

In Search of Equivalent Social Participation: What do Caregivers of Children with Disabilities Desire Regarding Inclusive Recreational Facilities and Playgrounds?

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Abstract

The purpose of the current study was to examine what caregivers with children who have disabilities desire regarding inclusive recreational facilities and playgrounds for their children, the constraints that affect their recreational opportunities for the family as a whole, and the dream recreational facilities and playgrounds that would support families in overcoming social participation constraints. This study involved 491 caregivers. Results showed that caregivers (a) take their families to recreational facilities and visit them often, (b) indicated that their child with a disability could not fully participate in the facility's offerings, (c) felt that recreational facilities and playgrounds were not appropriate for their child with a disability, and (d) dreamed of a recreational facility and playground that met the needs of *all* family members. Results and implications are discussed by disability category.

Key Words: Caregivers, Playgrounds, Parents, Social Participation, Preferences

The World Health Organization (WHO), in its publication entitled *International Classification of Functioning, Disability, and Health*, defines social participation as involvement in life situations or sharing an activity (WHO, 2001). Social participation often comprises one's involvement in communication, mobility, self-care, and interpersonal interactions and relationships (Shikako-Thomas, Bogossian, Lach, Shevell, & Majnemer, 2013). Social participation in recreational activities is often not considered (WHO, 2001). Several factors may influence a child's social participation in play including age, gender, residential location (e.g., urban, suburban, rural), the presence of a disability, and socioeconomic status (King, Shields, Imms, Black, & Arden, 2013). Social participation in play for children with disabilities is often thwarted as a result of physical barriers within the environmental setting and social exclusion by peers (WHO, 2008). To make equal

access to social participation for children with disabilities a reality, an understanding of the factors influencing social participation by disability category and status would assist policy, service planning, and intervention planning.

Prior research has identified personal and environmental barriers to social participation for play in children with disabilities. Personal barriers for children with disabilities include a limited number of peers with whom to socially participate, deficits in motor skills and independence, cognitive deficits, and social-emotional skill delays (Browder & Cooper, 1994; Solish, Perry, & Minnes, 2010). Environmental barriers such as architectural barriers, organizational policies and practices, discrimination, and social attitudes also lead to a reduction in social participation (Rimmer, 2005). Together, these barriers contribute to substantially less physical activity and

decreased social participation in children with disabilities when compared to peers who are typically developing regardless of disability category (Carlon, Taylor, Dodd, &

Shields, 2013; King et al., 2013; Shields, Dodd, & Abblitt, 2009). To make equal access to social participation a reality for children with disabilities, playground developers and manufacturers must take into consideration the wide range of children's physical abilities, psychological abilities, personal stamina, and individual preferences. Additionally, strategies for social inclusion must be considered so that opportunities for social interaction between children of disabilities and their families occur within the natural playground environment (Stanton-Chapman & Schmidt, 2016).

Social Participation in Children with Disabilities

Full social participation in recreational activities is particularly important for children with disabilities to help ensure their ability to relate to others and have a successful transition to adulthood. The available literature suggests that there are more similarities than differences in the social participation of children with varying disabilities. Children with autism (Potvin, Snider, Prelock, Kehayia, & Wood-Dauphinee, 2013; Solish, et al., 2010), cerebral palsy (Carlon et. al, 2013; Parkes, McCullough, & Madden, 2010; Shikako-Thomas et al., 2013), communication disorders such as specific language and speech impairments (Clarke et al., 2012), developmental disabilities (Amado, Stancliffe, McCarron, & McCallion, 2013), Down Syndrome (Shields, et al., 2009), intellectual disabilities (King, et al., 2013; Shields, King, Corbett, & Imms, 2014), and physical disabilities (King, Petrechik, Law, & Hurley, 2009) participate in fewer recreational activities than their typically developing peers, are more likely to engage in more home-based recreational play, and tend to visit community playgrounds less frequently. When social participation differences occur within a disability category, they tend to be correlated with the severity of a given disorder. For example, children with cerebral palsy who are more independent and require less support from family members tend to participate more in recreational activities than their peers with cerebral palsy who have more mobility deficits and require more support from caregivers (Darcy & Dowse, 2012).

Children with autism have additional barriers that affect their social participation in recreational activities and school playground play. For example, they rarely interact with peers in free play situations (Hauck, Fein, Waterhouse, & Feinstein, 1995), make fewer social initiations with peers (Lord & Magill-Evans, 1995), and are less likely to creatively play with equipment (Lewis & Boucher, 1995; Stanton-Chapman & Schmidt, 2016). Additionally, children with autism, while participating in recreational activity, may demonstrate unusual manipulation of objects, have unusual interests, and display rigidity regarding

objects or routines (Machalicek et al., 2009; Rutter, 1978). Regular play dates with typically developing peers may ameliorate these behaviors in children with autism and increase their social interactions (Frankel, Gorospe, Chang, & Sugar, 2011), even though their total interactions still remain lower.

Ensuring that children with disabilities benefit fully from the myriad of social opportunities and learning experiences available to them remains a substantial challenge for many families. To date, the majority of the social participation literature focuses on the social participation of adolescents and adults with disabilities. Few articles have been published regarding the social participation of younger children with disabilities (ages 12 years and younger). This population of children tends to visit community playgrounds. The limited literature available focuses on children's social behaviors while on the school playground during recess. While this is an important area of research, children with disabilities are in a setting with familiar peers during their recess time possibly supported by special education teachers. Caregiver perceptions of community playgrounds add to the literature base as the caregivers are making a choice to take children to the community playground, the peers on the playground may not be familiar peers to the child with disabilities, and the caregivers who bring their children with disabilities to the community playground may not have the necessary skills to support their children socially as a trained special education teacher could.

There is a need for research that explores what families with children who have disabilities desire regarding inclusive recreational facilities and playgrounds for their children, the constraints that affect their recreational opportunities for the whole family, and the dream recreational facilities and playgrounds that would support the families in overcoming social participation constraints. Significantly lower rates of social participation among children with disabilities has been equated to the playground's physical environment (i.e., equipment), and has explored what will improve the social participation rates of adolescents and adults (Rimmer, 2005). There is little information available on what playgrounds and recreational opportunities caregivers want for their children with disabilities (ages 12 years and under). Additional research on caregivers' input is needed to build an infrastructure for future playground development and recreational program design that will enhance social participation among younger children with disabilities.

Disability category is one of many factors that may influence a family's choice of recreational activities for their children. However, naturalistic observations of recreational activities of families who have children with disabilities is lacking. Traditionally, accessible playgrounds (i.e., defined as playgrounds that are easy to enter and use) have targeted

children who have physical disabilities and require the use of mobility aids (i.e., wheelchairs, walkers, braces); (Burke, 2013; Moore & Lynch, 2015). Special education professionals, however, report that accessible playgrounds do not meet the needs of their students' with disabilities, and more work is needed to address the social participation of all students who are disabled (Stanton-Chapman & Schmidt, 2016). A clearer understanding of the relationship between disability categories and accessible playgrounds is necessary to begin to develop inclusive recreational facilities and playgrounds that will support *all* children with disabilities and their families. The research questions guiding this study are: (a) what are caregiver perceptions of current community recreational facilities and playgrounds; (b) what are the reasons children with disabilities are unable to fully participate in current outdoor recreational activities and on community playgrounds; and (c) what dream playgrounds would support the families in overcoming participation barriers in children with disabilities?

METHOD

Participants

The first author approached the Virginia Department of Education in the United States of America requesting contact information for all directors of special education programs in both private and public schools and agencies. In total, 343 special education program directors were consulted. Directors were asked if they would send a link to an anonymous survey to all families they served in an email as well as provide a link to the survey and a brief description of the study in a parent newsletter. A total of 289 program directors (84%) agreed to assist with the survey. Of these programs, 173 programs (60%) were public school based and 116 programs (40%) were private school based or agency based serving children with disabilities. The majority of the private schools or agencies provided self-contained services to children with low incidence disabilities. Due to Institutional Review Board (IRB) restrictions to protect anonymity, the survey did not ask caregivers to provide the name of their child's school or geographic location.

Participants included mothers, fathers, grandparents, and foster parents who volunteered to complete an anonymous survey of their perceptions regarding community playgrounds and recreational activities. A total of 491 participants agreed to participate and completed the whole survey. Survey participants varied in terms of role: 363 (73%) described themselves as mothers, 79 (15%) as fathers, 49 (9%) as a grandparent and the remaining 14 (3%) as a foster parent. The group was primarily female (82%) and Caucasian (55%) with 33% being African-American, 4% being Hispanic, and 8% being bi-racial. Most participants (301, 61%) were middle-aged between 35 and 55 years old. Participants reported having

additional children in the household besides the child with a disability: 175 (36%) had a total of 2 children and 169 (34%) had a total of 3 or more children in the household. According to the Virginia 2015 Census data (U.S. Census, 2015), the overall Virginia population is 50.8% female, 63% between the ages of 35- and 55-years old, 70.2% Caucasian, 19.7% African-American, 9% Hispanic, and 2.9% bi-racial. The current study's sample has more female participants and minority participants than the overall Virginia population.

Survey Measure

The Family Recreational Needs Survey (Stanton-Chapman & Schmidt, 2014) was designed to gather information on family members' perceptions of their current recreational activities, available community playgrounds, and their attitudes regarding the participation of individuals with disabilities in recreational activities, use of playground equipment, and sporting leagues. The survey was anonymous and contained open-ended and close-ended questions.

Initial survey development. To strengthen content validity, a draft of the survey was reviewed by parents who have children with disabilities who did not participate in the study, and by university professors with expertise in special education and families. The survey was revised based on their input (e.g., wording of questions changed, revisions in answer choices, the addition of more answer choices). The revised survey was piloted with 20 families who had a child with a disability but did not participate in the current study. Final revisions were made to the survey based on the input provided from pilot families (e.g., ordering of questions, minor changes in the wording of the questions).

Finalized survey. The final survey consisted of 20 questions. Sixteen of the questions were close-ended and focused on demographics and perceptions. These questions asked participants to select the most appropriate answer from a list of choices. Four of the questions were open-ended questions where the respondents provided a written response. The current study reports on 11 close-ended questions (e.g., demographics; preferences) and two open-ended questions. The open-ended questions were as follows: (a) If your child was not able to fully participate in a recreational facility's offerings, why couldn't he or she participate; (b) What is your dream playground for your child with a disability; (c) Describe your child's experiences at a typical playground; and (d) Describe your experience at a typical playground when you visit with your family. The respondents were expected to provide a narrative. The current study addresses open-ended questions A and B. To keep within the journal's page limitation, open-ended questions C and D will be answered in a future publication.

Procedures

Data were collected during a 4-month period. Directors who agreed to assist with caregiver recruitment were sent a link to the anonymous, online survey and were provided with paper surveys and stamped envelopes addressed to the first author's university address. Email reminders containing a link to the survey and a statement indicating paper-based surveys were available upon request were sent to program directors every three weeks until the end of the data collection period.

To be included in the survey, individuals had to have a child with a disability ages 2-12 living in their current household. This age group was selected as playground manufacturers target children ages 2-12 years. Of the 491 participants, 467 (95%) completed a web-based form, and 24 (5%) completed a paper-based version of the same survey. Survey participants were not compensated for their survey responses. Caregivers who selected to complete the online survey clicked on the link and were taken to an online electronic consent letter. The survey appeared after the participant agreed to do the study. Only one family member per household was permitted to complete the online survey. The survey took 15 to 20 minutes to complete. We were unable to control how many paper surveys were completed by family members in each household as we did not distribute them directly to families. We also are unable to determine which directors distributed the emails to families as our IRB did not allow us to collect this information to protect anonymity.

Data Analysis

Paper-based and online survey results were entered into Microsoft Excel. A chi-square analysis determined there were no demographic differences between participants who completed the online versus the paper-based surveys. Frequency counts of responses were conducted using Microsoft Excel's summation function.

Initial coding. Initial themes were developed first to reduce the amount of data to be coded in NVivo (QSR International Inc., 2007) given the large number of participant interviews ($N = 491$). Open-ended responses were entered into a Microsoft Excel database. The responses were coded by two research staff with Master's degrees in Early Childhood Special Education and more than five years classroom experience. An expert in qualitative methodology provided feedback on methodological issues during the analysis. Using a content analysis procedure, responses were coded at the word or phrase level to capture the perspective that respondents were describing. It was possible that one response could have contained multiple key ideas. For example, a response to the question regarding social networks of children with disabilities (e.g., having a place where my child with autism can possibly meet new friends or communicate with

kids his same age) was coded in two different categories (friendship building and social interaction).

To develop initial categories, one research staff member randomly selected and reviewed 25% of respondent answers (120 responses) for each open-ended response and noted key ideas that were represented in each of the responses. Then two research staff members reviewed an additional 25 participant responses looking for similarities across participants to develop initial themes. Once themes were identified, research staff defined the themes using exemplars from the reviewed responses. Incomplete answers or responses that did not answer the question posed were sorted into a miscellaneous category that were analyzed after initial responses were developed.

After developing initial themes, research staff reviewed an additional set of 120 responses (25%) to determine the extent to which these themes were evident in this additional sample. They independently coded the responses using the previously identified categories. Additional categories were developed, while others were combined based on a review of the miscellaneous categories (e.g., incomplete answers; responses which did not answer the posed question). These revised categories were then used to code all of the responses using the NVivo 7 qualitative software program (QSR International, 2007).

NVivo coding. When coding with NVivo, coders first became familiar with the data by reviewing transcriptions and the initial code categories that were developed previously (step 1: data familiarization). Second, all responses previously identified as addressing the current study's research questions were coded by means of NVivo software (step 2: code generation). A code is a summary of an essential characteristic of a participant's response. The contextual richness of the participant's response was taken into account and multiple codes were captured in a participant's response. Coding terminology was kept as close to the participant's phrasing as possible. Every 3- to 5- interview responses, coders coding schemes were compared. Only minor differences between the coders existed. These differences were resolved by deliberation and integrated into one scheme containing codes from the three coders. Third, patterns in the data reflecting important and distinct features of the responses were organized into themes and subthemes based on initial themes (step 3: search for themes). A collection of codes was considered a new theme based on its relevance to answering the study's research questions, its centrality in the responses of one or more participants, and its uniqueness as compared to other themes. Fourth, the themes were continuously and iteratively cross-checked against the participants' responses, and to make sure that other important themes were not overlooked (step 4: review of themes). These first four steps were repeated with each new participant's interview response until saturation

was reached. Saturation is an estimation that additional data will not result in new information critical for the research question. Finally, themes were labeled and completed with a definition based on the participant's vocabulary (step 5: theme definition and labeling) Twenty percent ($n = 98$) of the surveys were double-coded through random selection for reliability purposes, yielding an interrater reliability of 83%. Disagreements were resolved through discussion to achieve mutual consensus among the coders.

RESULTS

A total of 491 surveys were completed. The categories of disabilities represented by the caregivers' children were: (a) autism (high and low functioning autism; 147 children, 30%), (b) intellectual disability (74 children, 15%), (c) developmental delay (58 children, 12%), (d) behavior disorder (50 children, 10%), (e) learning disability (50 children, 10%), (f) orthopedic impairment (39 children, 8%), (g) specific language impairment (35 children, 7%), (h) multiple disabilities (24 children, 5%), and (i) other health impairment (14 children, 3%). None of the caregivers had children with deaf/blindness or visual impairments. Age groups of the respondents' children with disabilities included: (a) 3 to 5 years of age (133 children, 27%), (b) 6 to 8 years of age (196 children, 40%), and (c) 9 to 12 years of age (74 children, 15%). These age groups are the typical ages for traditional playground equipment (ages 3 to 5; ages 5 to 12; National Program of Playground Safety, 2012).

Over 400 participants (82%) indicated that they took their families to a recreational facility at least six times in the past year. Thirty-four individuals (7%) reported that they did not take their families to a recreational facility and 54 individuals (11%) took their families one to five times. Participants who reported they did not take their families to a recreational facility or only took their families one to five times a year were more likely to have children with autism ($n = 73$, 83%), other health impairments ($n = 12$, 14%), or behavior disorders ($n = 3$, 3%).

Table 1 reports the types of recreational facilities participants or one of their family members visited in the past 12 months. Participants were asked to check as many choices that were applicable to their situation; regardless of whether or not their child with a disability went with them. Thus, percentages are greater than 100%. The purpose of this question was to determine whether or not any family member had interest in recreational activities as no interest would most likely indicate that he or she would not be interested in inclusive recreational facilities or playgrounds for their children. Caregivers were asked to indicate if their child with a disability attended with them. Respondents reported using hiking, walking, or biking trails, playground equipment, and the community swim-

Table 1

The Type of Recreational Facilities or Activities Frequented by Study Participants

Recreational activity	Number of participants	Percentage of participants
Playgrounds	373	76%
Community Swimming Pool	319	65%
Walking/Hiking/Biking	285	58%
Picnic Shelter	172	35%
Soccer Fields	172	35%
Softball/Baseball Fields	147	30%
Basketball Courts	142	29%
None	54	11%
Public Golf Course	29	6%
Track	5	1%
Spray Grounds	5	1%

Note. Participants could respond to multiple categories so percentages do not equal 100%

ming pools. Respondents took their children with disabilities to all answer choices with the exception of a track and a public golf course.

Although caregivers reported using recreational facilities, 403 participants (82%) felt that their child with a disability could not fully participate. When asked how their child's inability to fully participate affected their family's overall recreational choices, respondents frequently mentioned that: (a) the child with a disability stays home while other family members participate in outdoor recreational activities ($n = 251$, 51%), (b) the family drives over 30 minutes from their home to locate more inclusive recreational facilities ($n = 101$, 21%), and (c) the family participates in indoor recreational activities such as board games or book reading ($n = 64$, 13%). More in-depth analyses revealed that caregivers who have children with autism ($n = 117$, 47%), behavior disorders ($n = 46$, 18%), or other health impairments ($n = 13$, 5%) were more likely to keep their child with a disability home while other family members participated in outdoor recreational activities. Caregivers who have children with orthopedic impairments ($n = 62$, 61%) and multiple disabilities ($n = 18$, 18%) were more likely to drive over 30 minutes from their home to locate more inclusive recreational facilities. Caregivers who have children with intellectual disabilities ($n = 32$, 50%) and specific language impairments ($n = 18$, 28%) were more likely to participate in indoor recreational activities.

Table 2 reports on participants' opinions on why their child with a disability was not able to fully participate in a recreational facility's offerings. This question addressed the research question regarding caregiver perceptions of

Table 2
 Caregiver Perceptions of Current Community Recreational Facilities and Playgrounds

Reasons given	Number of participants	Percentage of participants
Facility not appropriate (e.g., no adaptations made)	322	65%
Doesn't offer activities child likes	272	55%
Worried about child's safety	174	35%
Not comfortable bringing child (e.g., social stigma, teasing)	121	25%
Not interested	54	11%
No other kids with disabilities present	29	6%
Rules are too restrictive	10	2%
Child's disability prevents It (e.g., significant health concerns)	6	1%
Couldn't afford to use it	5	1%

Note. Participants could respond to multiple categories so percentages do not equal 100%

current community recreational facilities and playgrounds. An analysis of 403 responses (those participants who said their child with a disability was not able to fully participate) indicated nine categories, with most participants listing, “the facility and its offerings were not appropriate for my child with a disability as no adaptations were made” as their top reason (n = 263, 65%). More than half mentioned, “the facility doesn't offer activities my child enjoys,” whereas 35% (n = 143) reported their concern for their child with a disability's safety if he or she actively used the recreational facility. Approximately 25% (n = 101) expressed their worry about how their child's peers would view their child.

When asked how they would design an inclusive playground for children with disabilities (i.e., their dream

playground), five themes emerged (refer to Figure 1 for a tree structure of themes, subcategories of themes, and examples). The first theme expressed the need for new playground equipment, especially to meet the needs of children with sensorimotor concerns. One caregiver reflected: “Probably our biggest challenge is finding a playground that meets my child's sensory needs, on [typical] playgrounds, he doesn't use the equipment.He walks around and picks grass.” Another example comes from a caregiver whose son is overly fearful of swings: “[name of child] runs off when a peer gets on a swing. He has a meltdown and wants to leave.” A second theme centered on a need for a playground to meet the needs of all family members. A caregiver noted, “I need one place

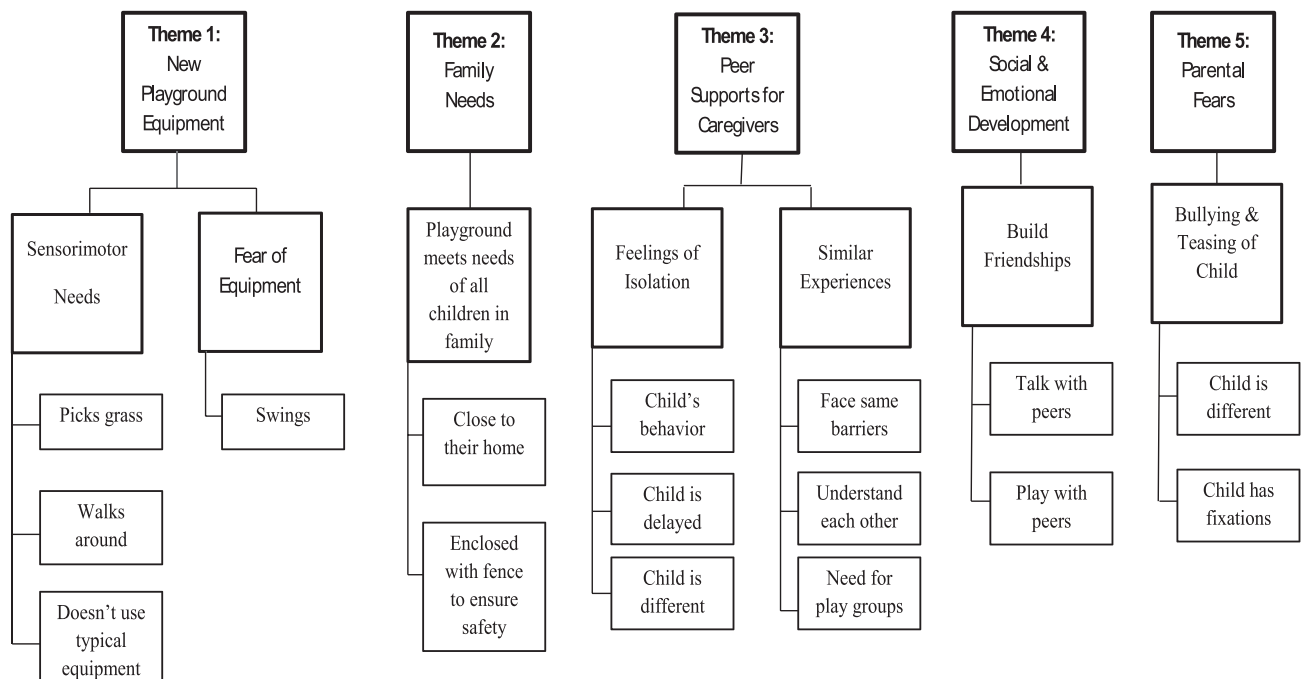


Figure 1. Tree Structure of All Themes.

where I can take my child with a disability and his sister. Right now I have to pick one child who gets to have fun while the other one is bored. Usually my daughter [typically developing child] is the one having fun.” A second caregiver added, “We drive 30 minutes to the inclusive playground. It is great for my daughter with cerebral palsy but my older son is bored. One slide is not enough to keep him interested.”

The third theme addressed the importance of peer supports for caregivers who have a child with a disability. One participant commented, “Having an autistic child with behavior problems isolates me. While social media can connect me to other parents, I can’t get face-to-face advice.” Another caregiver added, “Other parents [who have a child with a disability] face the same societal and attitudinal barriers that I face with my child. We get each other. I need that support but don’t often get it.” Most caregivers expressed a need for an inclusive playground that allows them to meet other families who have children with disabilities and allows them to make play groups outside of the home setting. One caregiver said, “I wish there was an inclusive playground near my home that I could meet other moms who take care of a child with a disability and have social groups for me and my daughter. The closest one is an hour away.”

The development of friendships and social interactions between children with disabilities and their peers was the focal point of the fourth theme. A caregiver noted, “My one wish is to have my child play on a public playground with other kids so he can make friends and have fun.” Another participant added, “Playgrounds are places where kids learn how to interact with the world and my child doesn’t have a playground near us which meets his needs.”

The final theme focused on the caregivers’ fears of their children being teased or bullied at typical playgrounds. For example, responders specifically mentioned their apprehensiveness of taking their child to a typical playground. Common responses include: a) “My child has autism and his differences with his peers and his desire to make friends make him an easy target for teasing”; b) “My daughter is fixated on following the rules. If she sees a child walk up the slide, I know she will tell a child that he shouldn’t be walking up a slide and this could lead to a problem”; and c) “[name of child] has Down Syndrome. I am afraid children will call him names because he doesn’t look the same as they do.”

DISCUSSION

This study investigated what caregivers who have children with disabilities desire regarding inclusive recreational facilities and playgrounds for their children, the constraints that affect their recreational opportunities for the entire family, and the dream recreational facilities and playground that would support the families in overcoming the

constraints of social participation. Findings from this study suggest that caregivers perceive social participation by young children with disabilities to be a valuable and beneficial experience. Overall, participants in the current study found enjoyment in family recreational activities and visit them often, at least six times in the past year. The most popular recreational activities were visiting playgrounds, visiting the community pool, and hiking, walking, and bike trails. Caregivers reported that their child with a disability often went with them to a recreational facility.

Social Participation and Disability Category

Findings from the current study contribute to our understanding of social participation patterns in young children with disabilities (ages 12 and under), and that this understanding can elicit critical thinking about the needs of this population when establishing recreational programs and building playgrounds to promote social participation in this population of children. Overall, caregivers believed their children with disabilities could not socially participate on a playground and the consequences of the lack of social participation. For example, caregivers who have children with autism responded overwhelmingly that playgrounds and recreational activities were not developmentally appropriate for their child, they did not feel comfortable bringing their child to a playground, and playgrounds do not offer activities that their child liked. These same caregivers reported that they were more likely to keep their children home. This finding supports existing school playground literature that children with autism are less engaged with the physical structure of a playground (Pan 2008; Stanton-Chapman & Schmidt, 2016), are less engaged in social interactions with peers on playground settings (Lang et al., 2011), and need a more structured recreational environment to meet their social participation needs (O’Hara & Hall, 2014). In addition, parents’ concerns about their child’s acceptance and interactions with peers in recreational activities have been previously acknowledged (Solish et al., 2010). These concerns may encourage families in keeping their child with autism home as we saw in the current study.

Caregivers who have children with orthopedic impairments were more likely to be concerned with the safety of their children when visiting playgrounds with their children. Consequently, many caregivers who have children with orthopedic impairments indicated that they were willing to travel over 30 minutes from their homes to allow their child to socially participate at a more developmentally appropriate playground. Our results differ from that of King et al. (2009) who reported that children with physical disabilities tend to participate in more home-based recreational play and less likely to visit community playgrounds. The literature discusses how caregivers’ self-efficacy affects social participation rates in young children with physical disabilities (Rosenberg, Bart, Ratzon, & Jarus,

2012), and thus, may be a contributing factor in the current study. If caregivers believe that children with disabilities are able to socially participate to the best of his or her abilities if given the proper environment, then caregivers will be willing to travel great distances to locate the proper environment. Future studies should focus on parental interventions that may influence child social participation including parenting style, parental awareness and involvement, and caregiver self-efficacy beliefs.

Recreational Dream Facilities and Activities

These data from caregivers of children with disabilities expanded our understanding of caregivers' dream recreational facilities and playgrounds for children with disabilities. As we expected, these findings indicate that respondent, regardless of their child's disability category, primarily described a playground that would meet the needs of *all* children in the family. The results also emphasize the value of providing playgrounds that meet the unique needs and play behaviors of children with disabilities especially those without ambulatory disabilities. For example, children with sensory processing disorders tend to engage in solitary play that is relatively immature for their chronological age and do not include the use of the available playground equipment (Cosbey, Johnston, Dunn, & Bauman, 2012). Indeed, caregivers who have children with autism, in the current study, consistently mentioned how their child plays alone on a typical playground and often does not use the equipment provided. The data in this study lend some support to the notion that changes in playground design could support playful peer interaction and social initiations in children with disabilities especially autism.

Legal mandates for accessibility tend to focus on the needs of children with physical disabilities (Institution for Human Centered Design, 2016). Consequently, accessible playgrounds mean the addition of ramps to allow children who use mobility devices access to the playground equipment. While ramps are beneficial to children with physical disabilities, ramps offer little social value to children with disabilities who do not require the use of mobility devices and are able to access the playground equipment similar to children who are typically developing (Ripat & Becker, 2012).

Although accessible entrances and barrier-free equipment are necessary components of an inclusive playground, the findings from the current study show that these changes alone do not promote socialization, do not meet children's sensorimotor needs, and do not lead to social and imaginative play. The literature recommends changes to the fixed equipment structure and the addition of sensorimotor equipment to meet the social participation needs of children with autism, behavior disorders, and intellectual disabilities. For example, Yuill, Strieth, Roake, Aspden, and Todd (2006) recommend a circuit-style

structure for fixed equipment (i.e., playground equipment is arranged in a clear, continuous play circuit) as it provides structure and had been found to maintain play in children with and without disabilities on the school playground. Menear, Smith, and Lanier (2006) suggest a circular design arrangement for fixed equipment (i.e., equipment is arranged in a circle with a central open area) as it also provides play structure to children with disabilities. Research also indicates that fixed playground equipment that is designed as common objects (e.g., car, house, boat, animal) creates a play environment that is well-known to all children and increases role-playing, creativity, and social engagement in all children with disabilities especially those with intellectual disabilities (Willenburg et al., 2008). Ring chambers that make bubbles, colorful, vibrant panels, and musical equipment can also add to the overall playground design (Stanton-Chapman & Schmidt, 2016; Torkaman & Shahabi, 2015). These structure changes complement children's sensorimotor needs and range in cost from \$1,000 to \$10,000 (Kodjebacheva, 2008). They would help make accessible playgrounds inclusive and more appropriate for children with all disabilities, and not just those with physical impairments.

Limitations

This study had several limitations. First, this study involved heterogeneous groups of participants including mothers, fathers, grandparents, and foster parents. It is likely that caregivers who responded to the survey tended to be those individuals who were more invested in the topic. Second, the sample only represents perspectives of caregivers in a specific geographic region (Virginia, United States). Their perspectives of the topic may deviate from those in other states or countries. Third, one of the challenges with survey responses is the accuracy of respondent reporting and whether their given responses reflect actual experiences and beliefs or socially desirable answers. The use of multisource and multimethod strategies for needs assessment including interviews and observation is recommended in order to provide a more reliable dataset to guide the development of inclusive recreational facilities. Fourth, IRB restrictions (i.e., program directors sending out the survey link to the caregivers in their program rather than project staff) prohibited the ability to calculate response rates to protect the anonymity of participants. Readers are cautioned that the unknown response rate may affect the generalization value of the study's results.

Implications

Social participation in play for children with disabilities is often thwarted as a result of physical barriers within the environmental setting and social exclusion by peers (WHO, 2008). Caregivers of children with disabilities often

report challenges in locating playgrounds that accommodate the range of ages, skills, and interests of *all* of their children (Jeanes & Magee, 2012), and find that play equipment designed to foster creative play in typically developing children is not sufficient to support such play for children with disabilities. Existing literature suggests that children with disabilities are often marginalized within typical play spaces, especially if such children have sensory needs (Yantzi et al., 2010). Since the release of the Accessibility Guidelines for Play Areas (U.S. Access Board, 2000) and the ADA Standards for Accessible Design (U. S. Department of Justice, 2010), recreational developers have replaced their quest for building playgrounds that have social value to building playgrounds that comply with the minimum accessibility standards.

If our goal is to support the recreational play of *all* individuals with and without disabilities, the current research suggests that recreational developers, special educators, researchers, and policymakers consider several critical factors when developing playgrounds. One essential factor is being cognizant of the needs of all children with disabilities; not just children with physical disabilities. In the current study, caregivers overwhelmingly mentioned the need to meet the needs of children with sensorimotor concerns. Second, the playability of a playground should also be considered during initial playground development. Playability is the potential for children to engage in actual play and non-play activities (Czalczyńska-Podolska, 2014). Playability can be achieved by including spatial features in the playground (e.g., circuit or circular playground equipment arrangement) that generates both social integration and interactions between the children. Devine and Parr (2008) advocate that playgrounds should allow all children to attain goals, be active participants in play, and have autonomy and choice over their play experiences. More structured playground equipment designs may help children with disabilities to achieve those goals. Third, an inclusive playground that meets the ability levels of all children is not enough to support the social-emotional development of children with disabilities. Evidence from the current study and prior literature indicates that social skills intervention and support is needed to develop the social skills of children with disabilities (e.g., Frankel et al., 2011). Indeed, caregivers in the current study mentioned how they worry about whether their child with a disability will make a friend on a playground, if their child will be bullied or teased, or how their child's play style will be perceived by peers. Without such intervention and support, we may be setting up children with disabilities for failure.

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