Starting a Club Collegiate Wheelchair Basketball Team

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Abstract
The purpose of this research study was to gain information regarding resources required, benefits, and obstacles related to the formation of a college/university wheelchair basketball team. A mixed methods descriptive survey approach, involving collection of quantitative and qualitative data was utilized. A total of six of fifteen surveys were returned, for a response rate of 40%. Funding and facility-accessibility issues were identified as major hurdles to be overcome when starting a wheelchair basketball team. The results showed that having a wheelchair basketball team was associated with a variety of benefits for both the college/university and athletes. Information for colleges/universities looking to form a wheelchair basketball team were identified. Furthermore, the survey results could provide a base for future research.
Starting a Club Collegiate Wheelchair Basketball Team

According to Zabriskie, Lundberg, and Groff (2005), many individuals with disabilities demonstrate lower scores in assessments of health, identity, community participation and quality of life compared to individuals without disabilities. Activity limitations faced by individuals with physical disabilities often times contribute to these deficits. Participation in sports, however, can have a positive impact on the health, self confidence and quality of life of persons who use wheelchairs (Martin, 2006). Unfortunately, there are not many organized sports for people who use wheelchairs. Wheelchair basketball is one sport that wheelchair users with strong upper body strength are able to play.

There are currently 12 colleges or universities in the United States that have wheelchair basketball teams (National Wheelchair Basketball Association, 2008). Unfortunately, Michigan has none. According to Mike Frogley, head coach of the University of Illinois men's and women's wheelchair basketball teams, each year approximately five disabled individuals from Michigan attend college out of state to play wheelchair basketball at the collegiate level (personal communication, June 9, 2009). Furthermore, there might be other individuals with disabilities residing in the state of Michigan who would participate in wheelchair basketball if there was a team in closer proximity.

Data is needed for Michigan universities to evaluate the resources needed and benefits of having wheelchair basketball programs. A survey of founders and coordinators of collegiate wheelchair basketball programs would provide information on specifics of starting and maintaining wheelchair basketball programs. Furthermore, colleges and universities across the county that are interested in starting their own wheelchair basketball teams and those with previously established wheelchair basketball teams may benefit from the survey results, as they
could use information obtained from this study to enhance existing programs or start new programs.

*Research Problem*

Over the past 20 years, individuals with disabilities have become more socially accepted as participants in various sports. A small number of colleges have started to form athletic teams specifically for persons with disabilities. However, there is minimal information available regarding how to form a disability sports team (Tasiemski, Kennedy, & Gardner, 2006). Specifically, there is a lack of research regarding how to start wheelchair basketball programs, as well as the barriers associated with forming wheelchair basketball programs at the college/university level.

*Purpose of the Study*

The purpose of this survey research study was to learn more about the resources required to develop and maintain wheelchair basketball teams at the college or university level, as well as the benefits associated with having wheelchair basketball teams on campus. The results of the study provided information regarding specific issues colleges and universities must address when forming and maintaining wheelchair basketball teams, including issues related to financial support, supplies, and obtaining/managing team-related resources. The survey results also provided information regarding the benefits of collegiate wheelchair basketball teams, as perceived by team founders, directors and coordinators.

*Research Questions*

The following questions were addressed in this study:

1. What financial, logistical, environmental and cultural obstacles did colleges face when forming wheelchair basketball teams at the college/university level?
2. What are the financial, cultural and social benefits achieved by players who participate in wheelchair basketball programs at the college/university level, as perceived by directors of these programs?

3. What are the cultural, and financial benefits achieved by colleges/universities with wheelchair basketball teams, as perceived by directors of these programs?

Definitions of Key Terms

Disability sports. Sports that has been designed for, or exclusively practiced by, athletes with disabilities (DePauw & Gavron, 2005).

Identity. Identity is shaped through a person's social world and experiences. According to the American Occupational Therapy Association (AOTA, 2002), identity involves a variety of aspects including values and interpersonal relationships, which influence the development of a person’s self-esteem and self-concept.

Quality of life. Quality of life involves the evaluation of a person's self concept, life satisfaction, health, and functioning (AOTA, 2002).

Significance of the Study

The results of the study provided specific information regarding barriers faced by universities and colleges in developing and maintaining wheelchair basketball teams. Furthermore, insight was gained into the benefits that institutions and students receive through establishing a wheelchair basketball programs at the college/university level. Since there is very limited research based on forming wheelchair basketball teams, this study is significant as it provides new information regarding starting disability sports teams at the college/university level. Eventually, the results of this study could be applied to other universities to help guide them in starting their own wheelchair basketball programs.
Literature Review

The benefits of adapted sports for people with disabilities have been identified in prior research studies. Despite this evidence, however, the opportunities available for people with disabilities to join sports teams and programs are limited. This has prompted a variety of laws and regulations to be established for the purpose of increasing rights and decreasing barriers for people with disabilities.

Collegiate adapted sports teams for athletes with disabilities are becoming more recognized, popular, and researched. In particular, wheelchair basketball programs are among the most popular adapted sports programs seen at the collegiate level. This literature review will first present issues related to benefits of participation in wheelchair basketball. Next, information regarding legal rights, barriers to implementation, cost and adaptations of facilities will be highlighted. Finally, issues that affect people with disabilities at a collegiate level will be discussed.

Benefits of Sports for Persons with Disabilities

An individual living with a physical disability often encounters many significant issues with health and wellness. Zabriskie et al. (2005) stated that individuals with disabilities often show lower scores in assessments of health, identity, community participation, and quality of life. Contributing to these deficits are the activity limitations that face many individuals with physical disabilities. However, when given the opportunity, people with disabilities may experience a variety of health benefits related to participation in physical activity and sports. Current research has shown positive effects in a variety of key health domains, including physical, psychological and social functioning that result from participation in sports (Zabriskie et al.).
Physical Benefits. The physical benefits of sports and physical activity are evident for individuals without disabilities. Increased strength, endurance, cardiovascular health, and decreased secondary health conditions have been found in male athletes who play sports (Zabriskie et al., 2005). This is especially important, because some individuals with physical disabilities have limited opportunities to participate in physical activities. Furthermore, individuals with disabilities have been identified as scoring lower on tests of fitness and health compared to those without disabilities (Blinde & Taub, 1999). Therefore, participation in sport has the potential to act as a vehicle of health and fitness for those individuals with disabilities.

Psychological Benefits. One the most prominent findings throughout the literature involves the psychological benefits for persons with disabilities who participate in sports and activities. An important factor in this area is perceived competence in abilities, otherwise known as self-efficacy. Research by Martin (2006) showed national-level wheelchair athletes demonstrated stable and higher self-confidence levels when compared to their non-athlete counterparts. Similar findings were echoed in a qualitative study by Taub, Blinde, and Greer (1999), examining the experiences of 24 male college students with physical disabilities. The students in the study stated that adaptive sports and physical activities offered them avenues to demonstrate an array of physical skills. Through this demonstration of skill, the students with disabilities believed they were overcoming societal stereotypes of physical incompetence.

Adaptive sports also provide people with disabilities with the opportunity to develop an athletic identity. Zabriskie et al. (2005) stated that social networking and interactions with individuals on a sports team provides essential feedback concerning how they are perceived by other people. Individuals can then use this information to define their sense of self. These social
opportunities help to create positive identities and enhance psychological well-being of athletes with disabilities.

**Social Benefits.** Several social benefits have also been associated with physical fitness and sports participation among people with disabilities. Tasiemski, Kennedy and Gardner (2006) explained that physical disabilities often limit the social contacts and interactions of persons with disabilities, due to decreased social opportunities. Sports counter this exclusion by addressing three main outcomes relating to social integration: bonding, broadening of social experiences, and social inclusiveness (Blinde & Taub, 1999). In their qualitative study of disabled college students, Blinde & Taub (1999) noted that their participants felt “togetherness,” “belonging” and “being part of the crowd” as a result of being part of an athletic team. Furthermore, many of the students in this study stated that sports aided in their development of interpersonal skills, which helped enhance their social interactions. Thus, it appears that sports provide a great opportunity to enhance and develop social skills for individuals with disabilities.

**Integration, Legal Rights and Barriers to Participation in Disability Sports**

In recent years, laws have been passed to help those with disabilities gain equal access to education, public buildings, and sports. These laws have allowed for better access to public buildings for those with disabilities. However, only a small number of institutions, including colleges and universities, have helped those with disabilities integrate into sports. Although laws supporting integration have been passed, there are still several barriers that need to be addressed in order for those with disabilities to be able to fully integrate and participate in sports.

As described by Manos (2000), “Title II of the Americans with Disabilities Act mandates that community sponsored sports programs must provide reasonable accommodations and adequate transportation to enable participation for those with disabilities” (p. 50). Title II of the
ADA was put in place to allow those with disabilities to have access to the same opportunities that are provided to persons without disabilities, including athletics. However, even with the Title II laws in place, there are still very few institutions that have made adaptations to allow for equal access to sports for those with disabilities. Many barriers still need to be overcome before individuals with disabilities will be fully able to participate in sports and athletics (Manos, 2000).

One obstacle that needs to be addressed involves coaching for disability sport teams. Most coaches are not trained to work with individuals with disabilities, so expecting them to proficiently coach an entire team of individuals with disabilities may not be appropriate. In order to be effective, coaches need to go through training or have a background in working with people with disabilities, and the special needs the players may have. Financing the training of these coaches may be a hurdle for many schools (Lum, 2007).

Funding for adaptive sports teams is another very large barrier to developing athletic programs for persons with disabilities. Universities and colleges have trouble finding funding for adaptive sports teams, since the equipment can be expensive. Many institutions cannot afford to have more than one locker room or facility to host practices for both disabled and “traditional” athletic teams. These barriers have been discussed so little that the National Collegiate Athletic Association does not even have a policy for disabled sports (Lum, 2007). In fact, in 2004, only seven universities funded intercollegiate athletic teams for athletes in wheelchairs (DePauw & Gavron, 2005). With so many barriers to overcome, it is no wonder that there are so few universities with adaptive sports teams.

Accessibility for Those with Disabilities

If sports were accessible for those with disabilities, this would provide these individuals with a way to potentially challenge stereotypes placed on them by society. Participation in sports
can help others to look beyond the physical characteristics of a person with disabilities (Kozub, 1996). Sports can help individuals with disabilities to not only integrate into athletics, but also into society. According to Kozub (2003), integration occurs when society recognizes a certain individual or group, and the person or group is given the same rights and opportunities as the other members of society.

In the past thirty years, the number of college students with disabilities has risen, due in part to the improved architectural access that was made possible by the Americans with Disabilities Act. Yet, improved access to education does not necessarily provide persons with disabilities with the same opportunities as those afforded to people without disabilities. In order for persons with disabilities to be given equal opportunities in athletics, it is necessary to accommodate for their unique needs, including equipment and architectural access (“Accessibility in Campus Recreation Programs,” 2006). While laws have been passed to allow for those with disabilities to participate in athletic programs, there are still barriers that need to be overcome before integration can occur.

Wheelchair Basketball

Most people with disabilities want to be treated the same as their non-disabled peers, and to be able to participate in many of the same daily activities, such as sports. Prior to World War II, wheelchair sports were virtually nonexistent. After WWII, many returning soldiers were left with severe, life altering injuries, including spinal cord injuries and amputations. Despite their disabilities, these men desired the opportunity to participate in the same leisure activities that they engaged in prior to going to war. Sports for those patients who were disabled started with simple activities such as playing catch, table tennis, and bowling; eventually this grew to more
intense physical involvement in sports such as water polo, softball and basketball (Kennedy et al., 1987).

According to Kennedy et al. (1987), basketball in particular caught the interest of veterans who wanted to learn how to play, despite their disabilities. One of the first wheelchair basketball players, Don Swift, stated that wheelchair basketball is now more like a combination of football and basketball in that there is considerably more contact in basketball (Kennedy et al., 1987). By 1948 there were at least six organized veterans’ teams in the United States; from there wheelchair basketball spread around the county.

In 1948, Timothy Nugent and Ben Lipton became the driving force for wheelchair sports. Nugent, of the University of Illinois, organized the first college wheelchair basketball team, and planned the first tournament (in April of 1949) (Kennedy et al., 1987). The tournament provided the basis for development of the National Wheelchair Basketball Association (NWBA, 2008). The motto for the National Wheelchair Basketball Association is “We lead, we inspire, we win.” The NWBA became a representative body for various groups of wheelchair basketball competitors with disabilities. It sets rules and definitions on how to play the game, and the equipment needed to participate in the sport (NWBA, 2008).

Many great outcomes were identified for individuals who played on these early wheelchair basketball teams. They were generally happy to be able to participate in sports, and it helped to improve their overall health. Wheelchair basketball was such a success that some colleges and universities decided to integrate the sport into their athletic programs for students with disabilities. Eventually, teams were founded at Edinboro University of Pennsylvania, Oklahoma State University, and Southwest Minnesota State (DePauw & Gavron, 2005). John Lukanen, the president of the adaptive sports club at University of Minnesota, stated “our
mission is to encourage, facilitate and support the involvement of students and staff with disabilities in active recreation, exercise and sport” (The Wake, 2006).

Research clearly demonstrates major benefits of participation in adaptive sports. Not only do sports have a positive effect on the physical well-being of players, but they may also have a positive effect on their social integration to colleges or universities. Colleges and universities with disability sports may attract students with disabilities to their institutions, increasing diversity of the student body. By learning more about adaptations needed for wheelchair basketball, colleges and universities will be able to start their own disability sports teams.

Methods

Research Design

This study utilized a mixed methods descriptive survey approach, involving collection of both quantitative and qualitative data. A survey was mailed to founders, directors, and/or coordinators of collegiate wheelchair basketball programs. Information was obtained in regards to how respondents addressed specific factors associated with starting and maintaining wheelchair basketball teams, as well as their perceived benefits of having these teams on campus. Closed-ended questions were used to gather information regarding player/student demographics and issues in the area of team management (including player recruitment, playing schedules, equipment procurement and management, and funding concerns). Closed and open-ended questions were utilized to obtain information regarding the perceived benefits that college/university-based wheelchair basketball teams bring to team members, the institution and the student body as a whole.
Participants

In order to participate in this voluntary study, respondents must have been founders, directors, and/or coordinators of a wheelchair basketball program at a college or university in the United States. The study sample did not include any minors. Participants were selected via convenience sampling. All colleges and universities in the United States that had a wheelchair basketball team (as listed on the National Wheelchair Basketball Association website) at the time of mailing were included in the study.

The researchers attempted to identify additional participants through the use of snowball sampling. Each mailed survey included an additional form on which participants could write down contact information for founders, directors, or coordinators of other wheelchair basketball teams. In this way, the researchers were able to identify additional participants for the study.

Instrumentation

The survey used in this research study was developed by the research team. The researchers were unable to locate any surveys used in prior research examining the topic of this study. Thus, the researchers conducted a literature review and internet search to learn more about wheelchair basketball teams based out of a variety of settings (colleges, universities, and community organizations). Information obtained from this search was used to aid the researchers in identifying potential barriers encountered when starting wheelchair basketball teams, as well as potential benefits associated with having wheelchair basketball teams on campus. Thus information was used to aid the research team in developing the questions for the survey.

One of the co-investigators involved (J.C.), used his prior experience from directing an adapted sports organization to provide the research team with additional ideas for questions and topics that could potentially be included on the survey. The initial version of the researcher-
developed survey was reviewed by a university faculty member with extensive experience in adaptive sports; this faculty member provided suggestions to improve the clarity of survey content and the questions included in the survey. The survey was then revised based on the input and suggestions of the faculty member (refer to Appendix A).

**Procedures**

_Study site._ All surveys were mailed from, and returned to, a medium-sized public university in the Midwestern United States. A second mailing was sent out to all participants three weeks after the initial mailing. Data analysis was completed at the university campus.

_Data analysis._ Quantitative data including demographic information was analyzed with descriptive statistics and organized into histograms and bar graphs. The survey responses producing nominal and ordinal data, including Likert scale questions, were analyzed using frequency distributions and percentages of responses.

Qualitative data was analyzed by identifying main themes found throughout the participants’ responses. To increase credibility of the reported findings, the research team discussed and reviewed the results of the surveys to ensure all information was interpreted in the same way by all group members. The researchers utilized an open coding process for the qualitative data analysis. This open coding process involved developing concepts and themes without making any prior assumptions about the data from the surveys. The data was then further refined via use of axial and selective coding procedures (Peacock & Paul-Ward, 2006).

**Results**

A total of fifteen surveys were mailed out to colleges and universities in the United States with wheelchair basketball teams. A second mailing of the survey was sent out three weeks after the initial mailing. Of the fifteen surveys mailed, six surveys were returned, for a response rate
of 40%. Of the six surveys returned, five (33%) met survey requirements of coming from a founder, director, and/or coaches of a wheelchair basketball team. The results of survey are as follows.

**Qualitative Results**

Within the qualitative portion of the survey, respondents were asked for their opinions and thoughts related to the benefits of having a wheelchair basketball team at their college or university, as well as barriers faced and adaptations made. The respondents showed a great deal of agreement in their responses to these open ended questions.

**Obstacles.** Participants were asked to identify three major hurdles that their colleges or universities faced in starting a wheelchair basketball team. Among the five responses, one stated that he/she was not at the institution when the program was started. However, among the other four participants there was an overwhelming consensus that *funding* was one of the major obstacles faced while trying to start the team. Half (2) of the participants made note of difficulties with accessibility and obtaining the facilities necessary to participate in wheelchair sports, which was termed *facility-accessibility issues* by the researchers. Other obstacles identified as issues during the program development stages included difficulty finding athletes, and obtaining equipment.

As a follow-up to the previous question, participants were asked to describe how they addressed or overcame hurdles faced when starting their wheelchair basketball teams. The two major themes identified within the responses included *receiving funding* and *school support*, which were each stated in half (2) of the responses. Fundraisers, grants, endowments and donations were all stated by the respondents as a means utilized to address their financial barriers in the *receiving funding* theme.
The students and the administration were each identified by the respondents as helpful within the *school support* category. Hosting exhibition games against able bodied teams was utilized by one institution as a method to change some of the non-supportive attitudes held by some of the university community. Furthermore, academic assistance was utilized by one institution to help students that had trouble adjusting to the schooling aspect of being a student athlete.

*Benefits.* Participants were also asked to describe three benefits associated with having a wheelchair basketball team at their college/university. After reviewing the results, there was a consensus by four of the five respondents (80%) that the program impacted *university status*. Ideas expressed in this theme included university promotion, national and international recognition for having a wheelchair basketball program, being a social leader, and an increased reputation of having an institution that supports students with disabilities.

Themes also emerged in the areas of *awareness* and *student benefits*, which were each identified by two of five participants (40%). The *awareness* benefits focused on students and individuals gaining a better understanding of people with disabilities, including valuing what they can do, rather than focusing on their limitations. Student success and holistic educational experiences for the students with disabilities were recognized in the *student benefits* theme. Lastly, student body development and on/off court recognition of athletes were also expressed by the respondents as benefits of having a wheelchair basketball team.

*Adaptations.* The last qualitative question addressed significant adaptations which needed to be made to make the recreational facilities accessible and appropriate for use by the wheelchair basketball teams. There were three areas of adaptations that were highlighted by at least two of five (40%) participants. These three main areas of adaptations included the necessity
of adding *ramps, doors, and locker rooms* to improve the accessibility of the sporting facility. Other key factors related to creating accessible environments included obtaining chartered lift buses, more storage space, and sufficient workout space and adequate heights for accessibility of fountains and check-in desks used by athletes in a wheelchair.

**Quantitative Results**

Please refer to appendix B to view a summary of the results of the of the Likert scale questions.

*Team data.* Surveyors were asked how many players were involved with their 2008/2009 wheelchair basketball teams. Four schools (80%) responded that they had 11 to 15 players. The fifth participant responded “other”, stating 31. However, this number included participants in two teams. Respondents were asked approximately how long they have had a wheelchair basketball team. One responded that their team had been in existence for 6-10 years, the remaining four schools (80%) responded with “other.” The “other” responses included 24, 33, 60 years, and one responded “since 1977.”

The survey also asked respondents what type of a wheelchair basketball team they had. Two schools (40%) responded as having “club teams,” and three schools (60%) replied they had varsity wheelchair basketball teams at their college/university.

Another question was in regards the amount of wheelchair basketball teams each school competed against. All of the teams (100%) responded 10 or more. Some respondents gave more specific figures concerning the number of teams competed against, including “12+,” “15-20,” and “12-15.” Participants were then asked how many games their wheelchair basketball teams participate in each academic year. All schools (100%) responded “more than 20.” Again,
additional information of “30-35,” “35,” and “roughly 50” were given regarding the number of games played.

College/University data. Respondents gave specific percentages on how many students total attend their college/university. One college/university (20%) responded that they had between 6,001-9,000 students at the time of the study, while three schools (60%) stated they had more than 10,000 students attending their college/university at the time of the study. The participants were also asked to approximate how many students with physical disabilities attend their college/university. One responded they had more than fifty students, another school reported having 100 students, and one participant responded that there were 150 students with disabilities at the college/university. Two schools (40%) approximated that they had 1,000 students with disabilities attending their college/university.

Recruitment. Respondents were asked how their college/university recruited participants for their wheelchair basketball teams (refer to Appendix C). One school (20%) responded they recruited by flyers posted on campus. Two schools (40%) said that they used word of mouth to recruit players, and three (60%) identified using presentations. All five schools (100%) responded that they use “athletic recruitment techniques.” One school also selected the “other” category, adding their use of camps and hosting junior tourneys as methods of recruiting wheelchair basketball participants.

Benefits. All (100%) of the participants responded that starting a wheelchair basketball team had “brought more diversity to the college/university.” and “increased social activities for students with disabilities.” Four (80%) of the colleges/universities said that starting a wheelchair basketball team has “increased school spending (matched by increased revenue).” School
spending is beneficial because it provides those students who play wheelchair basketball with specific equipment and travel funds.

**Financial.** Surveyed college/universities were asked to approximate how much they spend on equipment for their wheelchair basketball team on a yearly basis. All schools (100%) responded spending more than $2,500. One school said that they spend $5,000, another reported spending $6,000 on equipment. Two (40%) said that they spend $10,000 per year, one of these participants stated that they have a renewable grant which covers these costs. Another school said that they spend $25,000 each year, which includes items such as clothing, uniforms, and rebounding machines, etc.

The next survey question targeted the amount that the wheelchair basketball teams spend for travel costs on a yearly basis. All schools (100%) responded with spending more than $1,000. The figures for each school were $15,000, $30,000, $40,000, $45,000, and $50,000 for the yearly travel costs. As a follow up, the participants were asked who pays for the yearly travel costs, and how much does each party pay. At one school, the team was responsible for $25,000 of their travel costs. According to the survey results, the university contributed to the school’s travel funding in four schools (80%). Of these four schools, one participant stated that 95% of the travel costs were covered by the university, two recorded that the costs were fully funded by the university, and the other claimed that the university picks up “what is not covered by grants, fundraisers and donations.” Lastly, two schools (40%) confirmed the use of fundraisers to support a small percentage of their wheelchair basketball team’s travel costs.

Participants were asked approximately how much it costs to maintain their wheelchair basketball teams on a yearly basis. Costs included factors such as facilities management, coach salaries, league dues and uniforms. All schools (100%) responded that their expenses were more
than $10,000 per year. The respondents recorded figures of $30,000, $110,000, $135,000, and $250,000 respectively, as the total costs to maintain their wheelchair basketball teams. It should be noted that some schools included athletic scholarships in this category.

**Funding.** The survey asked colleges and universities if having a wheelchair basketball team on their campus qualified them for additional federal, state or grant funding. Two schools (40%) responded “yes” and two schools (40%) responded “no.” One school (20%) did not respond to this question. As a follow up, the two schools that responded “yes” to receiving additional state, federal or grant funding were then asked how much they receive. One school (20%) responded receiving $10,001-20,000 and the second responded that they “don’t know” how much money they receive. The two schools which received funding, obtained it through writing grants, meeting state regulations, and meeting federal regulations.

**Student athletes.** Universities were asked what types of scholarships they provide for their wheelchair basketball team players. Two universities (40%) responded that they provide private scholarships. Four universities (80%) replied that they provide athletic scholarships for their wheelchair basketball participants. A variety of other financial assistance for players were also identified by the participants. These included academic scholarships, housing waivers, out-of-state waivers, private donations, presidential scholarships, and community scholarships.

The survey asked if respondents felt that wheelchair basketball improved the quality of life of the players. All five colleges/universities (100%) responded yes. They were then asked how they felt the players’ quality of life had improved (refer to Appendix D). All participants stated that participation in wheelchair basketball increased social activity, physical health, and participation in university life. Four of the schools (80%) said they felt it improved players’ mood. Three of the schools (60%) selected the “other” category, their responses were
“motivation to succeed,” “academic improvement because of support and grade requirement for participation” and that participation “helps build a skill set that better prepares them for their professional life”.

**Overall.** The participants were asked for their overall opinion regarding the formation of a wheelchair basketball team at their school. Five teams (100%) responded that it was “a great idea, and has improved the wellness of many athletes with disabilities at the university.” Two (40%) said that it was “a good idea, but needs to improve in certain areas.” Three schools (60%) said that “overall forming a wheelchair basketball team was well funded and gaining more students each year.” One school (20%) said that starting a wheelchair basketball team was “expensive; a lot of students with disabilities had to pay out of pocket in order to be able to participate.”

**Discussion**

*Interpret and Discuss*

The survey identified hurdles that universities had to overcome when starting a wheelchair basketball team. The two main themes in this section included funding and facility-accessibility issues. Significant adaptations made to recreational facilities for accessibility included wider doors, ramps, changing rooms, and lifts for buses. Institutions stated that these hurdles where addressed through fundraising, Veterans Administration (VA) funding, administrative and student body support.

Benefits of having a wheelchair basketball team at the college/university were identified in the survey results. These included enhancing the experience of student athletes with a disability, overall development of the student body, and setting the campus or university apart as a social leader with national recognition for students with disabilities. Overall, respondents
agreed that starting a wheelchair basketball team was “great idea, and has improved the wellness of many athletes with disabilities at the university.”

Implications

Institutions looking to start a wheelchair basketball team could benefit by looking at areas addressed in this study. Specifically, colleges/universities can be confident knowing that a wheelchair basketball team increases the university’s status and increases national recognition. Funding should be considered, as all teams surveyed concluded that funding was one of the largest hurdles that had to be addressed. Furthermore, different resources for funding were identified in the results; these can be explored by institutions in need of funding.

Limitations

The majority (80%) of respondents had established their teams over 20 years ago. Therefore, well-established schools may be more likely to respond to the survey compared to schools in their early stages. This may limit the findings related to gaining insight from more recent and less successful teams. Accuracy of results from teams that were started over 20 years ago may be compromised due to length of time and memory recall abilities of these events.

One major limitation of the study was small number of wheelchair basketball teams that exist at the collegiate and university level. Another limitation to the study was the relatively low return rate of six out of fifteen surveys returned (40%). The results of the survey may have been different if all the surveys were returned. The results of the returned surveys however, all had relatively consistent themes and responses. Additionally, while the researcher-designed survey used in this study was reviewed by an expert in the field, there was no pilot testing of the survey involved.
**Future Research Directions**

The survey results can be used in future research to help give information for those wanting to form a wheelchair basketball team at their college or university. The results give specific information on adaptations, cost, and benefits. Future research could target more specifically as to where the adaptations would need to be made. In particular, research could look at where the costs of having a wheelchair basketball team are allocated. Another future research direction could be to obtain the student wheelchair basketball player’s perspective. Information from these responses could be used to analyze the impact on the disabled student athlete and their quality of life.

**Conclusion**

The purpose of this study was to gain insight into the benefits, obstacles, and other pertinent information important to starting a wheelchair basketball team. Through the use of a research designed survey, five surveys were analyzed out of fifteen mailed surveys (33%). Results from the surveys included important information to consider when forming a wheelchair basketball team. Overall, survey results showed that having a wheelchair basketball team provided many benefits both to players and college/universities. Furthermore, funding and accessibility issues were found as the most significant obstacles to starting a wheelchair basketball team. The researchers found there is a need for further research into costs, adaptations and benefits to starting a wheelchair basketball team.
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References


Appendix A

Saginaw Valley State University
Occupational Therapy Department

Collegiate Club Wheelchair Basketball Teams; Foundations & Benefits

Karys McKulsky, Mallory Rodriguez and Trevor Quenneville
With assistance from Jeff Coupie and Ellen Herlache, MA, OTR

Demographic Information
Circle the most appropriate answer for each of the following:

How many players are involved with your 2008/2009 wheelchair basketball team?
a) <5
b) 5-10
c) 11-15
d) 16-20
e) 21-25
f) 26-30
g) Other ___________________

How long have you had a wheelchair basketball team at your College/University?
a) <1 year
b) 1-5
c) 6-10
d) 11-15
e) 16-20
f) Other ___________________

What type of wheelchair basketball team do you have?
a) Club
b) Varsity sport
c) Intramural sport

Approximately how many students total (graduate/undergraduate) attend your College/University?
a) <1,000
b) 1,001-6,000
c) 6,001-9,000
d) 9,001-10,000
e) >10,000
How does your program recruit participants for your wheelchair basketball team? (circle all that apply)
a) Flyers on campus  
b) Articles in newspaper  
c) Word of mouth  
d) Presentations  
e) Athletic recruitment  
f) Other (Please explain)________________________

Gains/Benefits

What are 3 of the largest hurdles you faced when starting a wheelchair basketball team?

1) ___________________________________________________________________________________
2) ___________________________________________________________________________________
3) ___________________________________________________________________________________

Describe how you addressed or overcame these hurdles when starting a wheelchair basketball team:

_____________________________________________________________________________________
_____________________________________________________________________________________
_____________________________________________________________________________________

Please list and describe the top 3 benefits associated with having a wheelchair basketball team at your College/University (this may include benefits to both athletes and the student body as a whole).

1) ___________________________________________________________________________________
2) ___________________________________________________________________________________
3) ___________________________________________________________________________________

Please list and describe the 3 most significant adaptations that had to be made to recreational facilities in order to make them appropriate for use by wheelchair basketball teams.

1) ___________________________________________________________________________________
2) ___________________________________________________________________________________
3) ___________________________________________________________________________________

Approximately how many students with physical disabilities attend your College/University?

________________

Starting a wheelchair basketball team has (circle all that apply):

a) Brought more diversity to the College/University  
b) Increased social activities for students with disabilities  
c) Increased school spending  
d) Made no difference
Wheelchair Basketball

Costs

Approximately how much does your College/University spend on equipment for your wheelchair basketball team on a yearly basis?

a) Less than $200  
   d) $801-1,499  

b) $201-500  
   e) $1,500-2,499  

c) $501-800  
   f) More than $2,500 (Please list amount: ____________)

Approximately how much does your wheelchair basketball team spend for travel costs on a yearly basis?

a) Less than $200  
   d) $601-800  

b) $201-400  
   e) $801-1,000  

c) $401-600  
   f) More than $1,000 (Please list amount: ____________)

Who pays for these yearly travel costs? How much do each of these parties pay?

Students: $__________  
University: $__________  
Other: ______________________$_$__________

Approximately how much does it cost on a yearly basis to maintain your wheelchair basketball team? Please include costs associated with factors such as facilities management, league dues, and uniforms.

a) Less than $2,000  
   d) $6,001-8,000  

b) $2,001-4,000  
   e) $8,001-10,000  

c) $4,001-6,000  
   f) More than $10,000 (Please list amount: ____________)

How many wheelchair basketball teams do you compete against?

a) 2-3  
b) 4-5  
c) 6-7  
d) 8-9  
e) 10 or more (Please list how many) ________

How many games does your wheelchair basketball team participate in per academic year?

a) 1-5  
b) 6-10  
c) 11-15  
   d) 16-20  
   e) More than 20 (Please list amount: ____________)

State, Federal or Grant funding

Does having a wheelchair basketball team on your campus qualify you for additional federal, state, or grant funding? (If you answer NO, please skip to next section titled Scholarships)

a) Yes  
b) No
If you answered “yes,” how much federal, state, or grant funding was your College/University given for starting a wheelchair basketball team?

a) $100-500  
b) $501-1,000  
c) $1,001-1,500  
d) $1,501-2,000  
e) $2,001-5,000  
f) $5,001-10,000  
g) $10,001-20,000  
h) $20,001 or more  
(Please list amount: ________________)

If you did receive federal, state, or grant funding for starting a wheelchair basketball team, how did you acquire it? (circle all that apply)

a) Writing grants  
b) Meeting state regulations  
c) Meeting federal regulations  
d) Other:_________________________________________________________________________

Scholarships

What types of scholarships do you provide for your wheelchair basketball team players?

a) Private  
b) Athletic  
c) Other:_________________________________________________________________________

d) None

Quality of Life
Please circle the best choice

Overall, how would you rate the following questions in regards to your college or university’s wheelchair basketball team?

(Strongly Agree) SA   (Agree) A   (Neither agree or disagree) NA   (Disagree) D   (Strongly Disagree) SD

We had a lot of help from the campus community and students in forming our wheelchair basketball team  SA   A   NA   D   SD

Wheelchair basketball is a hard program to fund  SA   A   NA   D   SD

Students with disabilities who participate in wheelchair basketball seem more outgoing than students with disabilities who do not participate in wheelchair basketball  SA   A   NA   D   SD

It is hard getting students with disabilities to participate in wheelchair basketball  SA   A   NA   D   SD
In your opinion, has wheelchair basketball improved the quality of life of the players on your team?

a) Yes
b) No

If yes, how has their quality of life improved? (circle all that apply)

a) Increased social activity  b) Improved mood
   c) More active in university life  d) Physical health
   e) Other (please explain)__________________________________________________________

Overall, forming wheelchair basketball team was: (circle all that apply)

a) a great idea, and has improved the wellness of many athletes with disabilities at the university
b) a good idea, but needs to improve in certain areas
c) well funded and gaining more student each year
d) expensive; a lot of students with disabilities had to pay out of pocket in order to be able to participate
e) not beneficial to the students and College/University

☐ Please check this box if you wish to receive a copy of the results from this study.

Additional Comments:________________________________________________________________
_________________________________________________________________________________
_________________________________________________________________________________
_________________________________________________________________________________
Appendix B

Likert Scale Survey Results

<table>
<thead>
<tr>
<th>Survey questions</th>
<th>SD</th>
<th>D</th>
<th>NA</th>
<th>A</th>
<th>SA</th>
</tr>
</thead>
<tbody>
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<td>We had a lot of help from the campus community and students in forming our wheelchair basketball team.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>4</td>
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<tr>
<td></td>
<td>(0%)</td>
<td>(0%)</td>
<td>(0%)</td>
<td>(20%)</td>
<td>(80%)</td>
</tr>
<tr>
<td>Wheelchair basketball is a hard program to fund.</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
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<td>(20%)</td>
<td>(20%)</td>
<td>(0%)</td>
<td>(20%)</td>
<td>(40%)</td>
</tr>
<tr>
<td>Students with disabilities who participate in wheelchair basketball seem more outgoing than students with disabilities who do not participate in wheelchair basketball.</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
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<td>(0%)</td>
<td>(20%)</td>
<td>(0%)</td>
<td>(0%)</td>
<td>(80%)</td>
</tr>
<tr>
<td>It is hard getting students with disabilities to participate in wheelchair basketball.</td>
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<td>3</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
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<td>(60%)</td>
<td>(0%)</td>
<td>(0%)</td>
<td>(20%)</td>
</tr>
</tbody>
</table>

Note: SD = Strongly Disagree, D = Disagree, NA = Neither Agree or Disagree, A = Agree, SA = Strongly Agree
Figure 1. Recruitment methods utilized by wheelchair basketball programs.

Note: The other category included use of camps and hosting junior tourneys as methods of recruiting wheelchair basketball participants.
Appendix D

Areas of Improvement

![Bar Chart]

Figure 2. Quality of life improvements of wheelchair basketball student athletes.

Note: Other responses included “motivation to succeed”, “academic improvement because of support and grade requirement for participation” and that participation “helps build a skill set that better prepares them for their professional life.”