

The Effects of Adaptive Sports and Recreation

on the Rehabilitation Process

**An Honors Thesis (HONR 499<sup>00</sup>)**

by

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Signed

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### Acknowledgements

I would like to thank my advisor Judy Gray for her continued encouragement and advisement throughout this project. She has been a constant source of support and guidance throughout my four years here at Ball State.

I would also like to thank all of my participants in this study. Your insights gave me a sound basis for a thesis and many ideas for future research.

### Abstract

The idea of using adaptive sports and recreation in the rehabilitation process can be dated back to the Second World War. Sir Ludwig Guttman was the first person to predict that adaptive sports and recreation could have a positive effect on a person's rehabilitation. Since this time, adaptive sports and recreation has become an increasingly important part of the rehabilitation process. This paper examines the adaptive sports and recreation experiences of six people looking specifically at the effects upon their own rehabilitation.

The rehabilitation process in and of itself is complex and multi-dimensional; that is, no two people have the exact same experience and reaction to acquiring a disability. In 1982, the United Nations defined rehabilitation this way: "the process aimed at enabling persons with disabilities to reach and maintain their optimal physical, sensory, intellectual, psychiatric and/or social functional levels, thus providing them with the tools to change their lives towards a higher level of independence" (Blouin & Vallejo Echeverri, 2010). Reaching optimal levels in each of these areas is a complex process utilizing a variety of professionals and practices. Using adaptive sports and recreation, sometimes referred to as recreational therapy, is a relatively new practice. The practice was originally recognized for its possible benefits almost fifty years ago by Sir Ludwig Guttmann, but has only more recently taken hold on a large scale. At the time, Dr. Guttmann's focus was patients who had acquired spinal cord injuries as a result of the Second World War (Slater & Meade, 2004).

Many researchers since the time it was introduced have taken interest in the role that adaptive sports and recreation takes in the process of rehabilitation from a disabling condition or injury. This literature review examines a portion of the most significant research related to the effects of adaptive sports and recreation in the rehabilitation process. Much of the recent research concerning adaptive sports and recreation in the rehabilitation process done recently has focused on a specific population or examined a desired outcome and has been largely quantitative in nature; very little significant exploratory research has been done in this area in at least the past ten years. Previous researchers have been seeking evidence of specific benefits in a targeted population participating in adaptive sports and recreation. For instance, many of the studies only used people with spinal cord injuries or people who were injured while serving in the military. Additionally, the researchers were interested in specific areas affected by

participation in adaptive sports and recreation such as one's participation in the community, one's perception of self and one's abilities and one's general quality of life.

### **Participation in Community**

Given that one's life changes quite drastically with the onset of a disability, being able to relate to others with and without disabilities while participating in the community is crucial. One must find ways to adapt to a world not set up for someone with a disability to participate as fully as possible. Researchers Piotr Urbanski, Joanna Bauerfeind and Jaroslaw Pokaczajlo looked for a connection between the amount of community integration and the amount of participation in team or individual sports for people with spinal cord injuries in Poland. This was evaluated through surveys given to thirty athletes with spinal cord injuries in two different rehabilitation units. There ultimately was no correlation found between the level of physical activity and the amount of community integration. These results could have been affected both by the small number of participants and the variety of sport disciplines represented by these participants (Urbanski, Bauerfeind, & Pokaczajlo, 2013).

Conversely, a similar study done in the United States analyzed qualitative data and found themes relating to both social influences and opportunities. This study included twenty-six individuals who each lived with either a congenital or acquired disability that impacted their daily living. All of these individuals had current or past involvement in adaptive sports and recreation, mainly wheelchair basketball. The entirety of the study used multiple methods but the information collected on these topics came from semi-structured interviews. For many of the participants, it was people whom they knew socially that encouraged their initial or ongoing participation in adaptive sports and recreation. Others cited physical activity as a source of more

interactions with others and as a way to form relationships. One male participant shared how basketball could be a “natural bridge to the able-bodied world”. While disability can seem isolating, putting up both physical and emotional barriers, sports and recreation can produce commonalities not only between people with disabilities, but also between people with and without disabilities (Giacobbi, Stancil, Hardin & Bryant, 2008).

### **Perception of Self and Ability**

Another key variable studied by researchers in connection with participation in adaptive sports and recreation is its effect on a participant’s perception of themselves and their abilities. Three Israeli researchers performed a study based upon psychosocial constructs in adolescents with disabilities participating in adaptive sports and recreation. These individuals were introduced to a reverse-integrated wheelchair basketball league. Through a comparison of scales, there was a significant increase in both the participants’ perceived ability and their perception of social competence. Some of this perceived benefit could have been due to the time-series design of the study though (Hutzler, Chacahm-Guber & Reiter, 2013).

Another way of looking at this variable was studied using social cognitive theory. Jeffrey Martin from Wayne State University utilized several self-efficacy scales in trying to find a connection between self-efficacy and participation in adaptive sports and recreation. It was found that participants who were efficacious about their sport were also adept at managing thoughts in times of difficulty. Their affective states and general feelings were also found to be more positive. Unfortunately, the sample of this study being highly male could produce biased results (Martin, 2008).

### **Quality of Life**

Possibly the most loosely defined variable noticed by many of the researchers is that of quality of life. While the first study depended on more open-ended, subjective answers from participants, the results were none the less positively correlated. Researchers from three different universities in the United States studied individuals with physical disabilities recruited from a wheelchair basketball tournament (Giacobbi et al, 2008). Similar results from a quantitative study done in the United Kingdom showed that people with spinal cord injuries who participated in adaptive sports and recreation had higher life satisfaction than those not participating in adaptive sports and recreation (Tasiemski, Kennedy, Gardner & Taylor, 2005). This was one of few studies that had been able to show a connection between participation and life satisfaction.

Conversely, based upon the World Health Organization's quality of life assessment, a group of veterans who participated in an adaptive sports program in Idaho saw no benefit to their quality of life. The differences in the results from their pre-test to post-test were statistically insignificant (Lundberg, Bennett & Smith, 2011). These findings could have been affected by the fact that this was a short-term program. There was also no control group for which to compare the results.

Overall, quality of life appeared to be the most variable of the effects studied. There was no one way that quality of life could be quantified or qualified which complicated the results. Though my study was not specifically directed at quality of life, in talking about their experiences in rehabilitation, some of the comments could be understood as describing one's quality of life at that specific time. Quality of life is subjective to time and place as well as biases of both the interviewers and the participants, especially in a more qualitative setting. My study will hopefully expand upon this qualitative research in such a way as to get more of a

complete picture of rehabilitation and the factors surrounding it. Rehabilitation must be seen as an experience, not purely a set of statistics. Therefore, throughout the interviews, each participant will have the chance to explain their introduction to adaptive sports and recreation and the effects that their participation had on their rehabilitation process. Having read these previous studies, questions came up that my study would hopefully answer. I wanted these more open ended interviews to give more insight into why adaptive sports and recreation had these positive effects.

### **Participants**

There were a total of six participants in this qualitative study. All the participants were previously known by the researcher through participation in adaptive sports. These participants were chosen due to the fact that they fit the criteria for the study and they were easily accessible for the interview.

The participants of the study were all between the ages of twenty-two and fifty-four years of age. All participants had first-hand experience with adaptive sports and the rehabilitation process; five participants had experience as patients of rehabilitation and the sixth participant had experience as an adaptive sports and recreation professional at a rehabilitation hospital. Of the participants that had acquired disabilities, the onset of their disability was between the ages of nine and twenty-seven. They all acquired their disabilities within the state of Indiana, but received inpatient and outpatient rehabilitation at a variety of facilities. Four of the participants acquired their disabilities due to accidents while one acquired her disability due to a malformation of the spinal cord.

Each participant was initially given a letter explaining the process and intent for the study as well as a copy of the consent form. All the participants agreed to be interviewed and consequently signed the consent form. Each interview was done in a private setting and all of the materials were stored in a manner such that the researcher and the thesis advisor were the only ones with access to them. Each participant was assured that they were not obligated to answer any questions with which they were not comfortable. All participants were told that any information given for this study would only be used for this study and would be kept confidential. At no point during the study would identifiable information about the participants be revealed.

## **Methods**

The data for this study was collected through personal interviews with each participant. Each participant was asked a set of questions related to the nature of their acquired disability, their rehabilitation and their involvement in adaptive sports and recreation. Each participant was asked to describe their disability, how they were introduced to adaptive sports and recreation, what effect adaptive sports and recreation had on their rehabilitation and what skills they learned from their participation. The end of the interview was also left open for any other comments related to either the rehabilitation process or adaptive sports and recreation. In order for the study to be exploratory, the questions were left relatively open-ended. Five of the interviews were conducted using Google Voice software as the participants were not close enough to be interviewed in person; this allowed the interviews to be recorded. The sixth interview was done in person but still recorded using Audacity. All of the interviews were done in December of 2014 and lasted about ten minutes each.

The interviews were subsequently transcribed for data analysis. Each interview was transcribed word for word by the researcher. Within the transcriptions of the interviews, patterns in themes were noted across participants' individual experiences.

## **Results**

Each participant had a unique experience in rehabilitation as well as their introduction to adaptive sports and recreation. Two of the participants were introduced to adaptive sports while in the process of rehabilitation. One of the participants was introduced by a professional, but not a person directly involved in his rehabilitation. The remaining two participants that had been through rehabilitation came to adaptive sports and recreation through means outside of rehabilitation. In discussion with the professional, he revealed that adaptive sports as a formal part of the rehabilitation process was indeed a newer concept, one that had only been widely practiced for about the last five years. This information was quite consistent with the experiences of the five participants with acquired disabilities.

In interviewing these individuals, I was not only able to glean an insight into the use of adaptive sports in the rehabilitation process, but I also got a better sense of what was encompassed in the rehabilitation process. It appeared as though the use of adaptive sports in the rehabilitation process coincided with a change in the desired outcomes of the rehabilitation process in and of itself.

One of my first participants was able to give some general insight into the current structure of rehabilitation and its connection to adaptive sports and recreation. This man works for the Rehabilitation Institute of Chicago doing adaptive sports programming for children ages five and up. He explained that there are many ways that the Rehabilitation Institute of Chicago

integrates adaptive sports and recreation into the rehabilitation process. For example, a recreational therapist is part of the team of professionals for each patient in rehabilitation. They have a service hour where they speak to each patient about what their options for sports and recreation are now that they live with a disability. Each patient is also offered the chance to tour the fitness center. Bi-monthly, an introduction to adaptive sports is offered where the patients are introduced to a variety of adaptive sports and have the opportunity to try out the equipment if they choose. He had also heard of similar programming being done both in Atlanta and in Florida. This early introduction to adaptive sports and recreation is definitely a newer trend, one that is much bigger even than it was five years ago.

Coming from the standpoint of a professional, he saw the greatest benefit to introducing a person to adaptive sports and recreation while they are in rehabilitation is simply showing them that their life of recreation is not over. There are other ways they can explore to be both active and competitive if they choose. There is usually an initial shock because they are not able to participate in a way that they are used to, but as a professional it is important to impress upon them that this is just another part of rehabilitation. This is just another way to strengthen those muscles. They may end up walking again and playing able-bodied sports, but this is a way for them to be active in the meantime.

The oldest participant in the study revealed a distinctly different impression of the aims of the rehabilitation process than the younger participants, many of whom had acquired their disability about twenty years later. This fifty-four year old male was taken to Methodist Hospital in Indianapolis because at the time, the leading back surgeons in Indiana practiced there. He then revealed that he had absolutely no introduction to adaptive sports and recreation by any of the rehabilitation professionals. From his perspective, the rehabilitation hospital was worried

about his most pressing physical and medical concerns, but that was the extent of his rehabilitation. Essentially, he participated in enough therapy to give him strength to be able to go home and take care of himself as best as he could at the time. There was no mention of any coping strategies or even adaptive techniques. It was expected that a patient would figure out these difficulties on his or her own. He did continue outpatient therapy through Parkview Hospital in Fort Wayne after being released from Methodist hospital, but again the goal was purely to give him physical strength.

Both as a person with an acquired disability himself and later in life a wheelchair basketball coach, this participant noted several benefits of adaptive sports and recreation as part of the rehabilitation process, either formally or informally. One of the most important benefits of adaptive sports and recreation he pointed out was simply feeling like one is part of society again. This was particularly important for him living in a small town where there were few people with disabilities. Adaptive sports and recreation gives a person with an acquired disability the chance to participate competitively in a sporting program; this can be especially meaningful if the person was athletic before they acquired their disability. Expanding the impact, adaptive sports and recreation gives the athletes a chance to practice adapting to others in order to work together successfully. This can be a skill that is transferable to the workforce. Furthermore, children and young adults entering an adaptive sports and recreation program are able to see others with disabilities excel in ways they may not have thought were still possible.

The third participant in the study was a twenty-three year old female who was paralyzed from the waist down at age nine. She had a malformation of her spinal cord which caused an extra blood vessel to grow and eventually hemorrhage, paralyzing her in 2001. Her rehabilitation began at Riley Hospital for Children in Indianapolis where she was initially

inpatient for about a month. She was then transferred to Methodist Hospital also in Indianapolis for outpatient rehabilitation that lasted about a month as well. She again was not introduced to adaptive sports and recreation as a formal part of the rehabilitation process and did not encounter them until about six years after the onset of her disability.

Having been athletic before, participating in softball, basketball and horseback riding, she decided to find out about adaptive sports and recreation on her own. Having found a wheelchair basketball team in her hometown, she again found herself becoming athletic. Similar to my first participant, she mentioned not having met many people with disabilities before she started playing wheelchair basketball. As a teenager, she noted that being around other people with disabilities who were facing similar challenges was validating as she could see herself as “normal” within this group. After the onset of her disability, she really did not see herself as an athlete until meeting other people with disabilities who participated in adaptive sports. It was important to her to feel a sense of belonging and identity. Beyond this, she also commented on learning the value of patience and hard work, especially having come to wheelchair basketball later in life. The skills did not come as easily to her as they did for others on her team who had started playing at a much younger age. She expressed that she thinks that adaptive sports should be a key part of the rehabilitation process for both the physical and the social benefits.

My fourth participant was a twenty-two year old female paralyzed in a snowboarding accident in 2010 when she was seventeen years old. This participant had been a competitive athlete before her injury as well, playing basketball for her high school and trying just about every sport she could. For her, this love of sports translated more directly into her rehabilitation process. During her time in inpatient rehabilitation at the Rehabilitation Hospital of Indiana (RHI) in Indianapolis, she was able to meet with a recreational therapist as well as attend a

wheelchair basketball practice. These opportunities were open anyone receiving rehabilitation through RHI, a visit with the recreational therapist was built into one's day just like physical or occupational therapy.

This participant also mentioned quite a few benefits to playing adaptive sports. Once she was physically ready to begin wheelchair basketball, it was a way for her to become healthier and fitter. It also helped with being able to transfer and move around having lost the use of quite a few muscles. Additionally, she found that there was a group of people who were dealing with many of the same issues; if she ran into an issue, someone else had probably already figured out how to solve it. She realized how small and tight-knit a community there is among athletes with disabilities. Unlike many of the participants, her injury did not have a significant impact on her self-esteem, but she definitely did not expect to be competitive again. This was one of the major things that adaptive sports brought back to her. Even today, she plays on one of the top women's wheelchair basketball teams in the United States and has been invited to try out for the USA women's wheelchair basketball team.

Having had such an overwhelmingly positive experience with adaptive sports and recreation, this participant is a strong advocate for their continued use in the rehabilitation process. Being able to find an outlet for one's athletic and competitive nature can have enormous benefits.

My fifth participant was a twenty-two year old male who sustained a lumbar spinal compression injury in 2007 at the age of fourteen. After his injury, he received inpatient rehabilitation at Methodist Hospital in Indianapolis and outpatient rehabilitation at St. Francis Beech Grove, also in Indianapolis. Though he was not introduced to adaptive sports and

recreation as a formal part of the rehabilitation process, he was introduced by the person who fitted him for his first wheelchair shortly after being released from the hospital. This man was the coach for their local wheelchair basketball team and encouraged him to come observe the team. He then began playing for the team about a year later.

Though adaptive sports were not technically part of his rehabilitation, he expressed that it definitely had a positive impact on his rehabilitation and adjustment process. For one, it was something he could do aside from basic physical therapy to enhance his strength. He even expressed that once he was able to play more competitively, he found that he actually had some athletic ability. Athletics was not something he had participated in before his injury so he was able to find a new side of himself through adaptive sports. He was able to find a sport that he loved, was good at, and it taught him about team work and controlling his emotions in stressful situations. Much like other participants, his social circle expanded through playing wheelchair sports. When asked whether he thought that adaptive sports would have been a good addition to his formal rehabilitation process, he indicated that they definitely would have enhanced it. Not only would it have made him stronger at that point, but it would have been a relief from the monotony of physical and occupational therapy. As he indicated, he did not remember that time being much fun, so adaptive sports would have been a good recreational outlet.

My final participant who had experienced rehabilitation as a patient was a twenty-five year old male who is a T4 complete paraplegic. He was injured in 2005 as a sophomore in high school. He received inpatient rehabilitation for two months at United Methodist Hospital in Indianapolis and outpatient rehabilitation at the Rehabilitation Hospital of Indiana, also in Indianapolis. He was initially introduced to adaptive sports and recreation while he was inpatient, but physically he was not ready to participate at that point. During his outpatient

rehabilitation, he was able to meet other athletes with disabilities from the teams at the Rehabilitation Hospital of Indiana as well as try out some of the sports equipment.

Having been a competitive athlete both in track and swimming before his injury, he expressed that his introduction to adaptive sports had a huge impact on his rehabilitation process. He was again able to be competitive with a group of people on his own ability level. It was also a way for him to show people that he was still the same athletic and competitive person he was before his injury; he just had to go about playing sports slightly differently. Especially having been an intercollegiate athlete in wheelchair basketball, he expressed that playing adaptive sports enhanced his ability to be patient. At that level, he was not automatically one of the best players, so he had to work extremely hard to be one of the best. This for him was a humbling experience.

One of the unique aspects that this participant highlighted about rehabilitation was how he was made to use the skills that he learned in physical and occupational therapy out in the “real world”. About once a week while he was in rehabilitation, they would go on group outings to recreational events. Aside from providing a relief from the normal schedule, this was a chance for the patients to experience the difficulties of doing things such as transferring into and out of the seats at the movie theater. They were made to figure out how to adapt to these activities. One of the interesting insights this participant provided was that any time he was learning a new task in therapy, inevitably it was an able-bodied person teaching him. Therefore, there was definitely a disconnect because that person had full use of all of their muscles. So like other participants stated, having people who are truly facing the same difficulties as you are is invaluable.

## **Discussion**

In general, this study reinforced previous research done on the subject of adaptive sports and rehabilitation. There was a definite positive influence seen on the process of rehabilitation and life in general after the onset of an acquired disability by participation in adaptive sports and recreation. Each participant was asked initially for a brief explanation of the nature of their disability. Following this, the main questions centered around how the participant was introduced to adaptive sports and recreation and by whom. From there, each participant was asked about what effect adaptive sports and recreation had on their rehabilitation process had, especially in respect to their social life and their self-perception. Finally, the end of the interview was left open-ended for any other insight the participant had about any part of the rehabilitation process.

The main goal of this particular study, unlike the others reviewed, was to see rehabilitation and participation in adaptive sports and recreation as an experience. One's experiences including thoughts, feelings and opinions are not easily represented with numerical data. In order to get a complete picture of the experience, one must collect qualitative data. As a qualitative and exploratory study, one cannot draw any absolute conclusions based upon the results. The sample was small and quite select. The fact that I as the researcher knew the participants previously and had previous experience with adaptive sports and recreation could also have had an effect on the results of the study.

The results of this study were not surprising, but did bring up more areas that should be addressed more fully. Multiple participants pointed out the fact that they were able to learn skills applicable to other areas of life. These included such things as teamwork, patience and controlling ones emotions. All three of these skills have the potential to be useful in such places as the workforce. Doing a larger qualitative study addressing this topic with a wider variety of

participants would be a great area of research. Many of the studies done previously took data from one specific point in a participant's life. Rehabilitation is such an all-encompassing endeavor that effective research must be more extensive.

Studies looking at the effects of adaptive sports and recreation on one's social interactions would be another area for further research. A factor highlighted by many of the participants in this study was that the other people participating in adaptive sports and recreation had encountered many of the same difficulties, also living with a physical disability. It also appeared to one participant to be a rather small, tight-knit community. It is a community in which "everyone knows everyone". Furthermore, one could connect this with the perceived assimilation of a person with the acquired disability into the disabled community. Qualitative research has the potential for more specifically answering the question of "why" in these scenarios. While qualitative research can give a succinct picture of the effects, qualitative research is able to make a connection as to why a certain effect was seen.

## References

- Blouin, M. & Vallejo Echeverri, L.E. (2010). Rehabilitation. In *International Encyclopedia of Rehabilitation*. Retrieved from <http://cirrie.buffalo.edu/encyclopedia/en/article/304/>
- Giacobbi, P., Stancil, M., Hardin, B., & Bryant, L. (2008). Physical activity and quality of life experienced by highly active individuals with physical disabilities. *Adapted Physical Activity Quarterly*, 25, 189-207.
- Hutzler, Y., Chacahm-Guber, A., & Reiter, S. (2013). Throughout a reverse-integrated wheelchair basketball program. *Palaestra*, 27, 33-36.
- Lundberg, N., Bennett, J., & Smith, S. (2011). Outcomes of adaptive sports and recreation participation among veterans returning from combat with acquired disability. *Therapeutic Recreation Journal*, 45(2), 105-120.
- Martin, J. (2008). Multidimensional self-efficacy and affect in wheelchair basketball players. *Adapted Physical Activity Quarterly*, 25, 275-288.
- Slater, D. & Meade, M. (2004). Participation in recreation and sports for persons with spinal cord injury: Review and recommendations. *NeuroRehabilitation*, 19, 121-129.
- Tasiemski, T., Kennedy, P., Gardner, B., & Taylor, N. (2005). The association of sports and physical recreation with life satisfaction in a community sample of people with spinal cord injuries. *NeuroRehabilitation*, 20, 253-265.

Urbanski, P., Bauerfeind, J., & Pokaczajlo, J. (2013). Community integration in persons with spinal cord injury participating in team and individual sports. *TRENDS in Sport Sciences*, 2(20), 95-100.

Office of Research Integrity  
 Institutional Review Board (IRB)  
 2000 University Avenue  
 Muncie, IN 47306-0155  
 Phone: 765-285-5070

DATE: November 25, 2014

TO: Sarah Sims

FROM: Ball State University IRB

RE: IRB protocol # 649975-1

TITLE: Use of Adaptive Sports and Recreation in Rehabilitation

SUBMISSION TYPE: New Project

ACTION: APPROVED

DECISION DATE: November 25, 2014

REVIEW TYPE: **EXEMPT**

The Institutional Review Board reviewed your protocol on November 25, 2014 and has determined the procedures you have proposed are appropriate for exemption under the federal regulations. As such, there will be no further review of your protocol, and you are cleared to proceed with the procedures outlined in your protocol. As an exempt study, there is no requirement for continuing review. Your protocol will remain on file with the IRB as a matter of record.

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	<b>Category 1:</b> Research conducted in established or commonly accepted educational settings, involving normal educational practices, such as (i) research on regular and special education instructional strategies, or (ii) research on the effectiveness of or the comparison among instructional techniques, curricula, or classroom management methods.
X	<b>Category 2:</b> Research involving the use of educational test (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior
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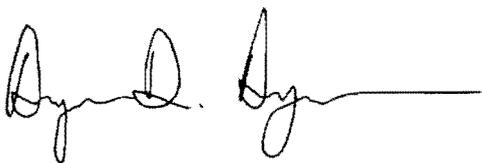
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	<p><b>Category 6:</b> Taste and food quality evaluation and consumer acceptance studies, (i) if wholesome foods without additives are consumed or (ii) if a food is consumed which contains a food ingredient at or below the level and for a use found to be safe, by the Food and Drug Administration or approved by the Environmental Protection Agency or the Food Safety and Inspection Service of the U.S. Department of Agriculture.</p>

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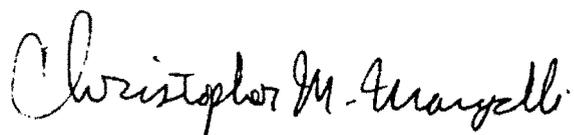
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While your project does not require continuing review, it is the responsibility of the P.I. (and, if applicable, faculty supervisor) to inform the IRB if the procedures presented in this protocol are to be modified or if problems related to human research participants arise in connection with this project. **Any procedural modifications must be evaluated by the IRB before being implemented, as some modifications may change the review status of this project.** Please contact (ORI Staff) if you are unsure whether your proposed modification requires review or have any questions. Proposed modifications should be addressed in writing and submitted electronically to the IRB (<http://www.bsu.edu/irb>) for review. Please reference the above IRB protocol number in any communication to the IRB regarding this project.

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