

A Miracle in the Outfield: The Benefits of Participation in Organized Baseball Leagues for Children with Mental and Physical Disabilities

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Abstract

Few studies have examined the perceived benefit of recreational activities for children with disabilities from the parent's perspective. The purpose of this pilot study was to measure the perceptions of parents whose children with disabilities participated in an organized community baseball league. Data were collected using a survey instrument that was administered to 42 parents of children with disabilities participating in a community baseball league. An analysis of the quantitative and qualitative data suggests that parents of children with disabilities believe participation in sport activities enhances motor and psychosocial skills and that participation has a positive impact on the entire family unit. The observed positive results indicate a need for future systematic studies designed to examine the positive effects of community baseball leagues on children with disabilities and their families.

KEYWORDS: *Recreation, Disability, Children, Community sports, Benefits*

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Reports from the World Health Organization (WHO) estimate that approximately 200 million children worldwide experience some form of disability (World Health Organization, 2008). According to the American Community Survey (ACS) conducted by the U.S. Census Bureau, the prevalence of disability among children in the U.S. ages 5-15 is 6.3% (U.S. Census Bureau, 2006). Unfortunately in the U.S., the lives of children with disabilities are oftentimes made more difficult by societal barriers and the way society responds to disability (Sloper & Turner, 1992). While there are a number of available services designed to meet the needs of families of children with disabilities, many families continue to have a number of unmet needs.

Opportunities for Recreation Participation

Participation in typical age-appropriate activities is among the most difficult challenges facing children with disabilities. Children with disabilities are limited in their participation in recreational and social activities relative to their peers without disabilities (Antle, Mills, Steel, Kalnins, & Rossen, 2008; Murphy & Carbone, 2008). As a result, many feel socially isolated, thus compounding the magnitude of the disability (LaGreca, 1990; Law & Dunn, 1993; Zabriskie, Lundberg, & Groff, 2005). This perceived isolation can lead to poor health, limited community participation, and poor quality of life (Zabriskie et al.).

It is well documented that participation in age-appropriate activities is important for developing friendships and achieving mental and physical health (Edouards, Gautheron, D'Anjoub, Pupiera, & Devillarda, 2007; Wilson, 2002). Regular participation in physical activity is one of the most effective ways children, including those with disabilities, prevent chronic disease, promote independence, and increase quality of life as they grow older (Cress et al., 2004). Despite the increased number of community-based programs for children with disabilities, there has been limited research designed to examine the specific benefits of baseball as a primary form of recreational activity for children with mental and physical disabilities and their families. Additionally, little is known about the satisfaction of parents of children with disabilities who currently are involved in structured community based recre-

ational programs, particularly organized baseball leagues specifically designed for children with special needs. Therefore, the specific aim of this pilot project was to examine the perceived needs, benefits, and satisfaction among parents of children with mental and physical disabilities who participated in a community baseball league.

Method

Sample

The targeted population for this study was parents of children participating in a "Miracle League". The "Miracle Leagues" are a network of community baseball organizations designed to increase recreational activity in children with physical and mental disabilities. Children with disabilities are assigned to organized baseball teams with peers. Miracle Leagues are organized with community volunteers or "buddies" who assist the players with batting and reaching the bases. Miracle League games operate using the following basic rules: (1) all players have a turn to bat each inning, (2) all base runners are safe, (3) every player scores a run before the inning is over, and (4) each team and each player wins. There are over 200 Miracle Leagues in the United States and Puerto Rico consisting of approximately 80,000 children and young adult players.

The study sample was made up of parents whose children participated in the Charleston Miracle League (CML) in Charleston, SC. Participants in the Charleston Miracle League youth league range in ages of 4 to 17 years. All parents of children participating in the Charleston Miracle League in 2008 were emailed an invitation to participate in a survey. The survey was conducted by the Charleston Miracle League organization to collect data on the impact of the league on the families and players. The information was used to help guide future growth and development of the league and provide valuable information to sponsors and donors. Of the 130 children participating in the league, approximately 98 parents were contacted using this process. Additionally, all parents were also personally invited by the executive director of the Charleston Miracle League to complete the survey during scheduled Miracle League games. Parents were allowed to either return the survey via email or submit directly to the League director during

scheduled games. Of the 98 parents contacted, 42 returned the survey resulting in a 43% response rate.

Instrumentation

A 10-question Likert-type scale survey was designed by the staff of the Charleston Miracle League to measure: (1) the perceived need for recreational activities of children with disabilities residing in Charleston, SC, (2) the perceived benefits of participating in the Charleston Miracle League including improvements in motor function, self confidence, social skills, and beliefs of being able to succeed, and (3) the overall effect the Miracle League has on the families of children participating in the League (See Figure 1). Survey responses consisted of: strongly agree, agree, neutral, disagree, or strongly disagree. The survey also included a section for parents to provide written responses to open-ended questions related to their favorite part of league, effects on the child, and suggestions for league improvements. The primary aim of the survey was to examine the parent’s global perception of the benefits of their child participating in a struc-

tured baseball league. The information from this survey was collected anonymously from families; therefore, responses cannot be linked to specific families and their children. Reliability and validity of the survey instrument were not established.

Analysis

Results of the data collected from this survey were analyzed by the authors of this paper to explore the parents’ perceptions of the impact of their child’s participation in an organized baseball league. All responses to questions 1-10 were analyzed using in Statistical Package for the Social Sciences (SPSS 14.0). For ease of analysis, responses were collapsed into three categories: strongly agree/agree, neutral, or disagree/strongly disagree. Data were then analyzed to determine the percentage of parents who responded to the questions in each of the three revised categories (agree, neutral, disagree). The responses to the three open-ended questions were reviewed using a general thematic analysis. Responses were grouped into five thematic categories: (1) health/motor skills, (2) motivation, (3) self-

FIGURE 1.
QUESTION STEMS FROM THE MIRACLE LEAGUE PARENT SURVEY

Items rated on a 5-point Likert scale ranging from strongly agree to strongly disagree	
1.	There is a need for recreational activities for children with disabilities in Charleston County.
2.	My child has enjoyed participating in the Charleston County Miracle League.
3.	I have noticed an increase in my child’s motor skills since playing in the Miracle League.
4.	I have noticed an increase in my child’s baseball skills since playing in the Miracle League.
5.	I have noticed an increase in my child’s self confidence since playing in the Miracle League.
6.	My child has a stronger belief that he/she can succeed at something since playing in the Miracle League.
7.	I have noticed an improvement in my child’s social skills since playing in the Miracle League.
8.	My child has made new friends by playing in the Miracle League.
9.	My child’s participation in the Miracle League has had a positive impact on our family.
10.	Playing in the Miracle League on Saturday is one of my child’s favorite activities.
Open ended questions posed after the Likert Scale	
1.	What do you like most about the Charleston Miracle League?
2.	What would you like to see us do better?
3.	Tell us your story? How participation in the Miracle League affected your child? Family?
4.	Please provide any additional comments about how we can improve the league in the future.

esteem/confidence, (4) friends/social relationships, and (5) family. This information provided greater insight and supported the responses given in the 10 Likert scale questions

Results

Sample

In 2008, approximately 130 children participated in the Charleston Miracle League and almost one-third or 42 parents completed the survey ($N = 42$). The survey did not request parents to identify their child's medical diagnosis, therefore specific disabilities represented by the parents responding to the survey ($N = 42$) are unknown. The authors were able to collect general data on 2008 CML league participants and types of disabilities through player registration forms. Among children participating in the 2008 season, 29% had a diagnosis of autism; 15% cerebral palsy; 10% Down Syndrome, 10% an unspecified developmental disorder; 5% attention deficit hyperactivity disorder, 5% intellectual disability, 5% a seizure disorder, 5% a genetic syndrome and the remaining children (16%) had some type of speech/language disorder, neuromuscular disorder, endocrine disorder, or orthopedic condition. Many of the children had multiple medical diagnoses from several of the aforementioned categories.

Quantitative Survey Results

In regard to perceived needs, 100% of the 42 parents who completed the survey agreed that a need existed for recreational activities for children with disabilities in Charleston County, SC. Likewise, 100% agreed their child's participation in the league had an impact on the entire family, 100% agreed that their children enjoyed participating in the Charleston Miracle League. Finally, 97.6% agreed that participation in the Charleston Miracle League was one of their child's favorite activities.

The specific benefits reported by parents as a result of their children participating in the Charleston Miracle League were as follows: 97.6% increased self-confidence, 92.8% increased motor skills, 92.9% improved social skills, 92.9% made new friends, 85.7% improved baseball skills, and 83.3% improved belief in their ability to succeed (see Table 1). Although no items received 'disagree' responses, improved baseball skills (14%) and improved belief in ability to succeed (17%) received the greatest number of neutral responses. The surveys did not require parents to identify their child's specific diagnosis, thus no analysis can be made between the specific disabilities of the participating children and development of specific skills resulting from participation in the program.

TABLE 1.

PERCEIVED BENEFITS OF PARTICIPATION IN THE CHARLESTON MIRACLE LEAGUE

Perceived Benefits	Agree	Neutral	Disagree
Positive impact on the family	100%	0	0
Need for recreational activity in Charleston County	100%	0	0
Enjoyed participation in baseball league	100%	0	0
Favorite Saturday activity	97.6%	2.4%	0
Increased self-confidence	97.6%	2.4%	0
Improved social skills	92.9%	7.1%	0
Made new friends	92.9%	7.1%	0
Increased motor skills	92.8%	7.1%	0
Improved baseball skills	85.7%	14.3%	0
Improved belief in ability to succeed	83.3%	16.7%	0

* Note. There were no results in negative ranges (disagree or strongly disagree) for any of the survey questions. Values reported in table are percentages of overall parent responses given.

Open-Ended Responses

The open-ended questions were answered by 33 of the 42 parents who completed the survey. Responses to the open-ended questions regarding observed benefits indicated that the parents surveyed valued their child's participation in the Charleston Miracle League. Comments reported included: (1) improved motor coordination, (2) greater motivation to participate in recreational activity, and (3) improved self esteem. Eighty-two percent of the parents responding to these questions reported that their child experienced an increase in social relationships by gaining new friendships with same aged peers both with and without disabilities. Seventy-eight percent of these parents expressed that participation of their disabled child in an organized recreational activity like the CML had a significant positive impact on the entire family unit. They noted that participation in the CML offered a weekly community based recreational activity

for their child and family unit to share and build relationships with other children with disabilities and their families. Additionally, parental responses indicated that the relationships between children with disabilities and their siblings were enhanced by the athlete's participation in the league. Specific examples of parents' comments are provided in Table 2. An additional question on the survey asked parents their opinion of what could be done to improve the recreational experience for players. Only 21% of the parents who answered the open-ended questions provided responses which ranged from requests to add more sports, such as swimming or soccer, to making the league more competitive for players.

Discussion

The principal findings of this pilot study were that parents of children with disabilities who participated in the CML highly value their child's involvement in the baseball league. The majority of the parents respond-

TABLE 2.
SAMPLES OF REPORTED BENEFITS OF PARTICIPATION IN THE
CHARLESTON MIRACLE LEAGUE

Theme	Parent Responses
Health/Motor Skills	"Physically, he has better motor coordination and has even started running independently. He interacts with others much better now. He loved watching the Braves on TV and now he gets to play baseball."
Motivation	"The ML has given our daughter a chance of doing something that is 'hers' and she enjoys every minute of it. Usually her little sister gets to do everything while she looks like she is left on her own." "My child wakes up everyday asking if it is Saturday. He sits on the sidelines watching his brother most of the time. Now he is the star."
Self-Esteem/ Confidence	"The opportunity that ML gives to each child with a disability to feel like a regular non-disabled child, if only for an hour. The joy that you see in these children's faces warms your heart and it is very priceless. " "The way it makes the children feel, especially not allowing them to focus on their disabilities. It allows them to just have fun."
Friends/Social Relationships	"My child has little fun time that she can do and has no friends so this makes her week. I wish there were other sports that she could do after this." "My child never really had an interest in sports until Miracle League. He now understands the concept of baseball and thoroughly enjoys the game and socializing with his teammates and coach."
Family	"It's a wonderful experience for the entire family! We all feel welcomed and supported. Special needs families don't get that very often." "It has brought our family together. All the cousins, on both sides, attend the games. His teachers are even out there. It's been great!"

ing to this survey reported that participation in this weekly sports activity resulted in increased self-esteem, motor functions, and social skills for their child with physical and/or mental disabilities. Additionally, most parents reported that their children made new friends, and their participation had a positive impact on their entire family.

These preliminary findings are supported by literature related to the positive effects of participation in recreational sports among children with disabilities. Studies of participation in organized recreational activities by children with disabilities report improvements in self-esteem, motivation, physical well-being, and overall quality of life (Hanson, Nabavi, & Yuen, 2001; Murphy & Carbone, 2008; Patel & Greydanus, 2002; Zabriskie et al., 2005). Yet, despite these benefits, children with disabilities are more restricted in their participation, have lower levels of fitness, and have higher levels of obesity than their peers without disabilities (Murphy & Carbone, 2008). In fact, Mharada and Siperstien (2009) recently found that over one-third of Special Olympic athletes leave organized sports due to changes in interest and limited program availability.

Implications

Parents are responsible for enrolling and sustaining their children into community based recreational programs; therefore, their attitudes and perceptions are essential for planning successful community based sports programs. Unfortunately, there are limited studies regarding the perception of parents whose children participate in local community sports programs or the impact of the athlete's participation on the entire family unit. Despite the limited scope of this project, the results provide important insight into parental perceptions of the benefits of participation in organized sports activity. Since the data are mostly descriptive, it is not feasible to further analysis is not feasible beyond the evidence provided. The survey used in this study had been previously developed and administered by league officials to provide feedback on the benefits of the sports program and the responses were anonymous. Thus, the findings from this pilot study are limited by the descriptive nature of the information collected and an inability to solicit follow up data. In spite of these limitations, the results offer

occupational therapists, recreational therapists, physical therapists, speech-language pathologists, community recreation providers, and special educators a unique insight into the perception of parents who have children with special needs and their perceived value of community-based sport activities for their children. Further, the findings of this study provide several meaningful directions for future research to examine the benefit of sports activities among children with disabilities and their families. These include:

1. Outcomes research related to physical, cognitive, social, and emotional benefits of participation in the Miracle League programs. This could be completed with a validated survey of quality of life involving health indicators (fitness level, pain, or disability), self esteem (respect for oneself, ability to handle problems), emotional functioning, and goals and values (Young et al., 2009). Such an approach would for a more scientific verification of the findings from the current pilot study.
2. An examination of how community based sports programs for children with disabilities impact children with specific medical diagnoses (mental disability/impairment versus social or physical disability/impairment) and if correlations can be made between type of disability and specific benefits gained from various types of programs.
3. Further examination of the impact of such programs on siblings of children with disabilities, as well as sibling relationships. Various factors such as level of inclusion and the extent of sibling involvement in the program should also be considered.
4. Finally, the impact of such programs on parents and the family unit as a whole should be considered. Furthermore, both inter-family and intra-family relationships could be explored.

As we seek to gain knowledge across these areas, it is critical that rigor be maintained within the research process. Both qualitative and quantitative methods are valuable within this area of study, and should be well conceptualized prior to initiating any research initiative. One of the significant limitations of this pilot study was the use of a data collection mechanism that was put into place as an

evaluative mechanism, without the intent of answering research questions. Future research must involve collaboration of program providers and experts in research design so that efforts produce information that is valuable in both realms. Creative partnerships and methodologies will allow for evaluative and informative conclusions to be drawn about the usefulness and successfulness of the Miracle League program and other similar recreation opportunities for children with disabilities.

Conclusion

The findings offer important information regarding the benefits of participation in a Miracle League baseball program. Furthermore, qualitative responses from parents support the occurrence of benefits related to health and motor skills, motivation, self esteem, friends and social relationships, and child-family relationships. Disability can have a significant impact on the internal dynamics of a family unit, potentially causing increased family stress, strained sibling relationships, marital tension, and economic hardship (Havens, 2005). For example, Havens (2005) suggests that through recreational activity, families can help build the self-esteem of children and of the entire family, as well as build upon intra-family and inter-family social relationships. Although Havens (2005) was referring to families in general, this study also asserts that recreational activity is likely to be beneficial to families of children with disabilities as well. The qualitative and quantitative results of the survey support these assertions and reveal that participation in a weekly sports activity has a markedly positive impact on the participants and family. This information provides new insight into the importance of community based sports for children with disabilities as few studies have reported the potential impact of community recreation on the the entire family unit. More importantly, the findings highlight the need for local communities to develop and sustain recreational opportunities for children with disabilities and their families. To validate these assertions, it is critical that a comprehensive research effort be put in place, with the particular research objectives spelled out in this paper being at the forefront. With extensive programming throughout the Nation, there is little justification for the absence of such an

effort. Findings would not only shed further light on the findings of this study, but would provide a more comprehensive understanding for how to best provide therapeutic recreation opportunities for children with disabilities and their families.

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