

Father Involvement with Children with Developmental Delays

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Abstract

Children with developmental delays (DD) pose unique caregiving challenges, given their developmental problems and risks for behavior problems (Baker, McIntyre, Blacher, Crnic, Edelbrock, & Low, 2003). Most of the studies involving caregivers of children with DD have highlighted the role of mothers, with very few studies focusing specifically on fathers. Studies on father involvement in home and school settings provide a theoretical rationale for increasing father involvement to support positive outcomes in children with DD. Synthesizing research on father involvement can further contribute to and shape legislation that ensures equitable access to education for young children with disabilities (i.e., the Individuals with Disabilities Education Act). This paper summarizes findings from a systematic literature review of father involvement across home and school settings in families of preschool-aged children with or at risk for DD.

Keywords

Father, involvement, children, disabilities

Father Involvement

Most of the current research on children with or at risk for disabilities in the United States focuses solely on maternal involvement (Meadan, Stoner, & Angell, 2015). However, many of these children also receive support from

their fathers. As such, there is a significant gap

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in the literature examining how fathers impact child development (Mackey & Day, 1979). In this paper, we review recent literature on fathers in the United States and the ways in which they engage with their preschool-aged children across both home and school settings. We focus on children with developmental delays, including those with known intellectual and developmental disabilities (e.g., Down syndrome, autism spectrum disorder) and those at risk for disabilities. We will begin by discussing cultural roles and expectations of fathers and current U.S. policies, as these factors impact father involvement on a broader level. We will describe the methods used to conduct this literature review. We will review demographics, settings of father involvement, methods, and interventions discussed in the literature. Finally, we will report the findings and discuss the implications of this research for practitioners, teachers, researchers, and others who work with fathers.

Cultural Roles and Expectations of Fathers in the United States

Fathering has taken on different meanings in the United States. Specifically, the role of the father has shifted from that of moral teacher and educator during the colonial era of the United States to family breadwinner and financial provider during the Great Depression, to role model for the child following World War II (Baumann, 1999). Traditionally, fathers have placed their personal and professional goals over child care, and have not engaged fully in their role as fathers (Garbarino, 1993). Prior to the 1970s, academic literature portrayed fathers as family breadwinners who were otherwise “irrelevant” and not responsible for the social, behavioral, emotional, and cognitive development of their children (Coney & Mackey, 1998). This portrayal is markedly different from

that of fathers in other countries (Mackey & Day, 1979).

As women became more present in the paid workforce, the expectations for a father’s role shifted to include more caretaking. Initially, men were not fulfilling these expectations as hoped (Coney & Mackey, 1998); however, by the 1990s, research showed increased father engagement, motivated by psychological benefit and pleasure in interacting with their children (Coney & Mackey, 1998). Further, research indicated that by the 1990s, the social and economic variables at play in the previous decades were largely irrelevant (Coney & Mackey, 1998). Given that fathers can significantly impact their child’s development (Brazelton & Cramer, 1990; Hofferth, 2003; Osherman, 1992), more research and policy initiatives are warranted to encourage deeper father involvement.

Recent research has demonstrated that fathers vary in their level of engagement with their children and their level of responsibility around their role as economic provider and manager of their child’s welfare (Hofferth, 2003). Cultural differences within the United States influence the ways in which fathers engage with their children (Hofferth, 2003). Race, ethnicity, demographic, and economic factors (e.g., family size and socioeconomic status) all seem to explain differences in fathers’ parenting attitudes and relationships with their children. For example, Black fathers exhibit less engagement and warmth but exert more control and take more responsibility than White fathers (Hofferth, 2003). Mexican-American fathers display high levels of involvement with childcare, high levels of support, and more responsiveness to their child’s emotions, which contrasts with traditional views of Latino fathers as distant or prone to harsher punishment (Gamble, Ramakumar, & Diaz, 2007). Although there is much variation within cultural groups,

these findings offer perspective on differential expectations regarding the role of fathers within the United States.

While these examples provide valuable information on the father-child relationship, more information is needed to understand the factors that impact father involvement. Few studies have examined father involvement, particularly in families of children with DD. This may be a product of traditional and cultural perspectives of fatherhood; however, current policies within the United States may play an important role as well. The following section addresses policies that can influence the involvement of fathers.

Policy around Fathers in the United States

Federal policies may have a broad impact on the extent to which fathers become involved with their children with disabilities. Federal policies related directly to fatherhood in the United States have changed very little since the passage of the Family Medical Leave Act of 1993 (FMLA). Under the FMLA, fathers may take up to 12 weeks of unpaid, protected leave during a 12-month period to care for or bond with their newborn, adopted child, or foster child. Parents may also take this leave to care for their child with a serious health condition, which includes physical or mental illness or injury requiring inpatient treatment or continued care by a healthcare provider. Research has shown that about 90% of resident fathers of children born in the early 2000s (i.e., several years following the passage of FMLA) took some leave (approximately 2 weeks) following their child's birth (Nepomnyaschy & Waldfogel, 2007). Unlike many other high-income countries, U.S. employers are not required to support or incentivize fathers to take time off for other childcare-related reasons (Raub et al., 2018). To date, only four states provide paid

parental leave (National Conference of State Legislatures, 2016). Research suggests that availability of paid family leave policies increases the likelihood of paternity leave, as shown in California (Bartel, Rossin-Slater, Ruhm, Stearns, & Waldfogel, 2018). While U.S. federal laws do not allow for unpaid leave for other parenting duties, several states acknowledge fathers' multifaceted roles in parenting and provide a limited number of hours (i.e., between 4 and 40 hours) to engage in school-related activities (National Conference of State Legislatures, 2016).

Parents of young children with developmental delays and disabilities may require more time off from work for child-rearing duties. Young children with DD are at increased risk for behavioral and mental health concerns relative to their typically developing peers (Baker et al, 2003; Emerson, 2010). These children may also require more financial support (Parish, Rose, Grinstein-Weiss, Richman, & Andrews, 2008), more specialized education, medical, or mental health services (Neely-Barnes & Marcenko, 2004), and more support with adaptive functioning (Plant & Sanders, 2007). In the absence of federal protections and policies to support fathers—particularly fathers of children with DD—some may find it difficult to support their children with DD. Given the potential for comorbid mental health conditions associated with children of DD (Emerson & Einfield, 2010), fathers of children with DD may be more likely to take leave from work. To date, researchers have not yet examined data on paternal leave in families of children with disabilities in the United States.

Currently, federal laws in place for families of children with DD protect parents' rights regarding school matters, prevent discrimination, and provide some financial assistance via tax refunds and supplemental income. The Individuals with Disabilities

Education Improvement Act (IDEIA, 2004) provides school districts with funding to develop and implement individualized family support plans (IFSPs) for children ages 0–3 years (0–5 years in some states) and individualized education programs (IEPs) for eligible children with disabilities, ages 3–21 or 5–21 years. The Americans with Disabilities Act (ADA) provides protection to parents of children with DD by prohibiting employers from firing or excluding a parent from a job benefit or offer because they have a child with a disability. Financial benefits for parents of children with disabilities include earned income tax credits (EITC) and child or dependent care credits, both of which can lead to tax refunds. Lastly, Supplemental Security Income (SSI) is provided to families of children with qualifying developmental disabilities. Past research has shown that fathers have taken advantage of SSI benefits; specifically, 29.3% of two-parent families and 2.4% of single fathers have used SSI for their child with a disability (Rupp et al., 2005).

Taken together, these laws provide a certain amount of protection and support to fathers of children with DD. Nevertheless, several limitations emerge that may serve as barriers to effective father involvement. Research has shown that financial supports (e.g., supplemental income and tax credits) do not sufficiently minimize the financial burdens associated with children with DD (General Accounting Office, 1999; Parish, Pomeranz-Essley, & Braddock, 2003). Further, while IDEA encourages parental participation through its emphasis on parental rights, parents report confusion around matters pertaining to their rights (Stoner, Bock, Thompson, Angell, Heyl, & Crowley, 2005), and ultimately, early intervention agencies are free to move forward with decisions about IFSPs contingent on parental consent to the child's evaluation and eligibility. Further, very little research has

examined data regarding fathers' contact or experience with special education law, making it difficult to inform policy changes. Lastly, special education policy has not sufficiently included research and scholarly writings on effective parenting practices, resulting in a lack of targeted initiatives to promote specific parenting interventions (e.g., parent-child interaction therapy, natural environment teaching, behavioral parent training; see National Academies of Sciences, Engineering, and Medicine, 2016). Given the documented links between parenting practices and poor child outcomes in families of children with DD (Chadwick, Kusel, & Cuddy, 2008), U.S. laws could actively promote access to services that promote effective parenting.

These limitations suggest a need for U.S. policies that support active father involvement; such policies could include increased family-based interventions for fathers, paid time off, and more education on ways to support their children with DD in preschool and early intervention settings. It is possible that the lack of supportive laws and policies for fathers contribute to the lack of father involvement in research studies as well, limiting the ability of researchers to fully understand the father's role in home and school environments.

Considering the historical and changing roles of fathers in the United States, the cultural differences in father-child relationships, and the policies currently in place regarding father involvement, there is a clear need to understand more fully the factors related to father involvement in children's lives. A father's role is clearly significant for many areas of a child's development (Hofferth, 2003; Osherman, 1992); however, there is a profound lack of research that allows us to completely understand the impact on child outcomes. This need is particularly important for fathers of children with DD, as they can experience greater

demands on their time and resources. Considering this significant gap in our understanding of fathers, the following review focuses on the current literature highlighting father involvement with their children with DD and the implications for future research and policy.

Research Questions

This paper seeks to answer the following research questions: (1) How much of the current literature measures and/or discusses the involvement of fathers with their children with DD? (2) What types of parent and child outcomes were present for father involvement? and (3) What evidence does the literature include on the implications of father involvement with their children?

Methods

This systematic literature review focused on research pertaining to father involvement with children with DD, including children with or at risk for intellectual and developmental disabilities. We used electronic data bases to locate original research studies, literature reviews, and meta-analyses, which were all included in this review. More specifically, the studies that were eligible for inclusion were (a) peer-reviewed, (b) published in English, (c) published between January 2000 - September 2018, (d) conducted in the United States with U.S. populations, (e) focused on children that had or were at risk for developmental delay or intellectual and developmental disabilities, (f) focused on young children aged 2–6 years, and (g) conducted solely with fathers or where separate analyses were conducted with fathers. Studies that included measures or a discussion of active father involvement with parenting, school-related matters, or intervention were included. Studies that included a sample of typically developing children (in addition to

children with DD) were also included if they met other inclusionary criteria. Additionally, as there is an increased risk of childhood disability in populations living in poverty and those living in single-parent households, studies with Head Start populations were included if they met other inclusionary criteria (Fujiura & Yamaki, 2000). Studies were excluded if (a) they were case studies, or studies with a single-subject research design, (b) fathers represented less than 20% of the sample or the authors did not specify the percentage of fathers in the study, (c) they focused on recent immigrant or refugee fathers, or (d) they focused on mental health instead of father involvement. We used multiple databases in our search for..., including Academic OneFile, Academic Search Premier, ERIC, JSTOR, Proquest Education, Proquest Social Science, and PsychNET. The keywords we used included the following: father(s), fathering, fatherhood, involvement, preschool, preschool children, disability, child disability, developmental disability, and developmental delay. Our search yielded 19 articles that met the criteria for this review (see Table 1).

Table 1

Key Variables of Included Studies of Father Involvement in Preschool Children with DD (N = 19)

Study	Target group	Sample size	Number of fathers	Father involvement	Measures	Design/ Approach	Key outcomes
Bagner (2013)	Children with/at-risk for DD or clinically significant behavior problems	35	13	Intervention	Child Behavior Checklist (CBCL), Dyadic Parent-Child Interaction Coding System-III	Quasi-experimental pilot study	When fathers were more involved, mothers reported improvements in child externalizing behaviors from pretest to posttest. Children displayed higher rates of compliance to maternal commands posttest.
Breaux et al. (2017)	Children with significant externalizing behaviors at risk for disabilities	258 families	221 (approx.)	Home	Diagnostic Interview Schedule for Children-4th Ed., Current Symptoms Scale, Family History Interview, The Parenting Scale, The Life Experiences Survey, The Millon Clinical Multiaxial Inventory-III	Large scale longitudinal assessment study with path analyses	Paternal ADHD symptoms did not predict parenting behaviors; Child ODD symptoms at time 1 later predicted fathers' overreactivity. Fathers' laxness later predicted child ODD symptoms at time 4.
Caserta et al (2018)	At risk for academic/behavioral challenges	67	67	Intervention	Dyadic Parent-Child Coding System; Parent ratings of Improvement	Randomized control trial; Coach condition	Fathers who participated in the COACHES program evidenced improved parenting behavior (reduced negative talk). Fathers were no more likely to use praise

						and waitlist control group	or reduce their use of commands; improved child behavior and child and family functioning
Crnic et al. (2009)	ID and at-risk for psychopathology	245 families of children with and without DD	Not specified	Home	Naturalistic in-home observations (opportunity for interaction, detachment, positivity, negativity)	Longitudinal	Fathers of children with ID were significantly more negative than fathers of typically developing children at age 6, less involved than mothers at age 3, less positive at ages 4 and 6, more detached at age 4; fathers of typically developing children showed similar pattern to mothers but were more detached and less positive than mothers
Dyer et al. (2009)	DD	3550 families of children with and without DD	total sample had fathers living in home	Home	Functional Involvement; Literacy or Language Involvement (Likert scales)	SEM-latent variable growth curve	Father involvement with children with and without DD were similar; no differences in literacy or language involvement; fathers of children with a diagnosis by 9 months had greatest decrease in involvement; fathers of typically developing children were less involved with daughters than sons at 9 months

Elder et al. (2011)	Autism Spectrum Disorder	18 families	18	Intervention	Observational coding; Autism Diagnostic Interview - Revised (ADI-R); The Autism Diagnostic Observation Schedule (ADOS); Vineland Adaptive Behavior Scales - 2nd Ed. (Vineland-II)	Randomized Control Trial (RCT) with waitlist control	Fathers imitating with animation resulted in significant increases; No significant changes in following the child's lead; expectant waiting and commenting on the child resulted in significant increases; Child initiating and non-speech vocalizations significantly increased for fathers
Fagan & Lee (2012)	At-risk	8400 families	Not specified	Home	Bayley Short Form-Research Mental Scale Child risk; Fathers' and mothers' cognitive stimulation	Mediator and moderator analyses	Fathers' cognitive stimulation of child at 24 months was significantly related to child cognition, and had a stronger positive effect on child cognition among children with and without high risk in single mother households (vs. two-parent households)
Fenning et al., (2014)	Typically developing children; those with borderline intellectual functioning and DD	172 families	148	Home	Stanford Binet IV for child, naturalistic observations	Longitudi-nal using ANCOVA's and hierarchical regression analysis	Fathers of children with borderline IQ functioning exhibited the least amount of positive engagement compared to other groups

Fox et al. (2015)	DD	135	135	Home	Family Empowerment Scale, Father Role Salience Scale, Reflected Appraisals of Fathering, Father Role Satisfaction Scale, Financial Strain Scale, Demographics, Father Involvement	Cross Sectional	Empowerment and strong role salience were found to mitigate negative effects of financial strain and disability severity on father involvement
Laxman et al. (2015)	Autism Spectrum Disorder/ Pervasive Developmental Disorder, DD and Typical Developing	3550 families	3550	Home	Demographics, Center for Epidemiological Studies-Depression Scale, Father Involvement ratings on literacy, play, routine caregiving and responsive caregiving	Longitudinal with structural equation modeling	Father involvement in literacy and response caregiving at 9 months old were associated with lower levels of maternal depression at 4 years for the ASD group but not for other groups
Meadan et al. (2015)	Autism Spectrum Disorder	7	7	School	Family Quality of Life Scale (FQOL Scale)	Qualitative interviews	General themes included cohesiveness with spouses and family unit, adaptability within the family, and working together to support child educational needs

Mueller & Buckley (2014)	Children with special education labels, moderate to severe	20	20	School, specifically special education	Not specified	Qualitative interviews	Fathers reported IEP meetings as overwhelming and indicated that effective collaboration with educators requires building relationships, establishing communication, and listening to parent voice
Parette et al. (2010)	Not specified	Not specified	Not specified	Not specified	Not specified	Not specified	Practitioner recommendations for improving father involvement included sensitivity to scheduling, specific invitations, and seeking father insight. A call for more rigorous research including diversity in sample and variability in methodology for fathers of young children with DD was made.
Ricci, & Hodapp (2003)	Down's Syndrome and Intellectual Disabilities	50 families	43	Home	Personality Checklist, Child Behavior Checklist (CBCL), Parenting Stress Index, Paternal Involvement in Child Care Index, Fathering Behaviors Questionnaire, Vineland Adaptive Behavior System	T-tests	No differences found in everyday paternal involvement between groups

					Communication Domain		
Stockall & Dennis (2013)	Children in Head Start	Not specified	Not specified	School	Not specified	Not specified	Fathers' play behaviors can enhance social/emotional development and emotional regulation of young children through active, physical play
Turbiville & Marquis (2001)	Children with and without DD	318	318	School	Study specific survey about programs for fathers and level of father involvement	Questionnaires mailed home	Fathers preferred family-centered activities over activities specifically for males. They also reported that process strategies such as scheduling considerations and receiving specific invitations improved father involvement

Table 2
 Measures of Father Involvement for Included Studies with Preschool Children with DD (N = 19)

Study	Father involvement	Father involvement measures	Sample items
Bagner (2013)	Intervention	Not specified	Not specified
Breaux et al. (2017)	Home	The Parenting Scale: 30-item, 7-point Likert self-report measure on laxness and overreactivity	Laxness: “When I say my child can’t do something... <i>I stick to what I said,</i> ” “When I say my child can’t do something... <i>I let my child do it anyway</i> ” Overreactivity: “When my child misbehaves... <i>I handle it without getting upset,</i> ” “When my child misbehaves... <i>I get so frustrated or angry that my child can see I’m upset.</i> ”
Caserta et al (2018)	Intervention	Not specified	Not specified
Crnic, Arbona y, Baker, & Blacher (2009)	Home	Naturalistic in- home observations: behaviors rated on a 5-point scale after observing 10 minutes of interaction	Four dimensions of parenting behavior were rated, including opportunity for interaction, detachment, positivity, and negativity
Dyer, McBride, & Jeans (2009)	Home	Functional Involvement: 4 items on a 6-point Likert scale measuring frequency of child care tasks Literacy or Language Involvement: 3 items on a 4-point Likert scale measuring frequency of	Functional Involvement: “How often in a typical week do you do... <i>give your child a bath, help your child get dressed?</i> ” Literacy or Language Involvement: “How often in a typical week do you... <i>read books to your</i>

		involvement in literacy or language development	<i>child, sing songs to your child?"</i>
Elder et al (2011)	Intervention	Naturalistic in home observations: frequency behavior counts coded from 10 minute video segments	Coded for occurrences of parent and child reciprocity behaviors
Fagan & Lee (2012)	Home	Fathers cognitive stimulation: self-report items assessing cognitive stimulation on a 4-point Likert scale from 1 = not at all to 4 = everyday	"How often do you... <i>read books to your child, tell stories to your child?"</i>
Fenning, Baker, Baker, & Crnic (2014)	Home	Naturalistic observations: coded mother and father behavior	Coded behaviors including positivity, sensitivity, stimulation of cognition, reversed detachment, negativity, and intrusiveness
Fox, Nordquist, Billen, Savoca, (2015)	Home	Father Role Salience: 18 item 5-point scale (1 = strongly disagree, 5 = strongly agree) Father Role Satisfaction Scale: 7 item 4-point scale (1 = low, 4 = high) Father Involvement: self-report measures of attachment, engagement, and responsibility on varying Likert scales for each construct	Father Role Salience: " <i>I like being known as a father," "I would rather work overtime than watch my children for the evening"</i> Father Role Satisfaction Scale: " <i>Being a parent has given me a lot of pleasure," "I am very proud of being my child's parent."</i> Father Involvement: " <i>It is going to take me awhile before I truly feel like a parent to my child," "I spend time one-on-one with my child," "I help</i>

			<i>my child prepare for bedtime."</i>
Laxman, McBride, Jeans, Dyer, Santos, Kern, et al. (2015)	Home	Father Involvement: self-report measure of frequency of involvement ("never" to "more than once a day") within literacy, routine caregiving and responsive caregiving	<i>"How often do you read to your child?" "When the following things happen or need to be done, how often are you the one who does them...soothe your child when upset?"</i>
Meadan, Stoner & Angell (2015)	School	Not specified	Not specified
Mueller & Buckley, (2014)	School, specifically special education	Qualitative interviews via phone about fathers' perceptions and experiences as a father of a child with a disability	Interview questions included: "Can you tell me about your level of involvement with your child who has a disability?" "Tell me about your overall level of satisfaction with your involvement in your child's education"
Parette, Meadan, & Doubet (2010)	Not specified	Not specified	Not specified
Ricci & Hodapp (2003)	Home	Paternal Involvement in Child Care Index: 23-item self-report measure on five domains Fathering Behaviors Questionnaire: 29 item self-report measure on five domains with a 6-point Likert scale (1 = never, 6 = very often)	Paternal Involvement in Child Care Index: domains include statement of involvement, child-care responsibility, socialization, responsibility, influence in child rearing decisions, and availability Fathering Behaviors Questionnaire: domains include caregiving, play,

			teaching, discipline, and disengagement
Stockall & Dennis (2013)	School	Not specified	Not specified
Turbiville & Marquis (2001)	School	Study specific survey on a 5-point Likert scale from <i>never</i> to <i>always</i> where fathers were asked to indicate how often they participated in programs provided for them by their child's early education program	Not specified

We coded articles for (a) target group, (b) sample size, (c) number of fathers in the study, (d) father involvement, (e) measures, (d) study design or approach, and (f) key outcomes. For *target group*, we included child behavioral concerns and diagnosis. *Sample size* and *number of fathers* indicated the number of individuals and, more specifically, the number of fathers who participated. For *father involvement*, we identified the context of the study: interventions and settings (e.g., home, school). See Table 1 for a list of the measures included in each study, information about each study's design, approach, and key outcomes. See Table 2 for information on the measures specifically targeting father involvement.

Results

Demographics

Demographic variables were gathered across the studies and were included in the systematic literature review. We included studies that focused exclusively on preschool children (2–6 years old) and those that included a wider range of ages (i.e., 1–24 years). The age of the fathers ranged from 25–55 years. Research settings varied, but mainly included

children's homes (including in-home questionnaires or phone calls, home visits) hospitals (outpatient clinics), research labs, and preschools (Head Start). Study sample sizes ranged from 7–8,400 participants and included fathers, families, and samples from national studies. The racial and ethnic composition of the participants across the research studies ranged from 55.4–100% White/Caucasian, 2–70% Black/African American, 3–17.8% Hispanic/Latino, 1–4% Asian, 2% Native American, 2–5% multiracial, and 30–33.3% other. Family income ranged from \$25,000–\$100,000 a year. Child disability or at-risk labels included the following: developmental disability/delay (DD), intellectual disability (ID) and borderline intellectual functioning, autism spectrum disorder (ASD), pervasive developmental disorder (PDD), Down syndrome, at-risk for developmental disability, clinically significant behavior problems or externalizing behaviors, at-risk for psychopathology, and at risk for academic/behavioral challenges.

Father Involvement and Measures

Of the articles reviewed, seven examined father involvement at home, three investigated school involvement, three included interventions for fathers, and two encompassed other father involvement experiences. Across studies, research measures included fathers' self-reports and direct observations. We did not include studies with mothers reported on father involvement, as these did not meet the inclusionary criteria for our study.

Of the seven research articles examining home involvement, two used direct observation to measure father involvement (Fenning, Baker, Baker, & Crnic, 2014; Crnic, Arbona, Baker, & Blacher, 2009) and five used fathers' self-reports (Dyer, McBride, & Jeans, 2009; Fox, Nordquist, Billen, & Savoca, 2015; Laxman, McBride, Jeans, Dyer, Santos, Kern, et al., 2015; Ricci & Hodapp, 2003; Breaux, Brown, & Harvey, 2017). None of the aforementioned studies used both self-report and observation to measure father involvement. Measures covered the following variables: fathers' involvement with at-home parenting responsibilities (e.g., prepping meals, handling bedtime; Dyer et al., 2009; Fox et al., 2015; Laxman et al., 2015; Ricci, & Hodapp, 2003), academic or cognitive stimulation (e.g., reading books to child; Dyer et al., 2009; Laxman et al., 2015; Fagan & Lee, 2012), emotional involvement (e.g., attachment; Fox et al., 2015), responsive caregiving (e.g., activities or responsibilities outside of typical schedule [doctors' appointments]; Laxman et al., 2015), play (Laxman et al., 2015), parenting strategies (e.g., discipline; Ricci, & Hodapp, 2003; Breaux et al., 2017), and childrearing decisions (Ricci, & Hodapp, 2003). In all, 57% of the articles focused on at-home parenting responsibilities; 43% focused on academic or cognitive stimulation; 14% concentrated on responsive caregiving, play, and childrearing decisions, respectively; and 29% examined parenting

strategies. Observations included positive engagement and negative engagement (e.g., positivity, negativity, intrusiveness, stimulating cognition; Crnic et al., 2009; Fenning et al., 2014).

Articles describing intervention studies examined the following practices: parent-child interaction therapy (PCIT; Bagner, 2013), parent management training (e.g., teaching parents to use positive reinforcement, deliver effective commands; Caserta, Fabiano, Hulme, Pyle, Isaacs & Jerome, 2018) and parent training around effective play strategies (e.g., facilitating child-led play, commenting on child's play behaviors; Elder, Donaldson, Kairalla, Valcante, Bendixen, & Ferdig et al., 2011). All three articles utilized observations to measure fathers' outcomes, focusing on the following: play skills (Elder et al., 2011); parenting skills (e.g., use of commands and praise; Caserta et al., 2018); and targeted PCIT skills (e.g., praise & enthusiasm; Bagner, 2013).

Of the three articles examining school involvement, two used qualitative methods (Meadan et al., 2015; Mueller & Buckley, 2014) and one used quantitative methods (Turbiville & Marquis). Turbiville and Marquis (2001) used father self-report to measure school involvement (e.g., level of participation in early education program activities). Meadan et al. (2015) examined roles, responsibilities, and areas in need of more support with regards to early childhood special education for fathers. Mueller and Buckley (2014) identified the following key topic areas from the perspectives of fathers of children in the special education system: Individualized Education Program (IEP) meetings, advocacy, and working collaboratively with educators.

The two remaining articles did not employ experimental design to either assess or intervene on father involvement. Ansell, Bruns, and Chitiyo (2018) focused on strategies to increase

fathers' participation in early intervention and early childhood special education. Stockall and Dennis (2013) described impacts of fathers' play behaviors on social/emotional development and emotional regulation in children participating in Head Start.

Child and Family Outcomes

Child outcomes were identified as the dependent variable in seven articles. Child outcomes included (a) decreasing problem behavior (Bagner, 2013; Breaux et al., 2017; Fenning et al., 2014), (b) developing social emotional skills (Downer, Campos, McWayne & Gartner, 2008; Stockall & Dennis, 2013), and (c) academic achievement (Downer et al., 2008; Elder et al., 2011; Fagan & Lee, 2012). Five of the seven articles found that father involvement led to positive effects on child outcomes. Fenning and colleagues (2014) found that father behavior did not predict any change in the behavior of children at age five. Breaux and colleagues (2017) found that fathers' laxness predicted later problem behavior in children.

Collectively, six articles examined (a) parent outcomes, including maternal depressive symptoms (Laxman et al., 2015), (b) fathers' negativity towards their children (Breaux et al., 2017; Caserta et al., 2018; Fenning et al., 2014), (c) feelings towards the special education process (Mueller & Buckley, 2014), (d) increased literacy teaching (Ortiz & Stile, 2002), (e) preferences for school involvement (Turbiville & Marquis, 2001), and (f) cohesiveness with spouse and adaptability (Meadan et al., 2015). Laxman and colleagues (2015) found that father involvement in literacy during infancy was associated with later decreases in maternal depressive symptoms within families of children with ASD. Child problem behavior and borderline intelligence were associated with higher levels of father overreactivity and negative controlling behaviors (Breaux et al.,

2017; Fenning et al., 2014). Caserta and colleagues (2018) demonstrated intervention effects on the reduction of fathers' negative talk towards their children who were at risk for academic and behavioral challenges. Mueller and Buckley (2014) found that fathers reported feeling overwhelmed by IEP meetings and expressed a desire for increased relationship-building and communication with school personnel. Ortiz and Stile (2002) found that fathers reported an increase in teaching and promoting literacy with their children after having participated in parent- involvement training. Lastly, Turbiville and Marquis (2001) found that fathers preferred to participate in family-oriented school events or programs rather than men-only programs.

Differential Involvement Between Children with and without DD

Four articles examined potential differences in father involvement between children of typical development and children with disabilities, including intellectual and developmental disabilities. All four articles reported no significant differences in father involvement between children with disabilities and children of typical development (Crnic et al., 2009; Dyer et al., 2009; Fenning et al., 2014; Ricci, & Hodapp, 2003). Crnic and colleagues (2009) did find that fathers were less involved than mothers; however, this pattern was consistent across children with intellectual disability and children of typical development. In addition, one of the articles found that empowerment and strong role identity as a father predicted greater father involvement, particularly related to attachment, engagement, and responsibility for children with developmental disabilities (Fox et al., 2015).

Discussion

Throughout this systematic literature review we sought to answer the following research questions: (1) How much of the current literature measures and/or discusses the involvement of fathers with their children with DD? (2) What types of parent and child outcomes were present for father involvement? and (3) What evidence does the literature include on the implications of father involvement with their children? The discussion that follows addresses these questions and identifies areas of need related to understanding and supporting father involvement with children with DD.

Father Involvement

There were a relatively small number of studies that met inclusionary criteria for this review, especially considering the amount of research in existence on parenting of children with DD or those at-risk for related disabilities. This speaks to a continued need to further the research focused on fathers and the impact they may have on their children with DD. In addition, we found that there is great variability in how father involvement is measured across the studies included in our review. Such variability makes it difficult to make comparisons across studies and draw larger conclusions about father involvement. More research on what father involvement entails and differences that may exist across diverse groups of fathers would be beneficial in furthering knowledge of fathers' experiences in parenting children with DD.

Parent and Child Outcomes

Findings indicated that parents of children with DD may be more likely to have low-quality parent-child interactions due to increased difficulty in parenting this population (Fenning et al., 2014). Researchers have also found that father participation in treatment can lead to

positive outcomes in parenting behavior as well as child outcomes (Bagner, 2013; Caserta et al., 2018; Elder et al., 2011). Therefore, it is important to include fathers in research, especially family-based interventions (Breux et al., 2017). Elder and colleagues (2011) used fathers as the primary interventionists when using social reciprocity, where fathers later taught mothers this skill. This approach is unique in that parent-training research usually targets mothers as the primary participants; rarely has the primary participant trained secondary or alternate caregivers. Results of this study indicated positive outcomes for improving child behavior, which provides further evidence that either mothers or fathers can serve as the primary interventionists in parent- skills training programs. This suggests that studies can and should use fathers as primary interventionists. However, because only one study has taken this approach, more research on involving fathers as the targets of interventions is needed.

Interestingly, articles comparing differences in father involvement between children with disabilities and children of typical development found no significant differences (Crnic et al., 2009; Dyer et al., 2009; Fenning et al., 2014; Ricci, & Hodapp, 2003). However, father involvement was noted to be lower than mother involvement regardless of whether the child had a disability (Crnic et al., 2009). These findings indicate that father involvement may be impacted by other factors that are not associated with child disability status. It is likely that factors such as role and gender identity play a larger role in father involvement. More research is needed in determining what impacts father involvement.

Implications

There are several implications for service providers and educators who work with families

of children with DD. Early intervention and school professionals can have a significant impact on the level of involvement that a father has with his child. Professionals can support father involvement by informing them about their important and unique role in fostering child development with children with DD (Fox et al., 2015). Providing fathers with encouragement and strategies to intervene in behavior problems and enhance literacy skill development are key ways that school professionals can support fathers (Laxman et al., 2015). In addition, school personnel can provide better support to fathers through sensitivity to scheduling of events or meetings, providing in-home supports, extending specific invitations to fathers, and more explicitly seeking father input (Ancell, Bruns, & Chitiyo, 2018; Howard, Meadan, & Doubet, 2010; Mueller & Buckley, 2014). More research is also needed to identify ways to improve father participation in the special education process, including ways to decrease the overwhelming feelings fathers experience during IEP meetings (Mueller & Buckley, 2014). Many programs and schools have tried men-only parenting programs or groups; however, through interviews with fathers, Turbiville and Marquis (2001) found that such programs are undesirable and unhelpful. This is an important finding for practitioners who are making efforts to support fathers with children with disabilities in their parenting roles. Creating family events with activities for fathers may be a more effective approach in supporting fathers than father-only events or groups (Ancell, Bruns, & Chitiyo, 2018; Turbiville & Marquis, 2001).

Our research findings hold several implications for U.S. policy around father involvement within research, schools, and child development. Fagan and Lee (2012) found that cognitive stimulation provided by fathers when children were two years old had a stronger positive effect on child cognition in children who

lived in single-mother households compared to those who resided in two-parent households. This finding is significant given the context of current policies on fatherhood. Divorced parents may be less likely to take leave and take time to support their children's early education without taking significant cuts to their salary if there is not a second income in their home. In addition, national organizations such as the National Center for Fathering and National Fatherhood Initiative should focus efforts on supporting and developing outcome-oriented activities for families rather than creating father-only programs.

Special education policy is another area that requires analysis and improvement. Fathers have reported difficulty navigating the special education process, and they also report that they do not feel valued within the process that includes... (Mueller & Buckley, 2014). In addition, the inclusion of fathers in family-based interventions has been successful (Breux et al., 2017). Changes in policy to improve the special education process and include more family-based interventions may help increase father involvement with children with developmental delays.

Limitations

One of the most prominent limitations of this review is publication bias, a common limitation of systematic literature reviews. This search was limited to articles in peer-reviewed journals. This was done to ensure academic rigor; however, it may have limited the findings. Inclusion of book chapters, unpublished studies, and dissertations may have yielded different results. We also excluded single-subject designs or studies with a small sample size of fathers. These studies were excluded to maintain methodological consistency across the articles reviewed. However, inclusion of these studies may also have yielded different results. Future

reviews expanding the type of articles included will likely contribute to the growing area of research on fathers.

Conclusion

This review has identified key areas of improvement necessary for supporting fathers in their parenting role with children with DD. Federal policies including special education laws can be improved by promoting and increasing access to family-based interventions for fathers and creating processes that allow fathers to more easily navigate the special education system. This review has also identified many ways in which practitioners, including early interventionists and school professionals, can increase father involvement. Creating more family-based events or activities, extending specific invitations to fathers, explicitly asking fathers for insights and thoughts on their children and the education they are receiving, and scheduling meetings or events with fathers' schedules in mind are all important practices professionals can adopt in their work with fathers and families. This review also found that fathers have unique contributions that impact the behavioral and language development of children with disabilities. Therefore, working to increase father involvement is vital in supporting children with disabilities.

This review also found many gaps and areas for more research. Our review of the articles examining father involvement between children with disabilities and typically developing children revealed no significant differences in father involvement between the two groups. This suggests that the level of involvement with children with DD may not be due to the disability status of the child. More research is needed to determine what factors contribute to father involvement to ultimately establish better supports and policies for families of children with DD.

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