticipated high school diploma (1 = *high school diploma*, 2 = *other*);

- functional ability level*;* and
- maladaptive behavior.

Functional ability level was measured using The Functional Independence Measure for Children (WeeFIM™; Msall et al., 1994), which determines a child's level of functional independence by measuring the amount of assistance required for children with disabilities to complete basic tasks. Although originally intended for children aged birth through 7 years, this measure is appropriate to use with older children and teens with disabilities (Azaula et al., 2000; Oates, Bebbington, Bourke, Girdler, & Leonard, 2011). This measure has fair reliability (Kappa's for each item ranged from .44 to .82), but strong intraclass correlation coefficients (coefficients for subscale ranged from .73 to .98; Ottenbacher, Msall, Lyon, Duffy, Granger, & Braun, 1997). The child's level of independence is rated on a 7-point scale for 17 items (e.g., eating, climbing stairs, problem solving). Scores ranged from 17 (requires total assistance in each activity) to 119 (total independence in each activity). Functional ability scores were categorized (by quartiles) for univariate analyses but kept as continuous scores for regression analyses. Maladaptive behavior was measured using the Scales of Independent Behavior-Revised (SIB-R; Bruinicks, Woodcock, Weatherman, & Hill, 1996). The SIB-R presents eight problem behaviors and asks respondents to identify the occurrence and (if each occurs) the severity of each behavior within the past 6 months on a 5-point scale ranging from not severe to extremely severe. The General Maladaptive Index from the SIB-R provides an overview of an individual's maladaptive behavior, with higher scores indicating more serious problem behaviors.

Characteristics of the parent. Characteristics of the parent included:

- age categories (*1= 18-39 yrs., 2 = 40 -49 yrs., 3 = 50-59 yrs., 4 = 60+ yrs.*);

- education *(1 = less than college degree, 2 = college degree, 3 = some graduate school, 4 = graduate school degree*);
- marital status (*1 = married or in a domestic partnership, 2 = single, divorced, separated, or widowed*);
- ethnicity (*1= Caucasian, 2 = African American, 3 = Latino/Hispanic, 4 = Asian/Other*);
- income *(1 = less than $50,000; 2 = $50,001 - $80,000; 3= $80,001-$100,000; 4 = $100,000 +);*
- employment status *(1= yes, full time, 2 = yes, part-time, 3 = unemployed*); and
- physical health status (*1 = poor/fair, 2 = good, 3 = very good, 4 = excellent*).

Parent-school relationship. Variables related to the relationship that the parent respondent has with the personnel at his/her child's school included frequency of communication with their child's teacher *(1= daily to 5 = less than once per month*); relationship with IEP team members; and parents' partnership with their child's teacher. To measure parents' relationship with IEP team members, parents were asked to rate their relationship with each of the following six school personnel: special education teacher, general education teacher, principal, vice principal(s), related service providers (e.g., speech therapist, occupational therapist), and district representative (e.g., director of special education). Ratings occurred on a 5-point scale, ranging from (1) extremely negative to (5) extremely positive. Combined scores ranged from 6 to 30. For univariate analyses, scores from this measure were categorized by quartiles, but were kept as a continuous variable for regressions.

The *Family-Professional Partnership Scale – Family Version* (FPP; Summers et al., 2005) is an 18-item scale (comprised of two subscales: The Child-Professional subscale and the

Family-Focused subscale) used to measure the partnership between parents and teachers. Using the FPP, parent respondents rated their satisfaction with their child's teacher on a 5-point scale (very dissatisfied to very satisfied) on 18-item items. Examples of FPP items include, "How satisfied are you that your child's teacher helps you gain skills or information to get what your child needs" and "How satisfied are you that your child's teacher listens without judging your child or family." Overall scores ranged from 18 (very dissatisfied in all areas) to 90 (very satisfied in all areas). For ANOVAs, scores were categorized by quartiles (1 = *18-53,* 2 = *54-58,* 3 = *69 – 80.74,* 4 = *80.75 - 90*); for regression analyses, scores were kept as continuous variables.

Two potential correlates, the WeeFIM and the FPP, had small amounts of missing data. To include more participants in the univariate and regression analyses, median scores (from the respective measure) were imputed for participants who were missing 2 or fewer items within the measure (Harrell, 2001). Within the WeeFIM measure, scores were imputed for 68 participants who were missing 1 item and 15 participants who were missing 2 items; within the FPP measure, scores were imputed for 99 participants who were missing 1 item and 14 participants who were missing 2 items.

CHAPTER 3

RESULTS

Preliminary Analyses

Cronbach's alpha was calculated to determine the internal consistency of measures used within the survey. Cronbach's alpha values were all over .70 (ranging from .73 - .98) for each of the examined measures (e.g., SIB-R, WeeFIM, FPP). To simplify subsequent analyses, items within each individual measure were combined. Table 4 provides specific Cronbach's alpha values for each measure.

Table 4
Cronbach's Alpha for Measures Included in the Survey

Measure	α
SIB-R	.85
WeeFIM	.95
FPP	.98
Parent Relationship with IEP Team Members	.73
Student IEP Behavior Scale	.87
Student Input Scale	.92

Student Attendance at IEP Meetings

Overall, 33% of students in this sample attended their most recent IEP meeting. Student attendance significantly differed across grade categories, χ^2 (3) = 277.44, $p < .001$. Whereas less than 15% of students attended their IEP meetings in each of the two youngest grade categories (i.e., K-2 and grades 3-5), attendance rates increased to 30% for students in grades 6 - 8 and 67.9% for students in grades 9 and up.

A wide-range of attendance rates existed between disability categories. Students with SLI and ASD had the lowest rates of attendance (26.6% and 31.2% respectively), while students with Emotional Disturbance (ED) and Visual Impairments (VI) had the highest rates of attendance (42.2% and 38.5% respectively). Direct comparisons between disability categories were not possible because parents were able to select multiple disability categories to describe their child, resulting in non-independent groups of students in each category. See Table 5 for detailed attendance rates by grade category and disability category.

Table 5
Student Attendance Rates at IEP Meetings by Grade Category and Disability Category

Category	Student Attendance % (*n*)	Total *N* per variable
Overall	33.0% (390)	1183
Grade		
K-2	14.3% (41)	286
3-5	13.3% (37)	279
6-8	30.0% (80)	267
9+	67.9% (224)	330
Disability		
Emotional Disability	42.2% (73)	173
Visual Impairment	38.5% (25)	65
Hearing Impairment	37.3% (31)	83
Orthopedic Impairment	37.2% (32)	82
Cerebral Palsy	35.4% (23)	65
Intellectual Disability	35.0% (85)	243
Specific Learning Disability	34.2% (122)	357
Down syndrome	33.7% (29)	86
Other Health Impairment	33.6% (121)	346
Multiple Disabilities	32.1% (59)	178
Traumatic Brain Injury	31.9% (15)	47
Autism Spectrum Disorder	31.2% (159)	510
Speech and Language Impairment	26.6% (97)	364

Extent of Student Participation

To answer the second research question, scores from the student IEP behavior scale and the student input scale were examined separately. Scores for individual items in the student IEP behavior scale and student input scale are presented in Table 6; Table 7 displays student IEP behavior scale and student input scale scores by grade category and disability category.

Table 6

Student IEP Behavior Scores and Student Input Scores

Behavior	Mean	*SD*	Not at All % (n)
Student IEP Behavior Scale			
Introducing IEP Team Members	1.95	1.34	59.0% (223)
Stating Purpose of Meeting	1.74	1.20	66.1% (251)
Reviewing Performance on Past Goals	1.74	1.15	63.0% (238)
Stating Future IEP Goals	2.23	1.33	43.3% (164)
Closing Meeting	1.57	1.09	72.5% (272)
Overall	1.84	0.99	28.3% (105)
Student Input Scale			
Input on school courses	2.30	1.32	38.9% (145)
Input on classroom placement	2.04	1.36	55.0% (204)
Input on strengths,	2.14	1.30	47.5% (177)
Input on area(s) of need	2.08	1.26	47.5% (177)
Input on IEP goals	1.73	1.11	61.8% (230)
Overall	2.05	1.06	25.6% (94)

Student IEP behavior scale. First, I measured (independently) the five behaviors in the student IEP behavior scale (i.e., introducing IEP team members, reviewing performance on past goals, stating the purpose of the meeting, stating future goals, closing the meeting). Each behavior was measured on a 5-point scale (*1 = not at all, 2 = a little bit, 3 = some, 4 = quite a*

bit, 5 = extensively). The mean levels of student participation in each behavior ranged from 1.57 (closing the meeting) to 2.23 (stating future goals).

Table 7
Student IEP Behaviors and Student Input Scores by Grade and Disability Categories

	Student IEP Behavior		Student Input	
	Mean	*SD*	Mean	*SD*
Overall	9.20	4.96	10.27	5.31
Grade Category				
K-2	7.28	4.28	7.05	4.12
3-5	8.0	4.78	9.67	5.51
6-8	8.87	5.21	10.18	5.24
9-12	9.79	4.92	11.07	5.27
Disability				
Autism Spectrum Disorder	9.03	4.57	10.10	5.15
Visual Impairment	6.88	2.88	8.96	5.62
Hearing Impairment	9.19	5.29	11.42	6.00
Developmental Delay	8.29	4.71	8.62	4.75
Emotional Disorder	9.25	4.68	10.79	5.04
Intellectual Disability	8.77	4.32	8.35	3.99
Learning Disability	8.99	4.67	10.44	5.32
Multiple Disabilities	8.28	4.62	9.09	4.45
Orthopedic Impairment	9.97	5.84	10.87	5.71
Other Health Impairment	8.62	4.20	10.32	4.93
Traumatic Brain Injury	10.14	5.05	9.57	4.44
Down syndrome	7.68	4.43	6.61	2.38
Cerebral Palsy	9.10	4.84	9.18	4.99
Speech Impairment	8.59	4.18	9.55	5.23

For all students included in this sample, the mean total student IEP behavior score was 9.20 (*SD* = 4.96); possible scores for this scale ranged from 5 to 25. Over one-fourth (28.3%) of students had a score of 5 (i.e., a score of 1, or "not at all", for each behavior). Thus, although these students were present at their IEP meeting, they did not engage in any student IEP behaviors during the meeting. Mean IEP behavior scores between grade categories were significantly different, F (3, 360) = 3.29, $p < .05$. Students in the K-2 category had the lowest student IEP behavior scores; however, scores steadily increased as the grade categories increased. Post-hoc analyses using the Tukey HSD test indicated significant differences between scores of students in grades K-2 (*M* = 7.28, *SD* = 4.28) and grades 9 -12 (*M* = 9.79, *SD* = 4.92), $p < .05$.

Mean levels of student IEP behaviors also varied between students in different disability categories. The lowest mean student IEP behavior scores were noted for students with VI (*M* = 6.88, *SD* = 2.88) and Down syndrome (*M* = 7.68, *SD* = 4.43). Students with TBI (*M* = 10.14, *SD* = 5.05) and Orthopedic Impairments (*M* = 9.97, *SD* = 5.84) had the highest mean student IEP behavior scores. Mean student behavior scores are presented by grade category and disability category in Table 7.

Student input scale. Similar to the above analyses, the five behaviors from the student input scale (i.e., share input or preferences about: school courses, classroom placement, strengths, area(s) of need, and IEP goals) were measured separately. On a 5-point scale (*1 = not at all, 2 = a little bit, 3 = some, 4 = quite a bit, 5 = extensively*), the mean levels of student participation in each behavior ranged from 1.73 (input on IEP goals) to 2.30 (input on school courses). See Table 7.

The total mean level of student input was 10.27 (*SD* = 5.31), on a scale of 5 to 25. Again, approximately one-fourth (25.6%) of students had a score of 5 (i.e., a score of 1 for each behavior), meaning that these students did not provide any input during their IEP meeting. Significant differences existed in student participation across grade categories, F (3, 357) = 7.00, $p < .001$. Post-hoc analyses using the Tukey HSD test indicated significant differences between students in grades K-2 (*M*= 7.05, *SD* = 4.12) and grades 6 - 8 (*M* = 10.18, *SD*= 5.44) and grades 9-12 (*M* = 11.07, *SD* = 5.27).

Students with different disability categories had varying levels of student input during the IEP meeting. The lowest mean student input scores were demonstrated by students with Down syndrome (*M* = 6.61, *SD* = 2.38) and ID (*M* = 8.35, *SD* = 3.99); whereas students with Hearing Impairments (*M* = 11.42, *SD* = 6.00) and Orthopedic Impairments (*M* = 10.87, *SD* = 5.04) had the highest student input scores. Mean student input scores are presented by grade category and disability category in Table 7.

Relatedness of Student IEP Behaviors and Student Input

To better understand the concept of student participation, I examined how variables from the student IEP behavior scale and the student input scale grouped together. Overall, the two scales (using the total scores from each) were highly correlated (Pearson *r* = .72). All 10 variables (5 variables from the student behavior scale and 5 variables from the student input scale) were entered into a factor analysis with a varimax rotation. Variable loadings ranged from .65 to .82, such that each item closely loaded on its factor. Notably, all 10 variables formed one single factor. The factor (Eigenvalue = 5.90) accounted for 59.0% of the total variance. In all

subsequent analyses, (to simply the data) we used this factor (i.e., all 10 variables combined) as the measure of "student participation."

Correlates of Student Attendance and Student Participation

Individual analyses revealed significant relations between student attendance and variables related to (a) the parent, (b) the child with a disability, and (c) the parent-school relationship. Most effect sizes were small to medium; for Cramer's *v*, small effect size =.10, medium effect size = .30, large effect size = .50; for eta squared, η^2, small effect size = 0.01, medium effect size = .06, and large effect size = .14. Table 8 shows parent, student, and parent-school variables that univariate analyses identified as significant ($p < .01$) correlates of either attendance or participation (or both).

Student Attendance. As demonstrated through univariate analyses (i.e., chi-square tests), characteristics of the student with disabilities accounted for most variables that were significantly related to student attendance. As previously noted, student attendance significantly differed across grade categories; higher percentages of students in grades 9 – 12 attended IEP meetings, as compared to students in lower grades. Time in general education (gen. ed.) was also related to attendance; compared to students who spent less time in the gen. ed. setting, students who spent all day in the gen. ed. setting had higher rates of attendance. Students whose parents anticipated their child would (vs. would not) receive a high school diploma were also more likely to attend their IEP meeting. Attendance rates rose as functional ability scores (as measured by the WeeFIM) increased. Finally, students who had an ED had higher rates of attendance (vs.

students who did not), while students who had a Speech and Language Impairment had lower rates of attendance (vs. students who did not).

Univariate analyses revealed that few parent and parent-school relationship variables were significantly related to student attendance. Only one parent variable - age of the parent respondent - was significant. Only 20% of students of parents aged 39 years and younger were in attendance at their IEP meetings; however, student attendance steadily increased as parent age increased. Over 50% of students whose parents were 60 years and older attended their IEP meetings. Again, only one (of three) parent-school relationship variable was significant - frequency of communication between the parent and teacher. Students were more likely to attend their IEP meeting when parents had less frequent contact with their child's teacher.

Regression. A logistic regression was performed to determine the effects of the independent variables (listed in Table 3) on student attendance during IEP meetings. The logistic regression was statistically significant, χ^2 (30) = 289.13, $p < .0001$. The following variables independently predicted the increased likelihood of student attendance: higher grade levels, spending all day in the gen. ed. setting, anticipated high school diploma, the presence of a visual impairment, and stronger parent-teacher partnership (i.e., higher FPP scores). See Table 9.

Student Participation. Univariate analyses (i.e., t-tests and ANOVAs) demonstrated significant relations between student participation and variables related to (a) the child with a disability and (b) the parent-school relationship. However, no variables related to parent characteristics were significantly related to student participation.

Like attendance, significant correlates from univariate analyses were primarily student characteristics. The students' level of participation was significantly related to grade level, with students in the lowest grade categories (K-2) engaged in the least amount of participation and

Table 8

Correlates of Student Attendance and Student Participation during IEP Meetings from Univariate Analyses

Variable		Student Attendance					Student Participation					
		n	% *attend*	χ^2	*v*	*p*	*n*	*M*	*SD*	*t* or *F*	η^2	*p*
A. Parent												
Age Categories	≤ 39	339	20.35				63	17.62	8.85			
	40s	560	34.82				184	19.88	10.51			
	50s	228	43.42				89	19.94	7.82			
	60+	43	51.16	43.03	.19	.0001	19	19.84	9.18	0.97		.40
B. Student												
Grade Categories	K -2	286	14.34				40	14.33	7.42			
	3 - 5	279	13.26				32	18.31	10.06			
	6 – 8	261	29.96				75	19.07	9.85			
	9 +	330	67.88	277.44	.49	.0001	207	20.87	9.36	5.81	.05	.001
Time in General	All gen ed.	291	41.24				113	25.51	10.19			
Ed. Setting	Other	862	29.81	12.90	.11	.0001	235	18.47	9.13	2.80	.12	.006
H.S. Diploma	Yes	785	36.69				272	20.26	9.46			
	No	397	25.69	14.42	.11	.0001	88	17.05	9.49	2.77	.03	.01
Developmental	Yes	349	34.77				93	16.81	8.79			
Delay	No	834	28.65	4.17		.04	267	20.40	9.65	3.31	.04	.001
Intellectual	Yes	243	32.45				79	16.97	7.21			
Disability	No	940	34.98	0.56		.45	281	20.17	10.01	3.18	.13	.002

Table 8
Continued

Variable		Student Attendance					Student Participation					
		n	% *attend*	χ^2	*v*	*p*	*n*	*M*	*SD*	*t* or *F*	η^2	*p*
B. Student (continued)												
ED	Yes	173	42.20				70	20.10	8.83			
	No	1010	31.39	7.81	.08	.005	290	19.32	9.73	-0.61		.54
Down Syndrome	Yes	86	33.72				27	14.37	5.69			
	No	1097	32.91	0.02		.877	333	19.89	9.69	4.53	.11	.0001
Speech/Language	Yes	364	26.65				89	18.02	8.85			
	No	819	35.78	9.50	.09	.002	271	19.95	9.74	1.65		.10
WeeFIM	17- 86	291	21.65				58	15.93	8.35			
	87 – 103	285	29.47				77	17.83	8.65			
	104 – 113	293	37.54				105	20.37	9.76			
	114 -119	305	41.97	32.47	.17	.0001	117	21.56	9.92	5.81	.05	.001
C. Parent-School Relationship												
FPP	18 - 54	274	28.10				74	15.69	5.97			
	55 - 69	280	33.21				88	17.75	7.19			
	70 - 82	286	36.01				98	20.35	9.73			
	83 – 90	281	32.74	4.09		.252	88	23.68	11.93	11.81	.07	.0001
Frequency of Communication	Daily	247	25.91				62	18.84	9.93			
	Weekly	384	30.99				110	18.68	9.37			
	2-3 x month	255	32.94				79	20.34	9.22			
	Monthly	83	36.14				30	19.00	8.36			
	< 1 x month	184	43.48	15.85	.12	.003	77	20.35	10.34	0.60		.66

Note. Cramer's *v* effect sizes (small = .10, medium = .30, large = .50); Eta squared (η^2) effect sizes (small = .0, medium = .06, large = .14

those in the highest category (grades 9-12) engaged in the most. Time in gen. ed. was also related to participation; compared to students who spent less time in the gen. ed. setting, students who spent all day in the gen. ed. setting had higher rates of participation. When parents anticipated their child would receive a high school diploma, students had higher levels of participation (compared to students whose parents did not believe their son/daughter would receive a diploma). Similarly, compared to students with the lowest functional ability levels, measured by the WeeFIM, students with highest functional ability levels demonstrated significantly more participation during the IEP meetings. Finally, students without (vs. with) developmental disabilities had higher levels of participation.

In regards to the parent-school relationship, parents' partnership with child's teacher (i.e., scores on the FPP measure) was associated with student participation during the IEP meeting, F (3, 344) = 11.81, $p < .0001$. Student participation increased with FPP scores; parents who rated their partnership with their child's teacher higher had children with the higher levels of participation during the IEP meeting. A post hoc analysis using Tukey HSD test indicated significant differences in student participation between respondents who scored in the highest quartile of the FPP and those in the lowest two quartiles.

Regression. A multiple regression analysis was performed to determine the independent contributions of the independent variables (listed in Table 3) on student participation during IEP meetings. These variables statistically significantly predicted student participation, F (30, 284) = 3.92, $p < .0001$. The independent variables accounted for 21.8% of the variance (adjusted R^2 = .218) in student participation. Higher levels of student participation were associated with higher grade levels, the presence of an orthopedic impairment, and stronger parent-teacher partnership

(i.e., higher FPP scores). The presence of Down syndrome was associated with decreased student participation. Table 10 presents findings from the multiple regression analysis.

Table 9

Logistic Regression Analyses for Correlates of Student Attendance during IEP Meetings

Variable	β	*SE*	Wald	OR [95% CI]
Student Variable				
Grade	0.31	0.03	129.10***	1.36 [1.29, 1.44]
Autism Spectrum Disorder	0.10	0.19	0.30	1.11 [0.77, 1.59]
Visual Impairment	1.13	0.40	7.89**	3.11 [1.41, 6.85]
Hearing Impairment	-0.33	0.34	0.97	0.72 [0.37, 1.39]
Developmental Delay	-0.04	0.23	0.04	0.96 [0.62, 1.49]
Emotional Disturbance	0.30	0.24	1.55	1.35 [0.84, 2.15]
Intellectual Disability	-0.03	0.25	0.01	0.98 [0.60, 1.58]
Multiple Disabilities	-0.08	0.25	0.10	0.93 [0.57, 1.50]
Orthopedic Impairment	0.02	0.39	0.00	1.02 [0.48, 2.17]
Other health Impairment	-0.04	0.18	0.05	0.96 [0.67, 1.38]
Specific Learning Disability	-0.13	0.20	0.46	0.88 [0.60, 1.29]
Speech or Lang. Impairment	-0.14	0.20	0.45	0.87 [0.60, 1.30]
Traumatic Brain Injury	-0.12	0.45	0.00	0.99 [0.41, 2.37]
Down Syndrome	0.59	0.34	2.98	1.80 [0.92, 3.52]
Cerebral Palsy	-0.27	0.44	0.38	0.76 [0.32, 1.80]
Student physical health status	-0.16	0.10	2.55	.0.86 [0.71, 1.04]
Time in general education	-0.43	0.20	4.83*	0.65 [0.45, 0.96]
Functional ability level (WeeFIM)	0.00	0.01	0.22	1.00 [0.99, 1.01]
Problem behavior (SIB-R)	-0.12	0.09	1.99	0.89 [0.75, 1.05]
Anticipated diploma	-0.71	0.21	11.11***	0.49 [0.32, 0.75]
Parent Variable				
Age	-0.01	0.01	0.30	0.99 [0.98, 1.01]
Education	-0.30	0.07	0.20	0.97 [0.85, 1.11]
Marital status	-0.21	0.24	0.79	0.81 [0.51, 1.29]
Ethnicity	-0.17	0.13	1.91	0.84 [0.66, 1.08]
Income	-0.08	0.08	0.99	0.92 [0.78, 1.08]
Employment status	-0.12	0.10	1.39	0.89 [0.73, 1.08]
Physical health status	-0.15	0.10	2.22	0.86 [0.71, 1.05]

Table 9
Continued

Variable	β	*SE*	Wald	OR [95% CI]
Parent-School Relationship Variable				
Freq. of communication - parent and teacher	0.11	0.07	2.57	1.11 [0.98, 1.17]
Parent-Teacher Partnership (FPP)	0.02	0.01	15.73***	1.02 [1.01, 1.03]
Relationship with IEP team members	-0.01	0.01	0.15	1.00 [0.97, 1.02]

Note. SE = Standard Error; OR = Odds Ratio; CI = Confidence Interval
* $p < .05$ ** $p \leq .01$ ***$p \leq .001$

Table 10
Regression Analyses for Correlates of Student Participation during IEP Meetings

Variable	Coefficient	S.E.	t	*p*
(Intercept)	4.92	7.43	0.66	.508
Student Variable				
Grade	0.66	0.17	3.98	.0001***
Autism Spectrum Disorder	0.19	1.22	0.16	.875
Visual Impairment	0.19	2.34	0.08	.0935
Hearing Impairment	0.56	2.17	0.26	.797
Developmental Delay	-1.34	1.48	-0.91	.364
Emotional Disturbance	1.84	1.47	1.25	.213
Intellectual Disability	-2.79	1.51	-1.85	.065
Multiple Disabilities	-1.14	1.49	-0.77	.443
Orthopedic Impairment	5.12	2.24	2.29	.023*
Other health Impairment	-1.37	1.14	-1.20	.230
Specific Learning Disability	-0.46	1.25	-0.37	.714
Speech or Lang. Impairment	0.69	1.32	0.52	.601
Traumatic Brain Injury	0.73	2.75	0.27	.790
Down Syndrome	-4.88	2.14	-2.29	.023*
Cerebral Palsy	-3.88	2.47	-1.57	.117
Physical health status	0.69	0.61	1.13	.261
Time in general education	-1.55	1.22	-1.27	.205
Functional ability level (WeeFIM)	0.00	0.04	0.16	.872
Problem behavior (SIB-R)	-0.55	0.58	-0.95	.344
Anticipated diploma	-1.14	1.44	-1.07	.284
Parent Variable				
Age	-0.04	0.07	-0.52	.606
Education	-0.14	0.41	-0.33	.740
Marital status	1.68	1.41	1.19	.235
Ethnicity	1.00	0.90	1.11	.267
Income	-0.27	0.52	-0.52	.605
Employment status	-1.16	0.61	-1.91	.057
Physical health status	-0.78	0.62	-1.26	.208

Table 10
Continued

Variable	Coefficient	S.E.	t	*p*
Parent-School Relationship Variable				
Frequency of communication between parent and teacher	0.39	0.40	0.97	.334
Parent-Teacher Partnership (FPP)	0.20	0.03	6.06	.0001***
Relationship with IEP team members	0.07	0.09	0.85	.399

*$p \leq .05$ **$p \leq .01$ ***$p \leq .0001$

CHAPTER 4

DISCUSSION

Although IEP meetings are a fundamental component of special education, relatively little research has been conducted on student participation during these meetings. By using a national, web-based survey, this study provides insight as to which students are attending IEP meetings, how students are participating during these meetings, and the characteristics of the parent, student, and parent-school relationship that relate to student attendance and participation. These findings have significant implications in the areas of special education research, practice, and policy.

This study had four main findings. First, only one-third (33%) of all students attended their most recent IEP meeting. However, attendance rates were highly related to grade category. Small percentages (less than 15%) of students in grades K – 2 and grades 3 – 5 attended their IEP meetings. Attendance rates increased for students in older grade categories. Attendance doubled to 30% for students in grades 6 – 8, then doubled again to 67.9% for students in grades 9 -12. Student attendance rates also varied by disability category. Of the 14 disability categories we examined, students with Speech and Language Impairments had the lowest rates of attendance, with only 26.6% of students with this disability attending their meeting. Conversely, students with Emotional Disturbance (ED) had the highest rates of attendance, with 42.2% of students with ED attending.

Second, students who do attend their IEP meetings are not participating. Examining both student IEP behaviors and student input, those students who attended their IEP meetings were,

on average, only participating "a little bit" (mean item scores roughly 1.95 across all items). When analyzed further, of the 33% of all students who were even attending their IEP meetings, approximately 27% could be considered "totally inactive" during these meetings (i.e., scores of 1 on all items). As in the attendance analyses, both student engagement in IEP behaviors and sharing input during the IEP meeting does steadily increase with grade; the higher the grade category, the more engagement in IEP behavior and the more the student shares input. Although no direct comparisons could be made between disability groups, a range of scores existed. Notably, students with Down syndrome were among the disability categories with the lowest mean levels of both student engagement in IEP behaviors and sharing input related to IEP content during the meeting; conversely, students with orthopedic impairments were among the most participatory groups in both categories.

A third finding redefined the concept of student participation. Although earlier studies had considered student IEP behaviors and student input as two, separate constructs, a factor analysis revealed that all 10 items (5 from each scale) were, in fact, highly related to one another. Such connections showed themselves both in the correlation between the two measures of IEP behavior and student input (*Pearson's r* = .72), but also in a factor analysis where the 10 behaviors all loaded onto a single factor. The variable loadings were strong (all above .65) and the single factor itself accounts for almost 60% of the variance. In essence, behaviors such as introducing the IEP team members, stating the purpose of the meeting, or reviewing past goals—all considered as student IEP behaviors—were highly correlated with student input on classroom placement, personal strengths, and areas of need (all previously considered as student input). This factor, referred to as "student participation," thus seems to include both IEP-specific behaviors (e.g., introducing IEP team members) and the student's input on things such as course

enrollment and future academic goals. This single, comprehensive student participation factor was then used in subsequent analyses when examining correlates to student participation.

Finally, correlates were identified for both outcomes, student IEP attendance and student IEP participation (now as a single factor). Most of the significant correlates were characteristics of the student with disabilities. Some correlates were consistent for both student attendance and student participation during IEP meetings, while others were specific to one area. Across both student attendance and participation, "higher functioning" students had better outcomes. Specifically, univariate analyses revealed that students were more likely to attend their IEP meetings if they (a) were in higher grades, (b) spent all day in the general education setting, (c) were expected to receive a high school diploma, and (d) scored in the highest quartile on the functional ability measure. Regression analyses also found that grade level, time in the general education setting, and anticipated high school diploma independently predicted student attendance; higher grade level also predicted increased participation. Conversely, students who had (versus did not have) cognitive impairments, such as Down syndrome, showed lower levels of student participation.

Of the parent-school relationship variables, FPP scores produced the most consistent findings. The parent-teacher partnership, as measured by the FPP, was significantly related to both student attendance and participation (the higher the FPP score, the more the student attended and participated). Other parent-school relationship variables were less consistent correlates. Univariate analyses showed that frequency of communication was related to student attendance; the less frequently a parent communicated with their child's teacher, the more likely the child was to attend their meeting. However, in regression analyses, frequency of communication was not an independent predictor of student attendance or participation.

Overall, these findings paint a dismal picture of the student role during IEP meetings. The large majority of students are not at their meetings and, when students are in attendance, they are not participating. Although dismal, these findings are consistent with the literature on IEP meetings. Several other studies examining student attendance during IEP meetings have also found student attendance rates of under 50% (Barnard-Brak & Lechtenberger, 2010; Wagner et al., 2012). Similarly, in terms of student participation during IEP meetings, Martin and colleagues (2006) found that high-school students only spoke approximately 3% of the meeting. The finding from that observational study is highly consistent with our findings – even when they attend, most students only participate a little bit. When students are not given a voice during their own planning meeting (or, even worse, are not invited to attend), they are not being treated as a valued member of the IEP team. As the IEP is a plan that directly impacts the student, he/she should be given an opportunity to provide input about the contents of that plan.

These findings also challenge prior conceptions of student participation. In the past, student participation has been conceptualized and examined in several ways. Some researchers have considered participation as a yes/no variable (Griffin et al., 2014; Wagner et al., 2012), while others have considered participation to be a small subset of behaviors, such as administrative-type student IEP behaviors (Martin et al., 1996) or providing input about IEP content (Van Reusen et al., 1994). However, because many possible ways exist for students with disabilities to participate during the meeting, a broader approach to studying participation must be taken. Moving beyond the yes/no analysis, this study took two historically separate notions of participation (i.e., student IEP behaviors and student input) and determined that they are, in fact, related. Together, these behaviors form the concept of student participation. Moving forward,

researchers, curriculum developers, and practitioners should measure students' engagement in all 10 behaviors when assessing student participation.

This study also mostly agreed with prior studies about the correlates of IEP participation (Griffin et al., 2014; Wagner et al., 2012). Students were more likely to attend their IEP meetings and have higher levels of participation if they were in higher grades, spent all day in the general education setting, were expected to receive a high school diploma, and had a higher functional ability level. These correlates to student attendance and participation during IEP meetings are strikingly similar to findings from previous studies examining this topic. Griffin et al. (2014) and Wagner et al. (2012) also found a link between higher cognitive skills. Together, findings from across these studies suggest that students with higher functional abilities are the most likely to participate.

Although we could not examine these findings statistically, certain disability categories showed lower rates of attendance and participation. Shogren and Plotner (2012) found that, compared with students with other disabilities, students with ID or autism had lower levels of participation in transition planning and were less likely to assume a leadership role in the meeting. In the current sample, students with ID, DD, and Down syndrome had significantly lower levels of participation (compared to students without these disabilities). These uniform findings suggest that students with ID and/or developmental disabilities are at high-risk for not being active participants during their IEP meetings. Such students may need explicit, direct instruction on how to meaningfully participate in their meetings.

This study was the first to examine the relationship between student attendance and participation and parent-school relationship variables. Parent partnership with their child's teacher, as measured by the FPP, was significantly associated with both student attendance and

participation during IEP meetings; the higher the FPP score, the more the student attended and participated. When parents had stronger partnerships and were highly satisfied with their child's teacher, students were more likely to attend their IEP meeting and, once there, have higher levels of participation. Perhaps because positive parent-school partnerships foster "… mutually supportive interactions between families and professionals, focused on meeting the needs of students and families" (Summers et al., 2005, p. 3), students were encouraged to attend and participate in their meetings by members of the IEP team.

While another finding related to parent-school variables was not as consistent across both attendance and participation, it was interesting nevertheless. Univariate analyses revealed that the frequency of communication between parents and teachers was significantly related to student attendance at IEP meetings, but not participation. Rates of student participation declined as frequency of parent-teacher communication increased. While this finding may, at first, seem counter-intuitive, high frequency contact between parents and teachers may indicate higher levels of problem behavior and/or disciplinary actions in the school setting (Tucker & Schwartz, 2013). These behaviors could potentially impact the student's attendance at his/her IEP meeting.

Findings from this study have implications across the field of special education: for school districts, teachers, researchers, and policy makers. Seeing that student attendance and participation rates were overwhelmingly low, much work is needed to increase both – and this work must begin at the practitioner level. School districts should emphasize the importance of student attendance at IEP meetings, and teachers should be trained to better incorporate students into IEP meetings. Professional development time can be used to familiarize teachers with existing curricula designed to increase student participation, such as *The Self-Directed IEP* or *The Self Advocacy Strategy*.

The family-teacher partnership was a strong predictor of both student attendance and participation during IEP meetings. Knowing this, school districts should take steps to promote collaboration between parents and teachers. Schools should train teachers how to effectively support parents of students with disabilities. In addition to benefitting students in the IEP process, excellent parent-school partnership relates to lower levels of parental stress (Burke & Hodapp, 2014),. Parents should be treated as equal and valued members of their child's IEP team and should be encouraged to participate in educational decision-making processes (Staples & Dilberto, 2013).

Additionally, teacher preparation programs should also emphasize the importance of parent-teacher collaboration and student participation in the IEP process. Building strong parent-teacher partnerships will empower parents (Blue-Banning, Summers, Frankland, Nelson, & Beegle, 2004), as well as positively influence student attendance and participation during meetings. Coursework in teacher preparation programs should examine the benefits of student participation during IEP meetings. By training future educators (a) to invite all students to their IEP meetings and (b) how to use self-advocacy curriculums to teach students how to participate during meetings, it is possible to change IEP meetings from the current teacher-driven meetings to a more student-friendly approach.

Beyond identifying the percentage of students with disabilities who are attending and participating in their IEP meetings, this study also tells us *who* is not. The findings from this study point to decreased levels of participation for students with cognitive disabilities, including students with Down syndrome. Such information can be used to target students who are "at-risk" for not attending and/or participating in their IEP meetings. Researchers and practitioners can

create or modify interventions and self-advocacy curricula to meet the specific needs of "at-risk" students and teach them how to effectively participate in their IEP meetings.

Results from this study also have implications for researchers. Specifically, student IEP behaviors and student input should no longer be considered two separate types of participation. Self-advocacy curricula should be updated to incorporate these findings. Moving forward, when studying student participation, researchers should measure the extent to which students engage in all 10 of the behaviors (from both the student IEP behavior scale and the student input scale) that comprise student participation; only then can we get a complete picture of the extent to which students are actively participating in their IEP meetings.

Findings from this study also have implications related to special education policy. As very few elementary and middle school students are attending their IEP meetings, lawmakers should consider revising current legislation. Moving beyond the current mandatory IEP meeting invitations for students 16 years and older, the next reauthorization of IDEA should, instead, require that students of *all ages* be invited to attend their IEP meetings. This change may be a simple way to increase student attendance. Policymakers should also consider requiring school districts to implement self-advocacy curriculums in special education programs. These curriculums have been shown to increase both the quantity and quality of student participation during IEP meetings (Sanderson & Goldman, *under review*).

Although this study provides information about student attendance and participation during IEP meetings, additional studies are needed. Using information from this study, future researchers should target students who have been identified as at-risk for not attending and/or participating during their IEP meetings and provide appropriate interventions. These intervention studies should examine both student IEP behaviors and student input when measuring student

participation. Future research should also examine the IEP meeting experiences of racially, ethnically, and socioeconomically diverse students and their families. Their experiences can be contrasted with those of the current sample to get a comprehensive understanding of attendance and participation across students from all backgrounds. Large-scale observational studies, replicating Martin and colleagues' (2006) study, should be conducted to get an objective account of student participation during IEP meetings. Additionally, future researchers should further examine the relationship between parent-teacher partnerships and student attendance and participation during IEP meetings to determine which components of this partnership are most influential to increased attendance and participation. Finally, longitudinal studies could examine how the extent of student participation during IEP meetings relates to post-school outcomes. Do students who participate more …have jobs that match their interests? …reside in preferred living arrangements? …participate in satisfactory recreational activities?

This study also had several limitations. First, though web-based surveys offer several advantages over paper-based surveys, disadvantages do exist. People without internet access cannot participate. Such individuals may particularly consist of those from lower socioeconomic backgrounds and those who live in rural areas (Anderson & Perrin, 2016; Sills & Song, 2002). Perhaps as a result of using a web-based survey, parent respondents were primarily well-educated, middle class, White women. The views and experiences of this sample may not reflect those of racial or ethnic minorities or low socioeconomic status backgrounds. Additionally, this survey was limited to parent and legal-guardian respondents only. Teachers, other IEP team members, and students may have different estimations of student participation during the meeting. Although self-reporting does have the potential to be biased (Gravetter & Forzano, 2016), and some parents may have over- or under-estimated their child's level of participation,

these findings are consistent with those found in exiting literature (Barnard-Brak & Lechtenberger, 2010; Martin et al., 2006; Wagner et al., 2012). Finally, because this study was cross-sectional, we cannot establish a cause and effect relationship between our independent and dependent variables.

Even with these limitations, this study provides valuable information about what is (and is not) occurring during IEP meetings. From these findings, we know that the majority of students with disabilities are not attending their IEP meetings; especially students in grades K – 5. Even when students do attend, they typically have very low rates of participation during the meeting. Participation does increase with grade categories, but even students in grades 9 – 12 (who have the highest rates of participation) are still only participating a little bit. Another major finding redefined the way we can examine student participation. Although previously considered as two, separate types of student engagement during IEP meetings, student IEP behaviors and providing input about IEP content should be examined together when studying the concept student participation. Finally, student attendance and participation are largely linked to the strength of the parent-teacher partnership and student characteristics, with those students in higher grades and with higher functional abilities both attending and participating more during their IEP meetings. Interpreting these findings together, much work is needed to improve student attendance and participation during IEP meetings. Given that participation is linked to positive student outcomes, finding ways to meaningfully incorporate *all* students in their IEP meetings is critical to promoting self-determination in students and creating meaningful and effective IEPs.

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