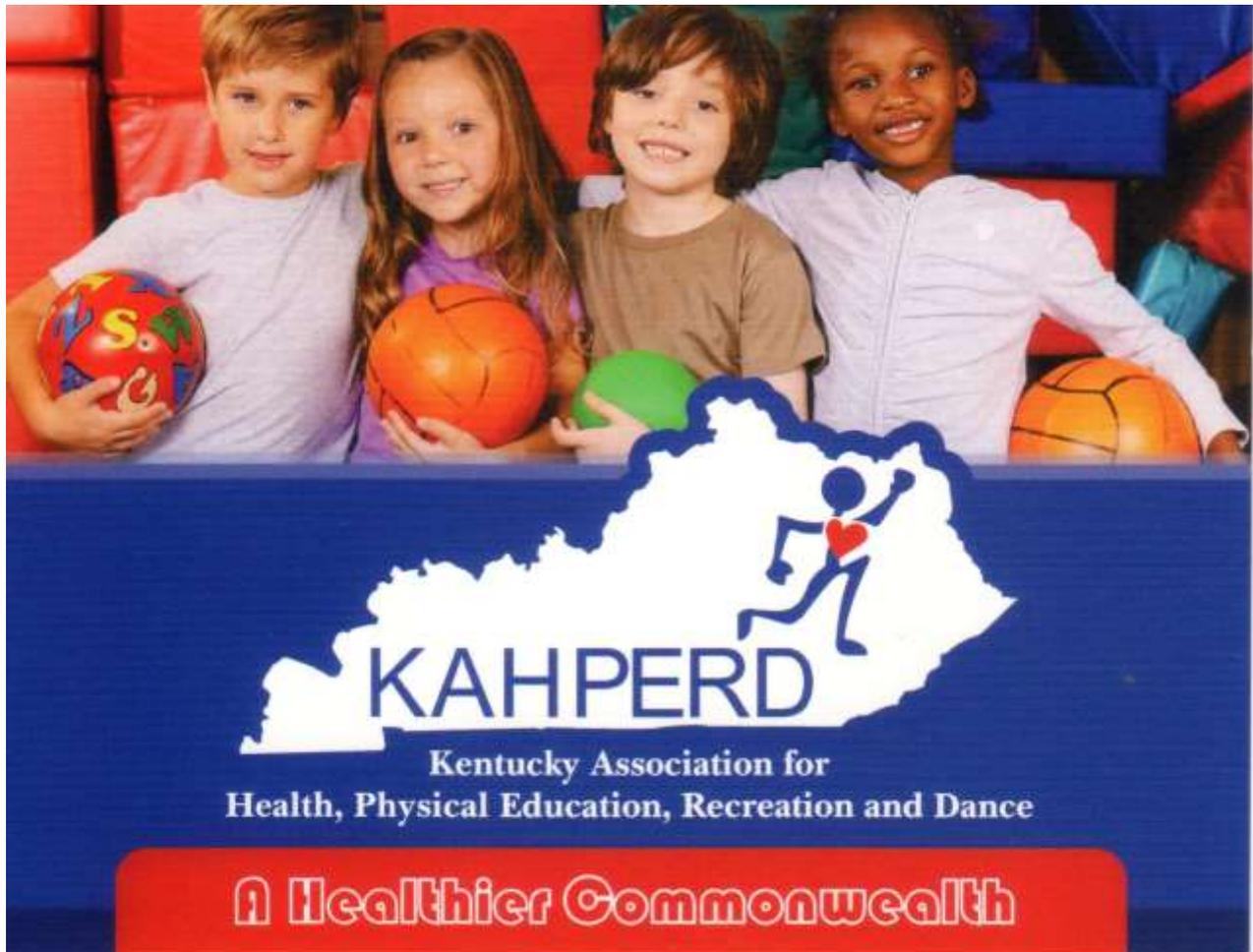


2019 Fall

Kentucky Society of Health And Physical Education



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# Kentucky SHAPE Journal

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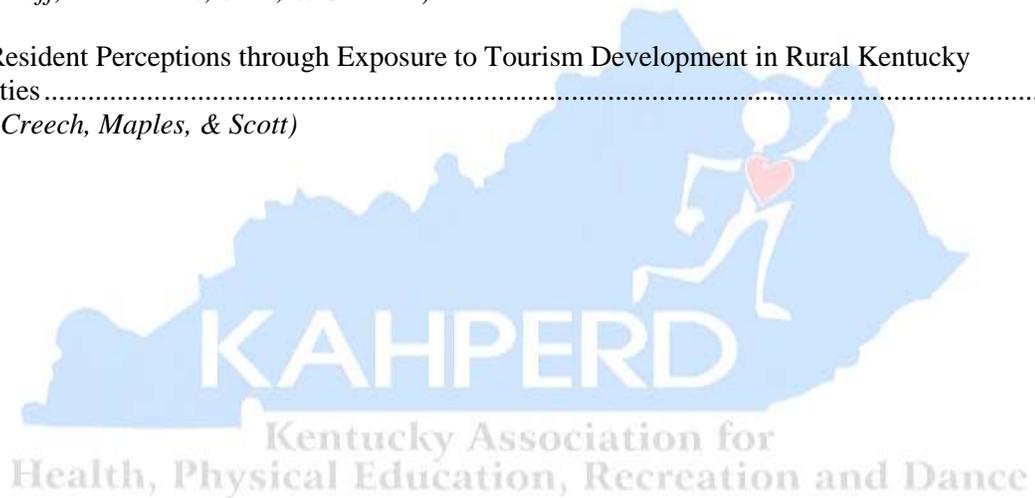
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## A Message from the Kentucky SHAPE President

Greetings Kentucky SHAPE friends,

I am truly honored to serve as the President of Kentucky SHAPE (as known as KAHPERD) for 2020. I have served on the board in variety of capacity over the years and have been a member of this great organization since the 90's as an undergraduate at the University of Kentucky. As president I hope to lead us to through a smooth transition as we change our name to Kentucky SHAPE. It is an exciting time for our organization, and I am humbled to be leading the charge with the board. This year we will be focusing on moving toward a clear vision for every child. Our theme in collaboration with SHAPE America is 2020 Vision: Equity, Diversity, and Inclusion for Every Student. We have lots of work to do to ensure that all have equal access to an education that includes wellness. I challenge you to get involved and gather your colleagues so that we can make a difference for our students in Kentucky and across the nation. Thank you for all you do and I look forward to working with you for continued success for Kentucky SHAPE.

Respectfully Submitted  
Robin A. Richardson, MS  
Kentucky SHAPE President 2019 -2020

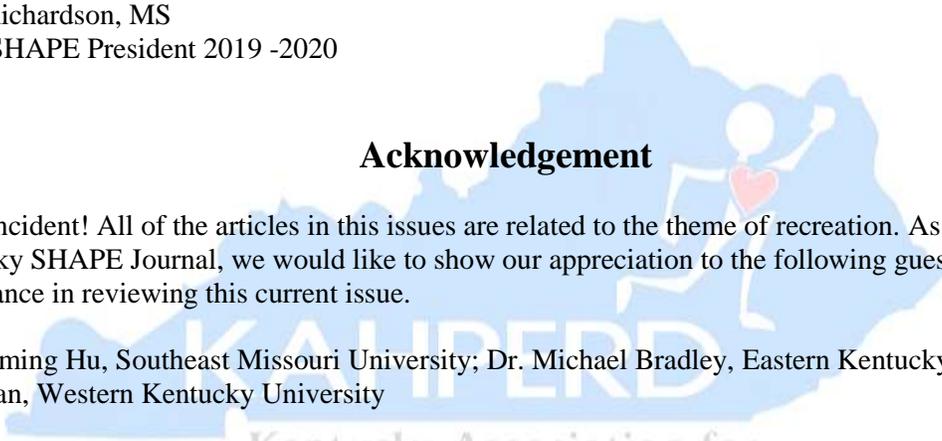
### Acknowledgement

What a coincident! All of the articles in this issues are related to the theme of recreation. As the Editors of the Kentucky SHAPE Journal, we would like to show our appreciation to the following guest-reviewers for their assistance in reviewing this current issue.

Dr. Cheng-ming Hu, Southeast Missouri University; Dr. Michael Bradley, Eastern Kentucky University; Dr. Tricia Jordan, Western Kentucky University

Sincerely,

Gina Blunt Gonzalez, Kentucky SHAPE Journal Co-Editor  
Steve Chen, Kentucky SHAPE Journal Co-Editor

  
Kentucky Association for  
Health, Physical Education, Recreation and Dance

## **Kentucky SHAPE Journal Submission Guideline**

### **SUBMISSION OF A PAPER**

The Kentucky SHAPE Journal (former KAHPERD Journal) is published twice yearly (spring and fall) by the Kentucky SHAPE. The journal welcomes the submission of empirical research papers, articles/commentaries, best practices/strategies, interviews, research abstracts (spring Issue only) and book reviews from academics and practitioners. Please read the information below about the aims and scope of the journal, the format and style for submitted material and the submissions protocol. Your work will more likely to be published, if you follow the following guidelines thoroughly.

Articles are accepted via an electronic attachment (must be in Microsoft Word format, doc or docx) through e-mail to the editor before the deadline dates. Submissions should be sent to either one of the co-editors, Gina Gonzalez: [g.gonzalez@moreheadstate.edu](mailto:g.gonzalez@moreheadstate.edu) or Steve Chen: [s.chen@moreheadstate.edu](mailto:s.chen@moreheadstate.edu)  
Deadlines: Spring issue—March 1 & fall issue—September 1

### **AIMS AND SCOPE**

The main mission is to bring together academics and practitioners to further the knowledge and understanding of issues and topics related to health, physical education, sport administration and marketing, exercise science, sport coaching, dance, and recreation, etc. We encourage submissions relating to these topics from a variety of perspectives.

### **CONTENT**

All articles should be written primarily to inform senior practitioners and academics involved in areas of health, physical education, recreation and dance.

Research articles should be well grounded conceptually and theoretically, and be methodologically sound. Qualitative and quantitative pieces of research are equally appropriate. A good format to follow would be: Introduction, Literature Review, Methodology, Results, & Discussion, Conclusion, and Implication. Articles may include an abstract of approximately 150 words including the rationale for the study, methods used, key findings and conclusions. Article should not exceed 10 single-spaced pages (not including references, tables, and figures).

Reviews of books and/or reports are welcome (around 1000-2000 words). Information concerning the book/report must be sent to the editor.

Interviews (it would be nice to discuss with the editor beforehand) and best practice/strategy papers of 1,500-3,000 words should be objective and informative rather than promotional and should follow the following format: Objective/Background/Discussion and Practical Implication.

Research abstracts (300 words or less) are welcome. The submitted abstracts should have been presented (either an oral or a poster presentation) in the KAHPERD annual conference in the previous year.

\*The editors are keen to discuss and advise on proposed research projects, but this is no guarantee of publication.

### **FORMAT AND STYLE**

Manuscripts should follow the form of the guidelines for publications outlined in the 6<sup>th</sup> edition of the Publication Manual of the American Psychological Association.

Tables, charts, pictures, diagrams, drawings and figures should be in black and white, placed on separate pages at the end of the manuscript. They must be submitted photo ready and reproduced to fit into a standard print column of 3.5 inches. Only one copy of each illustration is required, and captions and proper

citations should be typed on the bottom of the table and diagrams. Jargon should be reduced to a minimum, with technical language and acronyms clearly defined. The accuracy of any citations is the responsibility of the author(s).

For more specific style questions, please consult a recent edition of the journal.

### **SUBMISSIONS PROTOCOL**

Submission of a paper to the publication implies agreement of the author(s) that copyright rests with Kentucky SHAPE Journal when the paper is published.

Kentucky SHAPE Journal will not accept any submissions that are under review with other publications. All manuscripts submitted will be peer reviewed by 3 members of the editorial board. To be accepted for publication in the journal, the article must be approved by no less than 2 of the 3 reviewers. Authors will normally receive a decision regarding publication within six to 12 weeks. Rejected manuscripts will not be returned.



**(Peer Reviewed Article)****An Analysis of the Benefits of Therapeutic Recreation for Children with Cerebral Palsy***Todd Farmer, Langston University**Chelsey Watson, Langston University***Abstract**

Cerebral Palsy is a neurological disorder caused by an injury to the brain. Depending on what part of the brain is affected, Cerebral Palsy affects people in many different ways. The primary bodily functions are impeded include locomotion, gross and fine motor coordination, and communication. Unlike traditional treatments and therapies, therapeutic recreation uses leisure as a way to maximize a person's overall health, well-being, and quality of life. For children with Cerebral Palsy, therapeutic recreation has many physical, social, and emotional benefits. Therapeutic recreation programs are designed to facilitate patients' physical and emotional well-being by providing activities that help improve cognitive, social and motor functioning. Therapeutic recreation modalities used to target Cerebral Palsy improve strength, posture stability, gross and fine motor skills, etc. in addition to improving social and emotional health. In conclusion, children with Cerebral Palsy who participate in therapeutic recreation programs greatly benefit physically, socially, and emotionally.

**Introduction**

Higginbotham said, "Therapeutic recreation is not about looking at the disabilities of the individuals but the abilities that make the individual who they are" (1983, p. 782). According to Long and Robertson (2008), "Therapeutic recreation is the purposeful utilization or enhancement of leisure as a way to maximize a person's overall health, well-being, or quality of life" (p. 4). Developing leisure abilities helps people to choose and participate in activities that they find enjoyable and personally rewarding. Some common modalities used to help clients meet treatment goals are games, exercise, and sports, etc. A tremendous amount of activities and settings are used during therapy. Therapeutic recreation serves and benefits many populations, including people with disabilities. One specific population that benefits from therapeutic recreation are people with cerebral palsy. Cerebral Palsy can range from mild to severe, and can often make recreation and daily activities challenging. How can therapeutic recreation maximize the overall health, well-being, or quality of life in people with Cerebral Palsy? This thesis will analyze the benefits of using therapeutic recreation modalities for children with Cerebral Palsy by using modalities such as, aquatics, art, music and hippo-therapy.

**About Cerebral Palsy**

The definition and classification of Cerebral Palsy have been studied for many years. Cerebral Palsy has been the subject of books, research, and papers by some of the most renowned medical minds for the past one hundred years. According to Rosenbaum (2006), Cerebral Palsy describes a group of permanent disorders of the development of movement and posture, causing activity

limitation that is attributed to non-progressive disturbances that occurred in the developing fetal or infant brain. Rosenbaum (2006) also explains that the motor disorders of Cerebral Palsy are often accompanied by disturbances of sensation, perception, cognition, communication, and behavior; by epilepsy, and by secondary musculoskeletal problems. Cerebral Palsy is an umbrella term for a group of disorders that affects a person's ability to move and is caused by an injury to the brain that usually happens during pregnancy, but sometimes it may occur shortly after birth. Cerebral palsy affects people in different ways because injuries may occur in different parts of the brain. However, it always has some impact on the person's movements; due to the fact the messages coming from the brain to the muscles are affected. Some risk factors that may result in injury to the brain are prematurity, low birth weight, blood clotting, problems with the placenta, bacterial and viral infections, child abuse, stroke, and head injury (Rosenbaum, 2006). Many researchers believe that cerebral palsy is not genetic, rather genetic predispositions to certain risk factors such as a blood clotting disorder or heart problems may play a part in causing an injury to the brain. The primary bodily functions that are impeded include locomotion, gross and fine motor coordination, and communication. Diagnosis can occur at any time from birth; the average age is 18 months. Some indicative signs of that indicate a baby may have Cerebral Palsy include floppy feet when they are picked up, the inability to hold their head up, stiff muscles, unusual body postures, and delayed developmental (such as sitting up, walking, rolling, etc.) (2006).

As mentioned earlier, cerebral palsy affects people differently depending on what part of the brain is injured. Different parts of the body are affected differently also. Cerebral Palsy is broken down into categories of how movement types are affected and the level of difficulty. According to Foose and Ardovino (2008), Spastic Cerebral Palsy (CP) is the most common form, affecting 70% to 80% of people with CP. It results in muscles that become stiff and tight, which can make it difficult for someone to use their muscles easily. People who have spastic CP may find it difficult to "turn their muscles on and off," so to speak, when they want to move their arm or leg to do a task or use their mouth and face muscles to eat and talk. The level of spasticity ranges from minor to major; it varies greatly between individuals. Spastic CP can manifest in three forms: quadriplegia, diplegia, and hemiplegia. Quadriplegia is a symptom as one's both the arms and legs are affected. When one's both legs are mainly affected, it is called diplegia. If one side of the body is affected, for instance, the right arm and right leg, that is called hemiplegia. The next type of Cerebral Palsy is Athetoid CP, also called Dyskinetic CP. This type of Cerebral Palsy is a result of low muscle tone and presents itself in slow, uncontrollable movements of the entire body, often making it difficult to sit straight and walk. Ataxic Cerebral Palsy is the third type of CP, and it results in a poor sense of balance in walking and standing. Often a person has difficulty controlling muscle length or position and may overshoot objects when reaching for them. Lastly, it is also common for people to have Mixed CP, which is a combination of the types mentioned above.

According to the Centers for Disease Control and Prevention (CDC) (2018), Cerebral Palsy is the most common motor disability in childhood. The CDC also says that studies from around the world report prevalence estimates ranging from 1.5 to more than 4 per 1,000 live births or children of the defined age range. The Estimates from CDC's Autism and Developmental Disabilities Monitoring estimates that about 1 in 323 children has been identified with Cerebral Palsy. The CDC also says that CP is found to be more common in boys than girls and it is more common in black children than white children. Johnston and Hagberg (2007) explain that, "There are major differences

between male and female neurons grown separately in cell culture, suggesting that sex differences in the fetal or neonatal period result from intrinsic differences in cell death pathways. This information indicates that there are important neurobiological differences between males and females concerning their response to brain injuries" (p. 74). Wu, Y. W., et al. (2011) found that the increased risk of Cerebral Palsy among black infants is primarily related to their higher risk of low birth weight.

## **Therapeutic Recreation**

The purpose of this paper is to analyze research that has been done over the benefits of therapeutic recreation for children with Cerebral Palsy. The researcher's will summarize what therapeutic recreation is, introduced the activities performed during therapeutic recreation, and why it is beneficial for children with Cerebral Palsy to participate in therapeutic recreation.

### *Therapeutic Recreation Interventions*

Various therapeutic interventions have been used during the treatment of children with Cerebral Palsy. Traditional therapies such as physiotherapy and occupational therapy are widely used interventions and can be beneficial in the treatment of Cerebral Palsy. Conventional treatments include medications, surgery, physical therapy, occupational therapy, speech therapy, etc. (2011). Treatments often depend on the type and severity of the condition. Compared to traditional therapy, therapeutic recreation uses leisure as a way to maximize a person's overall health, well-being, or quality of life. Developing leisure abilities helps people choose and participate in activities that they find enjoyable and personally rewarding. Zabriskie, Lundberg, and Groff (2005), found that participating in therapeutic recreation programs positively influenced the quality of life, overall health, quality of family life, and quality of social life. Recreational activities, no matter what they are, offer some type of fun and leisure. Recreational therapy offers patients with Cerebral Palsy a social, emotional, and physical experience with many benefits. This type of therapy focuses on inclusion, which allows the patient to participate in enjoyable activities from which they can learn. Therapeutic recreation is designed to help increase a patients' ability to strategize, plan, and get involved in tasks that encourage emotional well-being and improve physical function by getting them involved in activities they enjoy and benefit from. For patients with cerebral palsy, recreational therapy offers many benefits such as an opportunity for greater inclusion, improves essential neurological connections, and increases physical functionality (Groff, 2005). Both group and solitary environments offer benefits to children with Cerebral Palsy. Spending time participating in recreational activities decreases the opportunity for patients to feel lonely, depressed, or frustrated. For many patients, recreational therapy offers a sense of accomplishment and improves feelings of self-worth. Different therapeutic recreation modalities focus and target specific goals that need to be addressed.

### *Various Treatment Modalities and Physical Benefits*

According to Murphy and Carbone (2008), eighteen percent of children and adolescents in the United States have a chronic condition or disability, where their participation in fitness and activity are limited, ultimately resulting in lower levels of cardiorespiratory fitness, lower levels of

muscular endurance, and higher rates of obesity than typical children. Many different therapeutic recreation modalities can contribute to a child's overall physical health; however, some certain modalities are more beneficial, specifically for children with Cerebral Palsy. A few of these modalities introduced in the following sections are hippotherapy, aquatic therapy, and music and art.

Hippotherapy is a common therapeutic recreational modality used for children with Cerebral Palsy. According to Casady and Nichols-Larson (2004), "Hippotherapy is a treatment strategy using the movement of the horse, . . . and has been used by therapists in Europe since the 1960s for increasing strength, balance, posture, and function" (p. 165). Through the repetitive, rhythmical movement of the horse during hippotherapy, a child begins to anticipate movement with each step of the walking horse and learns to produce compensatory movements that reduce displacement of his or her center of gravity and keep him or herself on the horse. As mentioned earlier in the paper, Cerebral Palsy is a neurological disorder that affects the muscles in the body. As a result, many children with Cerebral Palsy struggle with posture control, and according to Casady and Nichols-Larsen (2004), the development of postural control is postulated to be the foundation for normal gross activities. "The primary goal of hippotherapy is to improve the individual's balance, posture, function, and mobility" (Zadnikar & Kastrin, 2011, p. 685). Hippotherapy is extremely beneficial for children with Cerebral Palsy because of the focus it places on improving posture. The theory behind hippotherapy is that influencing postural control may also affect the acquisition of motor skills in everyday functional tasks. Results from the studies done by Casady and Nichols-Larsen (2004) and Moraes et al. (2016), both show significant improvement in seated postural ability after hippotherapy intervention. Moraes et al. (2016, p. 2223) also observed improvement in daily functional activities and greater independence for the individuals in the study. During hippotherapy, the patient uses verbal and nonverbal communication to get the horse to walk. The reported physical benefits include improvement in balance, strength, coordination, muscle tone, joint range of movements, weight-bearing, posture, gait, and sensory processing.

A dominant characteristic of many children with disabilities is a lack of social interaction, which affects the development of language and communication skills and minimizes the effects of play as a medium for social development (Frith, Mitchell, & Roswal, 1980). Social skills enable children to be successful in social interactions. Socialization and communication skills are practiced in many different therapeutic modalities. As discussed earlier, hippotherapy is a type of therapy using the movement of a horse. Hippotherapy targets physical goals as well as social ones such as building a sense of self-worth and acceptance, improving communication, building trust and self-efficacy, developing socialization skills, learning impulse control, emotional management, setting perspectives, and learning their limits and boundaries (Equestrian Therapy Association, 2016). By engaging in hippotherapy, children with Cerebral Palsy learn to follow directions through a fun activity that makes taking direction easier to grasp and remember, as well as learning communication and leadership skills by giving the horse commands and direction. Casady and Nichols-Larsen (2004) and Moraes et al. (2016) noted improved social skills after hippotherapy treatment.

In addition to hippotherapy, animal therapy is also a very beneficial modality used to improve social skills in children with Cerebral Palsy. Animal therapy brings mental health benefits as well,

such as improving attention, concentration, and self-esteem, reduces anxiety and loneliness, improves verbal-interaction and leisure abilities, as well as improves and expands vocabulary (Dimitrijevic, 2012). Dogs are the most common animal used for animal therapy due to their trainability and sociability skills. Esseff (2016) states that animals can function as “transitional objects” and form a relationship with children. They can be included as the therapist, and eventually seep into their everyday interactions with each other.

Aquatic therapy is another beneficial therapeutic recreation modality that can be used for children with Cerebral Palsy. Dimitrijević et al. (2012) claim that aquatic intervention is one of the most popular supplementary treatments for children with neuro-motor impairments, particularly for those with Cerebral Palsy. Aquatic therapy is a powerful tool because of the buoyant nature of the water. Since pressure on joints is reduced, it gives children with Cerebral Palsy the opportunity to move and feel their body free from the constraints experienced on land. Cole and Becker (2004), claim that water-based activity aids in the relief of pain and muscle spasms, maintenance or increases of range of motion, strengthening of weak muscles, reeducation of paralyzed muscles, improvement of circulation, lung function, and speech as well as aiding in the maintenance and improvement of balance, coordination and posture. Moreover, Becker (2004) explains that the warmth of a physiotherapy pool helps muscle relaxation and seems to reduce pain perception. Results from a study done by Dimitrijević et al. (2012) show improvement in gross motor function and aquatic skills after a six-week aquatic therapy program. These results are in agreement with the findings of Mackinnon (1997), Hutzler et al. (1998), Declerck (2013), and Getz (2007). Motor planning, self-regulation, speech, oral motor control, strength, and coordination are just a few areas that are likely to improve as a result of therapy in the water. According to the Disabled Sports USA (2016), swimming not only offers flexibility within the joints and muscles, but also strengthens the cardiovascular system as well as the major muscle groups in the upper and lower body. Because of the heart pumping more rigorously when the body is submerged, there is a decrease in swelling, reducing blood pressure, and improving joint positions.

Although the physical benefits of music and art are different from those of swimming and horseback riding, and other sports, the importance of these skills are just as relevant. Through music and art therapy, individuals can intensely work on their fine motor skills. In art therapy, the client uses fine motor skills during the use of different tools. Individuals learn how to maneuver different supplies in different ways properly. For example, the way one holds a pencil to draw or color is different from when one paints a picture. In music, fine motor skills are practiced by playing different instruments. Additionally, "movement activities may also be included to promote both whole body and fine motor skills through formal movement or by the child spontaneously responding to music" (Stephenson, 2006, p. 292).

Music and art also have an extensive impact on the social skills of children with Cerebral Palsy. In art therapy, the patient uses visual arts to develop self-awareness and skills as well as manage emotional conflicts and behavior. Art allows children to express themselves in non-verbal forms. Art allows children to express their feelings through different art forms such as paints, creating puppets, making collages, creating sculptures, playing with clay, and many other activities. On the other hand, music therapy allows clients to dance, sing, move, create, or listen to music. Singing and creating music is an excellent source of self-expression, and provides an opportunity for social

engagement with others. Music Therapy is often used to focus on enhancing the individual's communication, language development, and relationship skills through music (Stephenson, 2006).

### *Social and Emotional Benefits*

Therapeutic recreation offers physical, social, and emotional benefits for children with Cerebral Palsy. The physical, social, and emotional domains of children with Cerebral Palsy are significantly enhanced through the involvement of therapeutic recreation. There are many different activities that people participate in for therapeutic recreation such as sports, games, swimming, music, art, horseback riding, hippotherapy, etc. Participation in therapeutic recreation is important for children with Cerebral Palsy, because children with disabilities may find themselves with limited opportunities to fully enjoy leisure time. A lack of perceptual, motor, memory, linguistic, or organizational skills may cause them as much difficulty for leisure as they have at school or work and their fear of failure may limit their reaching out to access recreational activities (Penstion, 1998).

Recreational therapists may assess the patient, create a program plan, goal, and objectives, implement this program based on the individual's needs and abilities, and then evaluate the patient and the program at the end. In doing so, the success and accomplishment of participants gain not only physical and social abilities but enhances their self-confidence and self-worth, which untimely improves their quality of life (Office of Disease Prevention and Health Promotion, 2018).

Recreation is activities that people do outside of work, and it does not include personal hygiene or care; rather, these activities are performed for enjoyment. The main goal for recreation is for the relief of stress, self-relaxation, and improving physical, social, mental, spiritual, and emotional health. Therapeutic recreation encompasses all of these goals as well; moreover, it promotes good health, relieves stress, facilitates social interaction, and provides a general joy of living (Daniels, 1995). Children with Cerebral Palsy gain physical benefits such as an improvement of fine and gross motor skills throughout all activities; whether they are practicing holding a paintbrush or riding a horse to gain balance, stability, or core strength, they are enhancing their skills in a fun and engaging way. Children with Cerebral Palsy who are confined to a wheelchair can experience movements while swimming that they are generally not able to experience on land. Swimming provides an opportunity for these individuals to stretch and gain muscle from the movement against the resistance of the water (Shir, 2015).

### **Summaries, Discussion, and Conclusions**

Based on the reviewed literature, the researcher has found no disadvantages of using therapeutic recreation programs for children with Cerebral Palsy. However, many of the research articles that the researcher found incorporated other therapies alongside therapeutic recreation. For example, occupational therapy and physical therapy had similar techniques, principals, and outcomes as therapeutic recreation; many of the research studies were combined. "However, recreation therapy also has another purpose – to enhance the ability of a child with Cerebral Palsy to plan, strategize and perform tasks in an effort to achieve improved physical functioning and encourage emotional well-being by facilitating inclusion into activities they enjoy" (Stern, 2019, p. 2). Another limitation the researcher faced is the absence of certified therapeutic recreation specialists at many

universities. If the researcher's had access to these specialists or a therapeutic recreation program, then further research would have been done. The researchers also tried to find articles published within the last five years, but there was not an adequate amount of articles available within that time period. Nonetheless, they do feel confident in the information that was obtained from the research articles.

Therapeutic recreation provides individuals with a perceived self of freedom, independence, enhances self-competence throughout self-worth, self-reliance, self-confidence, tolerance, and understanding, thus, improves all aspects of their quality of life. (Murph & Carbone, 2008). Children with Cerebral Palsy benefit greatly from participating in therapeutic recreation programs. Cerebral Palsy is an umbrella term for a group of disorders that affects a person's ability to move. Due to different parts of the brain being affected, Cerebral Palsy affects people in different ways. However, it always has some impact on the person's movements because the messages coming from the brain to the muscles are affected. Different parts of the body are also affected due to which part of the brain is injured. Often, a person with Cerebral Palsy has difficulty with locomotion, gross and fine motor coordination, and communication. Therapeutic recreation programs specifically target these areas. For example, hippo-therapy is used to help with locomotion, art is used to help with gross and fine motor skills, and animal therapy is used to help with communication.

Suggestions on how to implement an effective therapeutic recreation program is using three different models: leisure ability model, health promotion model, and the recreation service model. Stumbo and Peterson (1998) state the leisure and ability model is "one of the oldest, most widely used, and most often critiqued therapeutic recreation practice models" (p. 82). This model has three areas to help a person with cerebral palsy: recreation participation, functional intervention, and leisure education. The health promotion model has three components: recreation, health, and pre-scripted activities. The health promotion model attempts to use health protection and health promotion to assist people with cerebral palsy. Recreation service model mirrors the WHO (World Health Organization) organization in describing four levels: handicap, disability, impairment, and disease. According to Burlingame (1998), the recreation service model, "provides the therapist with a taxonomy which organizes practice into a scientific model" (p. 95) this guides the teacher in helping students with cerebral palsy. In conclusion, therapeutic recreation benefits children with Cerebral Palsy physically, socially, and emotionally.

## References

- Becker, B. E. (2004). Aquatic therapy: Scientific foundations and clinical rehabilitation applications. *PM R*, 1(9), 859-872.
- Burlingame, J. (1998). Clinical practice models. In F.M. Brasile, T. Skalko & J. Burlingame (Eds.) *Perspectives in recreation therapy*, (pp. 83-106). Ravensdale, WA.: Idyll Arbor
- Casady, R. L., & Nichols-Larsen, D. S. (2004). The effect of Hippotherapy on ten children with Cerebral Palsy. *Pediatric Physical Therapy*, 16(3), 165-172.
- Centers for Disease Control and Prevention. (2018). *Data and statistics of Cerebral Palsy*. Retrieved from <https://www.cdc.gov/ncbddd/cp/data.html>
- Cole, A. J., & Becker, B. E. (2004). *Comprehensive aquatic therapy*. Philadelphia, PA: Elsevier Inc.
- Daniels, B.C. (1995). *Puritans at play: Leisure and recreation in colonial New England*. Winnipeg, Canada: Macmillan Press
- Declerck, M., Hilde, F., & Daly, D. (2013). Benefits of swimming for children with Cerebral Palsy: A pilot study. *Serbian Journal of Sports Science*, 7(2), 57-59.
- Dimitrijević, L., Aleksandrović, M., Madić, D., Okičić, T., Radovanović, D., & Daly, D. (2012). The effect of aquatic intervention on the gross motor function and aquatic skills in children with Cerebral Palsy. *Journal of Human Kinetics*, 32(1), 167-174.
- Disabled Sports USA. (2016). *Swimming*. Retrieved from <http://www.disabledsportsusa.org/sport/swimming>.
- Equestrian Therapy Association. (2016). *Equestrian therapy: Horse therapy or kids with special needs*. Retrieved from <http://www.equestriantherapy.com>
- Esseff, S. L. (2016). Benefits of therapeutic recreation for young adults with special needs. *Capstone Projects and Master's Theses*, 1-40.
- Foose, A., & Ardovino, P. (2008). *Foundations of therapeutic recreation: Perceptions, philosophies, and practices*. Champaign, IL: Human Kinetics.
- Frith, G. H., Mitchell, J. W., & Roswal, G. (1980). Recreation for mildly retarded students: An important component of individualized education plans. *Education & Training of the Mentally Retarded*, 15(3), 199-203
- Getz, M., Hutzler Y., & Vermeer, A. (2007). The effects of aquatic intervention on perceived physical competence and social acceptance in children with Cerebral Palsy. *European Journal of Special Needs Education*, 22(2), 217-228.
- Hutzler, Y., Bergam U., & Szeinber, A. (1998). Effects of a movement and swimming program on vital capacity and water orientation skills of children with Cerebral Palsy. *Developmental Medicine & Child Neurology*, 40(3), 176-181.
- Higginbotham, M. (1983). Long-term ambulatory therapy. *The American Journal of Cardiology*, 52(7), 782-788.
- Johnston, M. V., & Hagberg, H. (2007). Sex and the pathogenesis of Cerebral Palsy. *Developmental Medicine & Child Neurology*, 49(1), 74-78.
- Long, T., & Robertson, T. (2008). *Foundations of therapeutic recreation: Perceptions, philosophies, and practices*. Champaign, IL: Human Kinetics.
- Mackinnon, K. (1997). An evaluation of the benefits of Halliwick swimming on a child with mild spastic diplegia. *Association of Pediatric Chartered Physiotherapists*, 30-39.

- Moraes, A. G., Copetti, F., Angelo, V. R., Chiacoloni, L. L., & David, A. C. (2016). The effects of hippotherapy on postural balance and functional ability in children with Cerebral Palsy. *The Journal of Physical Therapy Science*, 28(8), 2220-2226.
- Murphy, N. A., & Carbone, P. S. (2008). Promoting the participation of children with disabilities in sports, recreation, and physical activities. *American Academy of Pediatrics*, 121(5), 1057-1061.
- Office of Disease Prevention and Health Promotion (2018). *About ODPHP*. Retrieved from <https://health.gov>
- Peniston, L.C. (1998). Developing recreation skills in persons with learning disabilities. *Learning Disabilities Online*. Retrieved from <http://www.ldonline.org/article/6173/>.
- Rosenbaum, P., Paneth, N., Leviton, A., Goldstein, M., & Bax, M. (2006). A report: The definition and classification of Cerebral Palsy. *Definition and Classification of Cerebral Palsy*, 1-45.
- Shir, D. (2015). Benefits of swimming for people with disabilities. *NCHPAD* blog. Retrieved from <http://blog.ncpad.org/2015/08/03/benefits-of-swimming-for-people-with-disabilities/>
- Stephenson, J. (2006). Music therapy and the education of students with severe disabilities. *Education and Training in Developmental Disabilities*, 41(3), 290-299.
- Stern, K. (2019). What is recreational therapy? *Stern Law*. Retrieved from [www.cerebralpalsey.org](http://www.cerebralpalsey.org)
- Stumbo, N.J. & Peterson, C.A. (1998). The leisure ability model. *Therapeutic Recreation Journal*, 32(2), 82-86.
- Wu, Y. W., Xing, G., Fuentes-Afflick, E., Danielson, B., Smith, L. H., & Gilbert, W. M. (2011). Racial, ethnic, and socioeconomic disparities in the prevalence of Cerebral Palsy. *Pediatrics*, 127(3), 674-678.
- Zabriskie, R. B., Lundberg, N. R., & Groff, D. G. (2005). Quality of life and identity: The benefits of a community-based therapeutic recreation and adaptive sports program. *Therapeutic Recreation Journal*, 39(3), 176-191.
- Zadnikar, M. & Kastrin, A. J. (2011). Effects of hippotherapy and therapeutic horseback riding on postural control or balance in children with Cerebral Palsy: a meta-analysis. *Developmental Medicine & Child Neurology*, 53, 684-691.

**(Peer-Reviewed Article)****Youth Introduction to Fishing and Participation in Kentucky High School Bass Fishing**

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**Abstract**

This study is an exploratory investigation of youth introduction to bass fishing and subsequent involvement in Kentucky High School bass fishing teams. An online questionnaire was emailed to the coaches of all Kentucky High School Bass Fishing Clubs/Teams who then supplied data about their team members in two key areas: 1) team demographic and participation data, and 2) the role of families, communities, and organizations in developing interest and participation in bass fishing. Through coaches' responses, investigators found that family members were most influential in providing a foundation in fishing, while advanced techniques and competitive skills were acquired through involvement in organizations and event participation.

*Key words:* fishing, bass fishing, high school, youth, development, family

**Introduction**

Developing youth interest and participation in bass fishing is an important initiative of the bass fishing industry. This introductory study investigated sources of youth introduction to fishing (families, communities, and organizations) and also helps describe the scope of Kentucky high school bass fishing teams. Kentucky high school bass fishing team coaches shared their knowledge of how the youth members of their teams got involved with the sport. This initial investigation provides valuable insights about how young anglers are introduced to both fishing and competitive fishing tournaments.

Bass fishing, a popular lifetime activity, provides both relaxation and outdoor physical activity for many avid and early beginner anglers of all ages. In the United States, 49.1 million angler (general) participants were reported by the Recreational Boating & Fishing Foundation (2018), up four percent from 2017. Youth anglers (ages 6-17) were up 5.4% to 11.6 million as noted in the same report. However, an overall decline in youth participation in bass fishing tournament over the past decade raises concerns for the future of this segment of angling. (Kentucky Bass Federation, 2015; Kentucky B.A.S.S. Nation, 2007; Kentucky B.A.S.S. Nation, 2014; Tennessee Bass Federation, n.d.). Engaging youth in bass fishing is critical to the future of competitive angling, a gateway to connecting with nature, increased economic impact (American Sportfishing Association, 2013; Bassmaster, 2014), and an avenue to get youth active (Recreational Boating and Fishing

Foundation, 2015). The decline in youth bass fishing competition participation potentially affects longevity of the fishing industry with reduced funds for conservation efforts, decreased opportunities for participation into adulthood, and decreased youth's outdoor physical activity. While the benefits of youth participation in clubs (e.g. 4-H, sport and dance) has been well established, little research has focused on how youth are introduced to fishing and bass fishing team participation in schools.

## **Literature Review**

### *Scope of Fishing*

There are three primary types of fishing reported in the 2016 U.S. Fish and Wildlife Service and the U.S. Census Bureau survey (2018) reported 30.1 million freshwater anglers (16 years and older). Approximately 9.6 million anglers fish for the species known as black bass or largemouth (U.S. Fish and Wildlife Service, 2018). According to the U.S. Fish and Wildlife Service, "Largemouth bass are one of the top recreational fish species in the United States. As a result, they have been stocked throughout the U.S. to provide recreational fishing opportunities outside of their native range. Largemouth bass are primarily managed by recreational fishing regulations which normally delineate fishing seasons, by creel limits, and size limits." (2019).

In 2018, the American Sportfishing Association (ASA) stated more Americans participate in fishing than those who play golf (23.8 million) and tennis (18.1 million) combined. American anglers spend \$49.8 billion annually on equipment, licenses, trips and other fishing-related items or events. These funds help create and support more than 800,000 jobs in the United States and help aid recreational fishing in rural area communities (American Sportfishing Association, 2018). Anglers and industries contribute significant conservation efforts through taxes as well.

### *Fishing Prevalence among Youth*

Engaging America's youth is critical to the future of fishing as youth participation ensures that there are fishing enthusiasts today and into the future. Research has shown that youth who are introduced to fishing early in life are more likely to participate frequently as adults (Sofranko and Nolan, 2009).

Of the 46 million fishing participants reported in 2014 (Recreational Boating and Fishing Foundation), 14.4 percent of anglers were between the ages of 6-12 years of age, 8.5 percent of children between the ages of 13-17 years of age, and 8.8 percent of 18-24 year olds. The bulk of anglers who participate in fishing activities are over the age of 45 years old and account for 38.9 percent of the 46 million fishing participants (Recreational Boating and Fishing Foundation, 2015, p.4). The 2017 participation rate of youth in fishing (11.6 million) is the highest recorded since the peak in 2007 (12.4 million). In 2007, there were 7.9 million participants between the ages of 6-12 years and 4.5 million participants between the ages of 13-17 years of age engaged in fishing. During 2017, participation for individuals 6-12 years of age was 7.3 million (highest year after 2007) and participants between the ages of 13-17 years of age topped at 4.3 million (highest year after 2009) (Recreational Boating and Fishing Foundation, 2018).

Established in 2001, the Sierra Club Water Sentinels works to protect, improve, and restore the waters of the United States. Its youth programs include activities like, teacher training, fishing, floating, nature hikes, water quality monitoring, outdoor education fairs, interpretive field trips, community litter cleanups, tree planting along stream corridors, nature photography, and other activities. The Sierra Club concluded that overall participation by youth in outdoor recreation is on the decline and recognizes that this trend threatens the health and well-being of youth and future generations. Involving children in outdoor recreation improves school performance, including higher test scores in science and mathematics, reduces stress, enhances self-esteem, improves interpersonal relationships, and has a positive impact on overall health (Guilfoile, 2011).

Fishing had higher youth participation rates than any other Water Sentinel activity. The research showed that with modest financial investment and support mechanisms, the low rate of youth participation in fishing grew more than any other outdoor activity. Children who begin fishing between the ages of 6 and 12 often engage in crossover activities as adults. In fact, those who participate in fishing at an early age will also likely to participate in fitness walking/running (by 46%), camping (by 32%), weight/aerobics (by 30%), hiking (by 22%), wildlife viewing (by 20%), team sports (by 16%), and bicycling (by 15%)” (Guilfoile, 2011?) The introduction of sport fishing to youth early in age provides greater opportunities for adults to participate in preserving land for outdoor recreation, support the development of parks and biking/walking trails in their neighborhoods, and involvement in environmental/conservation efforts (Guilfoile, 2011).

With a constantly changing urban and suburban landscape, the total number of anglers in the United States has remained relatively unchanged; despite the country’s population is increasing primarily, children are not as involved in the sport as they once were (Mueller, 2008, pg. C07). Finding new ways to introduce youth to fishing is crucial to growing future angling participation.

The Outdoor Foundation (2010) reports that a lack of interest and time are major barriers that keep young people indoors rather than participating in outdoor recreation activities like fishing. One possible way to introduce children to fishing is to encourage them to participate in fishing clubs. According to Morris (2006), students who participate in clubs of any type develop leadership qualities and ensure higher earnings in the future; and one’s decision to become a club member has found to have a positive impact on household earnings (p. 45-46). The lifetime earning potential for high school club members is significantly higher than that of nonparticipants (p. 46).

According to Kunin-Batson, Seburg, Crain, Jaka, Langer, Levy, and Sherwood (2015), guidelines for physical activity and healthy eating have been established for obesity prevention in children and endorsed by the American Academy of Pediatrics. Those guidelines include recommendations for minimum levels of moderate to vigorous physical activity for at least 60 minutes a day, limiting screen time to no more than 2 hours per day, and eating at least 5 (five) servings of fruits and vegetables per day (p. 206). Competitive fishing is considered a moderate intensity level activity, however, little research has examined its contribution to health and wellness.

In an effort to make fishing more accessible, the Kentucky Department of Fish and Wildlife Resources developed a neighborhood fish stocking program called FINs. It improves accessibility

by helping ensure fish are available in more areas and areas closer to where populations live. This program currently included 44 lakes throughout the state and is a partnership with the local municipalities where the lakes are located. (2019)

### *Bass Fishing Tournament Organizations*

The two largest bass fishing organizations hosting tournaments at all competition levels are known as Bass Anglers' Sportsman Society (B.A.S.S., also known as Bassmaster) and Forrest L. Wood (FLW, also known as FLW Outdoors). Both organizations provide memberships, tournament organizing, sponsorship, and televised tournaments for different divisions. Both B.A.S.S. and FLW are well-known for creating opportunities for novice anglers to advance through a series of qualifying tournaments to more competitive tournaments with higher payouts (Bernthal, Koesters, Ballouli, & Brown, 2015). Clubs are often established to develop and increase membership within each organization. Adult clubs will sponsor and monitor their own youth clubs, providing mentorship, skill development, and access to fishing boats during tournaments. Every U.S. state has two youth directors, one for each parent organization (B.A.S.S. and FLW).

Junior youth trials consist of anglers fourteen years of age and younger fishing on an individual competition level (The Bass Federation, 2018). Youth bass fishing tournaments for those fifteen and older function similarly to the B.A.S.S. Nation (members of B.A.S.S.) and The Bass Federation (members affiliated with FLW) adult tournament formats, except they require a boat captain. Youth compete on club and state levels for the chance to advance to national competitions. FLW Outdoors allows youth anglers to qualify for their states' Junior State Championship and eventually qualify for the TBF Junior World Championship. The Junior World Championship (JWC), held in conjunction with the B.A.S.S. Nation Championship allows the top-performing anglers from each of the six youth divisions to compete for over \$20,000 in scholarships. (Bassmaster, 2010). Many youth fish for scholarship funds during high school to attend college and participate on collegiate bass fishing team (High School Bass Anglers, 2017)

Tournament bass anglers are described as committed sportspeople, who acquire special skills and knowledge, cultivate and nurture a unique social world around their particular interests (Yoder, 1995). Bass fishing tournaments are commonly held on large bodies of lakes, rivers, and reservoirs, in which anglers compete to win the largest weight of fish. In 1967, Ray Scott drafted the rules for competitive bass fishing to foster the ideals of ethical angling, conservation and safety (Bassmaster, 2010). The same practices are currently used in tournaments all around world. Tournaments utilize catch and release practices to allow fish opportunities for reproduction.

Competitive bass fishing anglers participate on individual, team, and club levels. Individual bass tournament competition consists of professional and amateur ranks. Professional competition consists of anglers that fish as career jobs. Amateur anglers compete in tournaments trails for opportunities to become professional anglers, for potential financial gain, and simply for fun. Team bass fishing tournaments comprise of two anglers that fish in the same boat together, collectively sharing the weight of fish caught and weighed in. Bass fishing clubs are organized, tax exempt non-profit, social clubs as defined by the United States Internal Revenue Service (IRS, 2015). Club members who participate in either or both of these organizations benefit from being able to gain

access to umbrella insurance policies, which keep members insured on tournament waters in case of an accident. Other bass club membership benefits include accidental death insurance policies.

Many U.S. states are actively pursuing options to expand awareness of fishing, because of the economic impacts of tournaments to local cities. The Alabama Bass Trail (ABT) tournament format has seen success, in attracting anglers from six states and creating an economic impact of over \$1 million in the areas around the trail's lakes (Bassmaster, 2014). The ABT program director is proud of what the state has accomplished all the while promoting the sport of bass fishing. The opportunity to attract bass fishing tournament anglers to visit communities and fish in the lakes, provides a needed boost to many local economies (Bassmaster, 2014).

Many states throughout the United States create their own youth tournament programs to engage and drive new memberships in youth and adult bass fishing clubs. Often times, with the participation of children and/or adults in bass fishing clubs, both gain interest in developing skills and decide to participate in club functions. Getting more youth involved in bass fishing ensures there is a viable older population due to the "gateway" to connect with nature, spend more money, and be more active (Recreational Boating and Fishing Foundation, 2015).

#### *Youth Bass Fishing Club Participation*

The addition of youth bass fishing tournament trails began in the state of Kentucky in 2006. During the 2007 Kentucky B.A.S.S. Nation Youth Tournament Trail, 58 anglers from 6 (six) junior bass fishing clubs participated. The 11-14-year-old age group hosted 28 anglers while 30 anglers were between the ages of 15-18 years (Kentucky B.A.S.S. Nation, 2010-2015). Every year since 2007, the number of participants has declined at an alarming rate. In 2014, 25 anglers from eight junior bass fishing clubs participated in the youth tournament trail (Kentucky B.A.S.S. Nation, 2010-2015). Seven anglers were in the 11-14-year-old group and 18 anglers were between the ages of 15-18 years of age. Since 2007, the number of anglers in the 11-14-year-old age group has declined by 75 percent. Losing twenty-one anglers in a seven-year period clearly illustrates a sharp decline in youth bass fishing tournament participation. The Bass Federation (FLW) Kentucky Youth Tournament Trail also experienced a noticeable decline in participation including a 34 percent participation decline in the 11-15-year-old age group in a one-year period. (Kentucky Bass Federation, 2015).

The Kentucky High School Athletic Association (KHSAA) added bass fishing as a sanctioned "varsity sport-activity" during the 2012-13 school year. It is likely that association with KHSAA has factored a critical role in the decline of B.A.S.S. and FLW youth tournament participation amongst high school age anglers (usually 14-18). The number of Kentucky high schools with KHSAA registered bass fishing teams rose from 76 in 2016-2017 to 117 teams in 2017-2018; a 154% increase in one year. The 2017-18 school year included 1,452 students on the team rosters (KHSAA, 2018).

The Recreational Boating and Fishing Foundation, hereafter referred to as RBFF, recently released data on a high school fishing clubs study (2019). This is significant, as virtually no recent research has been published on this topic. In addition, the RBFF study sampled clubs around the country,

greatly increasing its value in understanding high school fishing organizations. Of the 678 high school fishing club members completing the survey, 78% were members of a high school affiliated club or team. The RBFF found that family members were the primary source of introduction to fishing for the youth.

Efforts to increase participation in youth bass fishing organizations may be essential in order to generate and sustain lifelong club members in efforts to increase adult participation, increase conservation efforts, and increase outdoor activity. Understanding motivations for participation in youth clubs of all types such as 4-H, dance, and sport, may help increase the likelihood of bass fishing club participation in the future. Research has shown that participants join these types of clubs for reasons such as skill development, competition, enjoyment, self-esteem, social, and health benefits. Moreover, 4-H club members who invested longer periods of time volunteering were more likely to continue to volunteer (Lyons, 2013). Further research on youth bass club members' experiences would provide future coaches or advisors strategic marketing strategies for recruiting and retaining youth for future angler participation, conservation efforts, and increased outdoor activity.

In addition to youth learning the basics of bass fishing, members of the Hanover Area Bass Club in Washington, introduce science and awareness of environments as a way to use fishing to better their community (Venesky, 2010). Besides the anticipated motivation characteristics of club members, youth learn the value of giving back, and use the sport of bass fishing to hold fundraisers in order to help others. The club has 15 members between the ages of 13-18 years of age. Coaches and community members alike believe that getting a child involved in the outdoors makes a positive difference in their future (Venesky, 2010).

### *Summary*

Data on youth bass fishing club participation in the United States is limited. Research suggests that without awareness of the decline in youth participation, the future of bass fishing may suffer long-term effects such as adult participation, decreased conservation efforts, and decreased outdoor physical activity. Funds generated from motorboat fuel and sportfishing tackle excise tax are vital to water and fish conservation. In 2013, anglers in the United States generated \$1.45 billion dollars for fishing conservation efforts (American Sportfishing Association, 2013). Fishing as a sport is right behind the sport of running as the most popular gateway activity for outdoor activity participation and 76.4 percent of anglers who fish participate in other outdoor activities. The crossover participation rates among other outdoor activities shows diverse opportunities fishing brings to youth and older generations alike. Further research on what motivates young bass fishing club members to participate in bass fishing will help organizations promote, market, expand, recruit, and retain anglers who are the future stewards and funding sources for conservation efforts. In addition, studies on this topic may allow the youth who participate in bass fishing clubs an opportunity to suggest ideas and contribute explanations for recruiting and retaining club members. If youth bass fishing club participation is not addressed, organizations will lose opportunities for future adult member participation, decreased conservation efforts, and decreased outdoor physical activity.

## Methods

The purposes of the exploratory study were to (1) investigate youth introduction to bass fishing, and (2) help describe the scope of Kentucky high school bass fishing. This descriptive study was non-experimental in its design. Online data collection using a questionnaire was selected for efficiency in reaching Kentucky high school bass fishing team coaches at the 76 schools listed with the Kentucky High School Athletic Association (KHSAA) for the 2016-17 school year.

This study was conducted with approval from the WKU Institutional Review Board and approval from KHSAA to use their website's school listings for the study. A questionnaire was created and administered via Qualtrics. E-mail invitations were sent to each of the high school bass fishing coaches at all 76 schools with follow up invitations to encourage completion of the study. No incentives were offered or provided to the coaches for their participation.

The researchers' decision to survey coaches instead of the team members was largely a function of assisting the lead author to complete the project in a timely manner. In addition, surveying the coaches provided a greater likelihood of establishing a quick, basic snapshot of several Kentucky High School bass fishing teams for this exploratory study. The authors readily acknowledge this approach to collecting data is less precise than collecting it from the youth fishing team members. While the coaches may know their team members fairly, this approach undoubtedly presents opportunities for missed or inaccurate data.

The questionnaire items were written by the first two authors as part of the lead author's course project. Though not ideal, these items were not tested prior to administration due to time constraints and the simple, straightforward nature of the items. The questionnaire items related primarily to the following areas: (a) team composition; (b) coach demographics; (c) team participation in tournaments; (d) competitive bass fishing background of students and parents; and (e) how students were introduced to bass fishing.

## Results

### *Coach and team demographics/information.*

Kentucky high school bass fishing coaches from 41 schools submitted the survey yielding a 53.9% response rate, but only 38 surveys (50% of the 76 schools) were complete enough for the analysis as three surveys only contained contact information. Since high school bass fishing is relatively new, very little data is available about the coaches or the student anglers. The data from the study's demographic items provide some basic insight into these areas. The coaches (n=34) self-reported a mean age of 43.87 with a SD of 9.6 and a range of 26-65. Only two coaches reported as female, 36 reported as male, and 100% reported white as their race. Three coaches indicated previously fishing on a college/university team and one coach reported fishing full-time (at some point) as a professional angler for a period of one year.

Basic information about the high school teams indicated an average team roster of 18.5 students with a SD of 10.72 and a range of 4-47 members. The total number of students from the 38 teams

was 703. Table 1 details the breakdown of the team roster classification. Coaches were also asked to indicate the number of tournaments (see Table 2) their respective teams fished during the previous season (2015-16 school year) and the number of tournaments they planned to fish in the upcoming season (2016-17 school year). The tournament participation data raises some interesting questions as to why some teams are fishing a lot more tournaments than other schools. One may speculate this is influenced by the length of time the school has had a club or team, the amount of coaching support, the number of boats available for tournaments, etc. Future exploration of these differences may prove helpful to the KHSAA and high school teams throughout Kentucky.

*Table 1. Kentucky high school bass fishing team member classification.*

	n	Range (# of students in classification)	Mean	SD
Freshman	37	0-24	5.59	5.01
Sophomore	37	0-16	4.54	3.46
Junior	38	1-17	4.82	3.27
Senior	38	0-10	3.82	2.70

*Table 2. Team tournament participation during last season and upcoming season.*

	Tournaments fished last season				Tournaments fished upcoming season			
	n	Range	Mean	SD	n	Range	Mean	SD
KHSAA	38	1-7	2.05	1.36	38	0-9	2.21	1.84
BASS	38	0-16	1.24	2.91	38	0-22	1.58	3.86
FLW	37	0-7	1	1.59	38	0-9	1.26	1.92
Open/Invitational	38	0-11	3.21	2.94	38	0-12	4.13	3.71

#### *Student introduction to fishing and bass fishing.*

After asking coaches to indicate how their team members were introduced to various aspects of fishing, they were also asked to report on the competitive bass fishing background of the students and their family members (see Table 3) including professional fishing experience. The data from these items ranged greatly, which makes it more difficult to interpret. Respondents were asked to report their responses as percentages and, in hindsight, it would have been more clear if respondents had been asked to report their responses as the number of team members instead. In spite of this challenge, the data do help describe the student and family competitive fishing backgrounds.

Four questions (see Table 4 for details) were developed to gather data on one of the key interests of the study, discovering how students were introduced to and taught about fishing, and then received further development. Each of the four questions include nine different response options related to family, community, and organizations. Family members and/or guardians were the most reported source (over 54-55% each) of student *introduction to fishing* and *being taught basic fishing skills*, followed by friends (26-31% each). Smaller numbers of youth reported that various organizations and events provided an *introduction to fishing* (19%) and were instrumented in them *being taught basic fishing skills* (13%).

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*Table 3. Competitive bass fishing background of students and family members.*

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	<u>n</u>	<u>Range</u>	<u>Mean</u>	<u>SD</u>
% of team with a family member who now, or in the past, bass fish(ed) competitively (non-professionally)?	38	0-85	38.37	24.91
% of team with a family member who, now or in the past, bass fish(ed) competitively (professionally)?	21	0-80	16.43	23.46
% of team members that had competitive bass fishing experience prior to joining your team?	29	0-88	25.21	22.16

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Organizations/events were responsible for 41% of participants *learning advanced bass fishing skills/techniques* while family and friends represented 30%. *Competitive bass fishing* was learned through organizations/events by 50% of participants, while 24% learned from family or friends. Approximately half of the youth stating organizations/events helped them in these areas stated that junior bass fishing clubs were the most common sources, followed by open tournaments and adult bass fishing clubs.

## **Discussion**

One year following the 2016-17 data collection in this study, the number of Kentucky high schools with KHSAA registered bass fishing teams rose to 117 teams and included 1,115 students on the team rosters including 1039 males and 76 females (M. Barren, personal communication, June 28, 2019). KHSAA previously published 1,452 as the number of rostered 2017-18 participants in bass fishing (KHSAA, 2018); the authors are not certain about the difference in the two numbers. Perhaps the smaller number represents actual participants based on end-of-year roster. The 38 schools represented in the current study reported 703 students.

The recent RBFF (2019) study included high school fishing club members (N=678), high school fishing club leaders (ages 18+) of high school aged students, and non-club members (N=25). 78% of club members were participating in a high school affiliated club or team. A key difference in the studies is that the RBFF study involved the club members themselves taking the survey, whereas the current study asked coaches to indicate the information for their team members. The authors acknowledge this is a limitation to the current study.

Similar findings are reported by the RBFF and the current study in some key areas. Their sample demographics for club students and club leaders were quite similar to those reported in the current study with the vast majority of club members (94.5%) and club leaders (96.5%) being white and male (93.3% club members, 83.4% club leaders). These findings clearly show an opportunity to improve inclusiveness which, with some effort, may help increase participation. The RBFF (2019) study also showed the strong role of family members introducing youth club members (N=600) to fishing (82% parent, 33% grandparent, sibling 4%, and 9% other relative).

*Table 4 The role of families, communities, and organizations in developing youth interest and participation.*

	Family Member and/or Guardian	Friend	Fish & Wildlife Program	Youth Conservation Camp	Nonprofit Organization: (Boys and Girls Club, YMCA, Big Brothers, Big Sisters, etc.)	Adult Bass Fishing Club	Youth Fishing Skill Development Event: (Casting Kids, Casting for Kids)	Clubs: (Junior Bass Fishing Clubs, B.A.S.S., FLW)	Open Tournaments
Who introduced them to fishing? (n=37)	37 (54.41%)	18 (26.47%)	0	0	0	4 (5.88%)	2 (2.94%)	4 (5.88%)	3 (4.41%)
Who taught them how to fish (basic fishing skills)? (n=36)	35 (55.56%)	20 (31.75%)	0	0	0	2 (3.17%)	0	5 (7.94%)	1 (1.59%)
From whom, or where, did they learn advanced bass fishing skills/techniques? (n=38)	25 (30.49%)	23 (28.05%)	1 (1.22%)	1 (1.22%)	0	5 (6.10%)	1 (1.22%)	17 (20.73%)	9 (10.98%)
Who introduced them to competitive bass fishing (tournaments)? (n=38)	19 (24.05%)	20 (25.32%)	1 (1.27%)	0	0	9 (11.39%)	1 (1.27%)	22 (27.85%)	7 (8.86%)



This reinforces the pivotal role played by families. As in the current study, friends were the second most influential group introducing club members to fishing (13%). The RBFF study reported the influence of those other than family and friends introducing club members to fishing as follows: school/high school fishing team 5%, teacher/coach 3%, other organization 1%, or other (unspecified) 1%. These data related to non-family/friend influences are slightly lower than the current study, but this may be a function of the options included in the survey or the geographic regions of the participants.

### **Limitations, Conclusions, and Implications**

While this study provides previously unavailable information about Kentucky Bass Fishing Team members and coaches, it is limited by the researchers' decision to collect data from coaches about their team members instead of asking the youth team members to supply the data. This study relied on coaches' knowledge of their team members (fishing background and family involvement in fishing). Additionally, only 50% of the Kentucky schools with high school bass fishing teams at the time of data collection successfully completed the survey.

High school competitive bass fishing in the U.S. is still new and emerging. Kentucky's recent entry in the 2012-13 school year has prompted an explosive adoption of the sanctioned sport-activity. Physical educators, school administrators, bass fishing organizations, recreation professionals, and families all have an opportunity to learn and benefit from this growing opportunity for our high school youth. Students now have increased options for extra-curricular activities.

At this time, families and friends continue to play a pivotal role in the early stages of angling, with other organizations playing an increased role in developing advanced skills and facilitating competitive fishing. With the relatively recent arrival of high school competitive angling, it remains to be seen whether or not school teams will play an increased role in introducing youth to fishing and teaching them basic fishing skills; roles historically considered to be filled by families and friends. Based upon the data, school teams, teachers, and coaches appear to be the next best group for promoting and recruiting new anglers, although clearly much less influential than family and friends for these current samples. Perhaps this group can play an important part in gathering youth who hadn't fished previously, but discover fishing later through school connections much like youth who decide to try a sport they haven't tried before because peers in school are participating or teaches or coaches encourage them to try. In addition, there is a potential for teaching advanced angling skills through organized school clubs and teams.

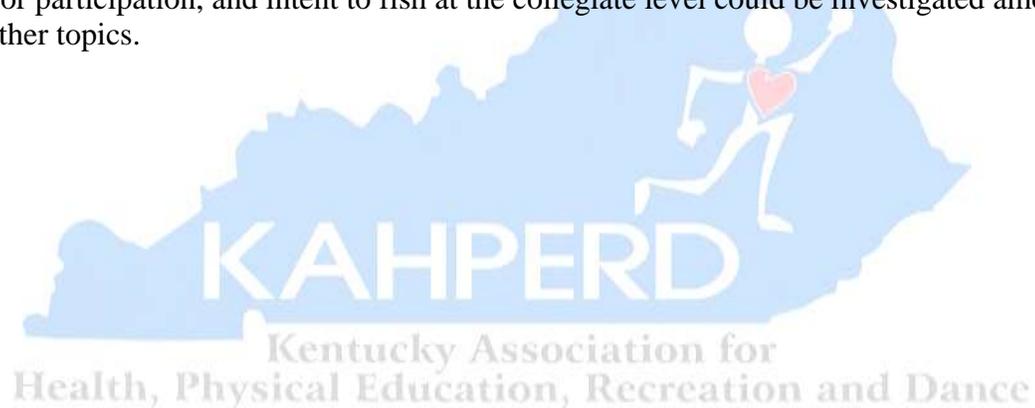
In order for angling to grow, youth must first be introduced to fishing and taught basic skills. Competitive angler growth requires organized, facilitated opportunities to develop advanced angling skills and experience tournament fishing. In some cases, these advanced opportunities for youth under the age of 14 have decreased in availability, with possible negative repercussions resulting in fewer competitive youth anglers.

Fishing organizations and academic organizations may find unique partnership opportunities previously unimagined. With an increasing adoption and awareness of competitive fishing programs in schools, perhaps fishing organizations will step forward as partners with the schools to

assist in teaching skills and connecting willing community fishing mentors to the schools. Other connections could be created with youth organizations such as the Boy Scouts of America, Girl Scouts of the USA, Campfire, Boys and Girls Clubs of America, Big Brothers Big Sisters of America. Schools and fishing organizations could organize learn to fish programs and invite youth participants of these other youth organizations to come and experience fishing. Many of these organizations already rely on the role of parents or community mentors to help youth progress and this may be another vehicle to get more families introduced to fishing.

Although much of the attention is currently on high school teams adopting bass fishing, middle school teams represent another opportunity for the angling industry to help develop the next generation of anglers. Colleges and universities are also sponsoring fishing teams as well with a select few of these schools offering scholarships. Today's youth who fish in high school and/or college will likely play an influential role in teaching their children and other youth.

Future research opportunities appear plentiful at this time. A natural follow-up to this study would be to survey student anglers on Kentucky high school bass fishing teams. Over 1400 student anglers in Kentucky for 2017-18 could provide an opportunity for more comprehensive research and complex statistical procedures requiring larger samples. Student angler motivations, perceived barriers for participation, and intent to fish at the collegiate level could be investigated among several other topics.



## References

- American Sportfishing Association, (2018). *Sportfishing in America: An economic force for conservation*. Retrieved from <https://asafishing.org/wp-content/uploads/2019/02/Sportfishing-in-America-Revised-November-2018.pdf>
- Anderson, D. K. (2005). *Measuring angler attitudes toward the catch-related aspects of recreational fishing* (Order No. 3189593). Available from ProQuest Dissertations & Theses Global. (305358989). Retrieved from <http://search.proquest.com/docview/305358989?accountid=15150>
- Cats for Kids (2015). C.A.S.T. “*Catch a special thrill*” for kids program. Retrieved from <http://www.castforkids.org/programs/c-a-s-t-for-kids/>
- Driver, B. L., & R. W. Cooksey. (1977). Preferred psychological outcomes of recreational fishing. In Barnhart, R.A., & Roelofs, T.D., (Eds.). *A national symposium on catch and release fishing* (pp. 27-40). Arcata, California: California Cooperative Fish Research Unit.
- Fedler, A. J., and R. B. Ditton. 1994. Understanding angler motivations in fisheries management. *Fisheries* 19(4):6-13.
- Guilfoile, T., (2011). Sierra club water sentinels connecting youth to the outdoors. *Wilderness Journal*, 2, (4) 1-7.
- High School Bass Anglers (2017). *College scholarships*. Retrieved from <http://highschoolbassanglers.com/college-scholarships/>
- Kentucky Bass Federation (2015). *Youth – conservation – fishing*. Retrieved from <http://www.kybassfed.com/>
- Kentucky B.A.S.S. Nation (2010-2015). *The road to the classic starts here*. Retrieved from <http://www.kybassnation.com/>
- Kentucky Department of Fish and Wildlife Resources. *Fishing in neighborhoods*. Retrieved from <https://fw.ky.gov/Fish/Pages/Fishing-In-Neighborhoods.aspx>
- KHSAA (2012). *Bass fishing adds to growing list of championship sport-activities*. Retrieved from <https://khsaa.org/news/20112012/nr022212.pdf>
- KHSAA (2018). *KHSAA participation numbers reach record levels in 2017-2018*. Retrieved from <https://khsaa.org/082718-khsaa-participation-numbers-reach-record-levels-in-2017-18/>
- Knopf, R. C., B. L. Driver, & J. R. Bassett. (1973). Motivations for fishing. Trefethen, T.B. (Ed.). *Proceedings of the 38th North American Wildlife and Natural Resources Conference*. (pp. 191-204). Washington, D.C.: Wildlife Management Institute.
- Kunin-Batson, Seburg, Crain, Jaka, Langer, Levy, & Sherwood (2015). Household factors, family behavior patterns, and adherence to dietary and physical activity guidelines among children at risk for obesity. *Journal of Nutrition, Education and Behavior*, 47(3), 206-215.
- McIntosh, P. (2011). Fishing: A sport for all seasons. *English Teaching Forum*, 49(2) 34-43. Retrieved from <http://files.eric.ed.gov/fulltext/EJ962382.pdf>
- Recreational Boating and Fishing Foundation, Outdoor Foundation (2015). *2015 Special report on fishing*. 1-62. Retrieved from [http://takemefishing.org/uploadedFiles/Content/General/About\\_RBFF/Research\\_and\\_Evaluations/2015%20Special%20Report%20on%20Fishing\\_FV.pdf](http://takemefishing.org/uploadedFiles/Content/General/About_RBFF/Research_and_Evaluations/2015%20Special%20Report%20on%20Fishing_FV.pdf)
- Recreational Boating and Fishing Foundation (2019). *High school fishing club survey results*. Retrieved from <https://www.takemefishing.org/getmedia/760a7248-de7a-46e8-ba4d-87252e1005cd/RBFF-High-School-Fishing-Club-Survey-FINAL.pdf>

- Recreational Boating and Fishing Foundation (2018b). *2018 Special report on fishing*. Retrieved from [https://outdoorindustry.org/wp-content/uploads/2015/03/2018-Special-Report-on-Fishing\\_FINAL.pdf](https://outdoorindustry.org/wp-content/uploads/2015/03/2018-Special-Report-on-Fishing_FINAL.pdf)
- Sandsberry, S., (2010). Budget woes finally catch up to fishing program. *Yakima Herald-Republic*. Retrieved from <http://eds.a.ebscohost.com/ehost/detail/detail?vid=5&sid=40b479eb-7a4c-494e-82e2-25e5f04a71cb%40sessionmgr4003&hid=4213&bdata=JnNpdGU9ZWwhvc3QtbGl2ZQ%3d%3d#AN=2W6784273276&db=nfh>
- Siemer, W.F., Knuth, B.A. (2001). Effects of fishing education programs on antecedents of responsible environmental behavior. *The Journal of Environmental Education*, 32(4) 23-29.
- Southwick Associates. (2015). Recruiting and retaining anglers presents many opportunities to grow the sport. *American Sportfishing Association (ASA)*. Retrieved from <http://asafishing.org/newsroom/news-releases/recruiting-and-retaining-anglers-presents-many-opportunities-to-grow-the-sp/>
- Southwick Associates. (2013). Sportfishing in America: An economic force for conservation. *American Sportfishing Association (ASA)*, 1-12. [http://asafishing.org/uploads/2011\\_ASASportfishing\\_in\\_America\\_Report\\_January\\_2013.pdf](http://asafishing.org/uploads/2011_ASASportfishing_in_America_Report_January_2013.pdf)
- Telama, R.; Xiaolin Y.; Hirvensalo, M.; Raitakari, & Olli. (2006). Participation in organized youth sport as a predictor of adult physical activity: A 21-year longitudinal study. *Pediatric Exercise Science*, 18(1), 76.
- The Bass Federation (2018). *The Bass Federation*. Retrieved from <http://bassfederation.com/>
- U.S. Fish and Wildlife (2016). *National survey of fishing, hunting, & wildlife-associated recreation*. Retrieved <https://www.census.gov/library/publications/2018/demo/fhw-16-nat.html>
- U.S. Fish and Wildlife (2018). *2016 National Survey of fishing, hunting, and wildlife-associated recreation*. Retrieved from <https://www.census.gov/content/dam/Census/library/publications/2018/demo/fhw16-nat.pdf>
- U.S. Fish and Wildlife (2019). *Largemouth bass*. Retrieved from [https://www.fws.gov/fisheries/freshwater-fish-of-america/largemouth\\_bass.html](https://www.fws.gov/fisheries/freshwater-fish-of-america/largemouth_bass.html)

(Peer Reviewed Article)

## Fly Fishing: One Approach to Assisting Veterans

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### Introduction

“While leisure is not a panacea for every ailment, it made an enormous difference in my recovery journey. Once my friend got me to the river, something changed. Knee-deep in the water and surrounded by nature’s grandeur, the symptoms plaguing me began to dissolve, and for the first time in years, I finally felt at peace” Veteran Warren D. Price describing his experience fly fishing while dealing with post-traumatic stress disorder (Price, et al., 2015, p. 197).

Approximately 20 percent of the 2.4 million troops who served in Iraq and Afghanistan meet the diagnostic criteria for post-traumatic stress disorder (PTSD) or depression (Hobbies, 2013). Many have been undiagnosed and/or untreated. A recent Pentagon survey of active-duty service members indicated that nearly 35% believe getting help for a mental health condition would hurt their careers (Meadows, et. al., 2015). Consequently, mental health professionals face the challenge of persuading troops to seek proven PTSD treatments. To overcome the stigma attached to mental health treatment, researchers are exploring the effectiveness of alternatives such as recreational activities that could offer similar benefits.

Parks and recreation departments, nonprofit agencies, and professional therapeutic programs play a critical role in serving populations with physical or mental disabilities through inclusive recreation programming (NRPA, 2018). This paper is intended to introduce the reader to the application of fly fishing for therapeutic / transformational purposes among veterans. It explores the psychological and physiological benefits experienced by participants of fly-fishing programs, highlights organizations that use fly fishing as a therapeutic intervention for veterans, and discusses the implications for park and recreation professionals. This paper is not a ‘how to’ article on fly fishing, nor is it a technical article about therapeutic recreation / recreation therapy. The goal is simply to raise awareness that fly fishing is being strategically used in specific circumstances and organizations to assist veterans.

*Note:* One may notice an apparent inconsistency throughout this paper with the usage of fly fishing or fly-fishing. Fly fishing is a noun and name of the activity (e.g. Fly fishing is one of my favorite activities.). Fly-fishing, however, is an adjective (e.g. She took a fly-fishing class this fall.).

### Background

Many people suffer from physical and psychological health issues. These issues can be due to stress, fatigue, traumatic experiences, pollution, and other factors that are associated with living and working in populated urban areas. One way to control or eliminate these issues is to escape these environments, and spend more time in restorative natural environments to experience fascination. Kaplan and Kaplan (1989) explain that something that is fascinating creates a stimulus and initiates the use of involuntary attention, which is attention that does not require effort. This key component in natural environments keeps us from getting bored easily and helps functioning without using attention that may be directed or voluntary. These components could be the sound of the wind blowing through trees, birds singing, a sunset, or a flowing stream or river. This type of fascination is referred to as soft fascination and provides opportunities for reflection.

Wahbeh, Goodrich, Goy & Oken (2013) looked at a concept of mindful meditation and how it can help patients observe and regulate strong emotions that may occur during trauma-focused therapies. The results of their study showed that mindful meditation decreased symptoms of post-traumatic stress disorder. The results also showed there was a meaningful positive change in the overall mental health and quality of life of the veterans in the study.

Studies have also showed being in a restorative or natural environment was beneficial in everyday life. Aspinall, Mavros, Coyne, & Roe (2013) discussed one study in which a group of participants went on a 25-minute walk through different areas. One of the areas was an urban shopping center. Another was a walking path through green space. The last area was a street that went through a crowded commercial district of an urban area. The results showed walking through the green space lowered frustration, arousal, and engagement. It also showed a higher meditation level when walking through the green space than when walking in the shopping center or the commercial district.

While there are many excellent activities that can be used to help people, the first two authors of this paper selected fly fishing due to their personal interest in the activity and, also, the growing popularity of fly fishing as an option to assist veterans. The authors do not purport fly fishing to be a more or less effective when compared to other possibilities, merely one of many options.

### **Therapeutic Use of Fly Fishing**

Being in a restorative or natural environment can benefit the mental health and well-being of war veterans and people with disabilities. These individuals also find help through recreational activities, including fly fishing. Fishing can benefit not only veterans and people with disabilities, but all people. Wolz (2013) found fishing provided health benefits for young people because anglers are interacting with nature and replacing sedentary electronic leisure activities with outdoor activity. The study also showed fishing had positive impacts on antisocial behavior. A scoping study done by McManus and colleagues (2011) suggested hyperactive children can sit calmly by the water for extended periods. The study also noted that children who have trouble communicating verbally enjoy fishing. "Recreational fishing is one of the few outdoor activities that can be enjoyed regardless of age, ability and, to a large extent, mobility" (Wolz, 2013).

Hobbies (2013) found that veterans are finding relief from PTSD symptoms in recreational hobbies like fly fishing, model-building, horseback riding, yoga, shooting and even knitting. Researchers say these activities may be more than entertaining distractions. Focused recreation, or “present-moment, mind-body activities,” may help strengthen concentration, improve positive thinking and dash the negativity associated with PTSD.

An autoethnography by Warren D. Price, a disabled veteran and recreational therapist, described the role of fly fishing in addressing his PTSD symptoms:

“My leisure participation was critical to finding an effective respite from the negative emotional states associated with PTSD (Patry, Blanchard, & Mask, 2007). Fly fishing and other leisure activities provided a buffer between negative emotions, giving me the needed time to regroup and move forward (Iwasaki & Mannell, 2000)” (Price, et al., 2015, p. 198).

“Fly fishing is a solace... the opposite of war... a gentle and healing occupation.” This can be true when it comes to what fly fishing can do to people with mental and physical disabilities such as veterans (Marden, 2016).

Too many veterans are left without the effective treatments that they deserve. One of the reasons is the waiting list for Veterans Affairs (VA) services. According to Associated Press and CBS, the waiting list increased by 50% in 2015, and there is a tremendous lack of trust in VA services. In fact, a 2015 report in the Analysis of Death Sources revealed that 28% (238,000) of 847,000 veterans who applied for health care services died prior to receiving care (Curwen, 2015).

Patients that use the Veterans Choice program, that was passed by Congress in 2014, are still seeing months-long delays to see a doctor and get the help they deserve. According to *Military Times*, a new system is set to take effect soon and will end the Veterans Choice program. This new system was overwhelmingly approved by lawmakers and is expected to fund around 30,000 appointments per day. The article also mentions that local administrators were changing patient records to hide the growing waitlist times to collect performance bonuses. The overall quality of a patient’s life is dramatically impacted by the timeliness of the appointments. The VA must move quickly to fix this problem to help veterans get back to activities that can help improve their quality of life.

### **Organizations that Implement Fly Fishing as Therapeutic Programs\***

Park and recreation organizations have helped to fill the need through the provision of programs designed to help veterans with mental and physical disabilities. The following is a list and description of a few organizations currently using fly fishing and other outdoor recreational activities to treat PTSD and other medical issues. The authors make no claims as to the effectiveness of these organizations and their treatment approach, but simply present them as examples.

\**Note:* The information about the following three organizations comes almost exclusively from their respective websites. To aid the reader and the appearance of the manuscript, some material

does not include quotation marks and citations in the description of each organization even though several items are directly from the respective websites.

### *Project Healing Waters Fly Fishing*

Project Healing Waters (PHWFF) is one organization aiding veterans through fly fishing (Project Healing Waters, n.d.). Since its establishment in 2005, PHWFF has served veterans in 48 states, the District of Columbia, and parts of Canada. The organization partners with Trout Unlimited, Fly Fishers International, and other fly-fishing clubs. Veterans are given the opportunity to learn fly casting, fly tying, rod building, and other skills. “In 2018... more than 8,307 disabled veterans and disabled active military service personnel... participate[d] in PHWFF program activities.”

### *Rivers of Recovery*

Rivers of Recovery “specializes in the rehabilitation of combat veterans suffering with Post Traumatic Stress Disorder (PTSD), minor Traumatic Brain Injury (mTBI), stress, anxiety and depression.” Rivers of Recovery uses outdoor-based therapies and pioneering research to help its participants. They strive to use their therapeutic programs for injured veterans to see sustainable improvement in their everyday lives. The programs are designed to re-enable and re-energize injured veterans and provide the support and self-confidence necessary to maximize long-term recovery. The organization’s scientifically-studied treatment has helped many participants see positive outcomes in their overall quality of life.

To measure the effectiveness of the Rivers of Recovery program, medical assessments have been and continue to be conducted with participants, and stress markers measured (physiological and psycho-social symptoms). This research, designed by Department of Defense experts, was overseen by Dr. Gary Wynn of the US Army Medical Department. After six months, participants reported (or medical tests showed) a decrease in perceptual stress, Post-Traumatic Stress (PTS) symptoms, depression, and anxiety (Rivers of Recovery, 2017).

### *Warriors and Quiet Waters Foundation Inc.*

The mission of Warriors and Quiet Water Foundation Inc. (WQW) reads, “Through the experience of fly fishing in Montana, WQW is a catalyst for positive change in the lives of post-9/11 combat veterans” (Warriors and Quiet Waters, 2018, p. 3). “Since 2007, WQW has provided over 705 Fishing Experiences to combat veterans and spouses/caregivers from across the nation.”

WQW brings participants to Montana for a six-day program of fly fishing and recreation. WQW provides free ground and air transportation, lodging, and meals. Once there, the veterans are given professional instruction on the basics of fly fishing and the equipment needed to continue this outdoor pursuit once they arrive back home.

Veterans can relax and learn to fly fish in the quiet and beautiful surroundings of Montana and neighboring Yellowstone National Park. WQW has the vision of creating a new generation of

combat veterans that can successfully be reincorporated into the society in which they live in (Warriors, 2018).

### **Conclusion**

One billion people have been diagnosed with a mental and/or physical disability (World Bank, 2018). Researchers, as well as recreation departments, nonprofit agencies, and other professional organization are also trying to find new ways to meet the needs of this population. Multiple organizations across the nation are using fly fishing to address these needs among veterans. Fly fishing appears to hold promise as an option to assist veterans and others (Navy Times, 2013). There is considerable opportunity for high quality research to more accurately study these programs and their impact and effectiveness.

This paper introduced the application of fly fishing for therapeutic/transformational purposes. It explored some of the psychological and physiological benefits experienced by participants of fly-fishing programs, and described a few organizations that use fly fishing as a therapeutic intervention for veterans.

While this paper focused on veterans, other organizations are also using fly fishing to help people in various populations such as female breast cancer survivors (Casting for Recovery), males living with cancer (Reel Recovery), mentoring children in foster care (Mayfly Project), and working with indigenous peoples and protecting natural resources (Indifly).

Fly fishing will not solve all the world's problems, however, we can celebrate the ones it can.



## References

- Aspinall, P., Mavros, P., Coyne, R., & Roe, J. (2013). The urban brain: Analysing outdoor physical activity with mobile EEG. *British Journal of Sports Medicine*, 49(4), 272-276. doi:10.1136/bjsports-2012-091877
- Curwen, T. (2015, November). A closer look at outdoor therapy finding relief with campfires and camaraderie. *The American Institute of Stress Combat Stress*, 4.
- Du Preez, M., & Lee, D. E. (2010, April 29). *The contribution of trout fly fishing to the economy of Rhodes, North Eastern Cape, South Africa*. Retrieved from <http://www.tandfonline.com/doi/full/10.1080/03768351003740654?src=recsys>
- III, L. S. (2018, June 04). *Report: Vets still face long waits with VA Choice program*. Retrieved from <https://www.militarytimes.com/veterans/2018/06/04/report-vets-still-face-long-waits-with-va-choice-program/>
- Marden, L. (2016, June 16). *State's waters and lands helping heal veterans*. Retrieved from <https://warriorsandquietwaters.org/states-waters-and-lands-helping-heal-veterans/>
- McManus, A., Hunt, W., Storey, J., and White, J. (2011). Identifying the health and wellbeing benefits of recreational fishing. *Report to Curtin University Health Innovation Research Institute, Centre of Excellence Science, Seafood and Health*. Retrieved from <http://cessh.curtin.edu.au/local/docs/RecFishinglr.pdf>.
- Meadows, S. O., Engel, C. C., Collins, R. L., Beckman, R. L., Cefalu, M., Hawes-Dawson, J.,... & Williams, K.M. (2015). *2015 Health related behaviors survey: Mental and emotional health among U.S. active-duty service members*, Santa Monica, Calif. Retrieved from [https://www.rand.org/pubs/research\\_briefs/RB9955z3.html](https://www.rand.org/pubs/research_briefs/RB9955z3.html)
- Kaplan, R., & Kaplan, S. (1989). *The experience of nature: A psychological perspective*. New York, NY, US: Cambridge University Press.
- Navy Times (2013, June 24). *Hobbies as therapy: Fly-Fishing, knitting and more can ease anxiety, PTSD*. Retrieved from <http://www.navytimes.com/article/20130601/OFFDUTY03/306010003/Hobbies-therapy-Fly-fishing-knitting-more-can-ease-anxiety-PTSD>
- NRPA (2018). *Park and recreation inclusion report*. Retrieved from <https://www.nrpa.org/contentassets/e386270247644310b06960be9e9986a9/park-recreation-inclusion-report.pdf>
- Project Healing Waters (n.d.) *Fact sheet*. Retrieved from <https://projecthealingwaters.org/wp-content/uploads/2019/08/PHWFF-Fact-Sheet-8-16-19.pdf>
- Price, W. D., Lundberg, N. R., Zabriskie, R. B., & Barney, K. W. (2015). I tie flies in my sleep: An autoethnographic examination of recreation and reintegration for a veteran with posttraumatic stress disorder. *Journal of Leisure Research*, 47(2), 185-201.
- Rivers of Recovery (n.d.) *Rivers of Recovery provides wounded veterans a unique rehabilitative treatment utilizing techniques that are both enjoyable and effective for our participants*. Retrieved from <http://www.riversofrecovery.org/what-we-do/medical-research/results/>
- Rivers of Recovery (n.d.) *What we do*. Retrieved from <http://www.riversofrecovery.org/what-we-do/>
- Wahbeh, H., Goodrich, E., Goy, E., & Oken, B. S. (2013). Mechanistic pathways of mindfulness meditation in combat veterans with posttraumatic stress disorder. *Journal of Psychology*, 72(4).

- Warriors and Quiet Waters (2018). *2018 Annual report*. Retrieved from [https://warriorsandquietwaters.org/wp-content/uploads/2019/04/WQW\\_10271\\_Annual-Report\\_web\\_single\\_pages.pdf](https://warriorsandquietwaters.org/wp-content/uploads/2019/04/WQW_10271_Annual-Report_web_single_pages.pdf)
- Wolz, S. (2013, December 23). *Curtin researchers reeling in the health benefits of fishing*. Retrieved from <https://www.technology.org/2013/12/23/researchers-reeling-health-benefits-fishing/>
- World Bank (2018, September 26). *Disability inclusion overview*. Retrieved from <http://www.worldbank.org/en/topic/disability>



**(Peer Reviewed Article)****Shaping Resident Perceptions through Exposure to Tourism Development in Rural Kentucky Communities**

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**Abstract**

The purpose of this study was to determine what residents of rural communities in eastern Kentucky valued regarding the benefits of tourism development and whether those perceptions differ by level of tourism exposure. Residents of two rural Kentucky communities, London and McKee, were selected for participant solicitation. To assist in the determination of external validity of the findings, both communities shared similar geographical topography, population demographics and cultural traditions and values. Interviews focused on collection of resident perceptions regarding the importance of cultural, social and economic impacts surrounding tourism development. Findings indicate that resident perceptions are positively influenced as exposure to tourism increases. Increased exposure directly impacts perceived benefits, improves residents' desires to participate/volunteer, and improves long-term tourism sustainability for rural communities. The findings can be used to educate local officials, community leaders and recreation professionals of the importance of incorporating specific values into the initial design of tourist activities.

Keywords: Rural tourism, community tourism, community development

**Introduction**

Rural communities throughout eastern Kentucky, primarily the Appalachian regions, are comprised of small isolated towns, many have suffered social and economic hardships as the result of their geographic location. However, the geographical challenges that have historically limited their economic opportunities are now considered as a potential stimulus. Tourism development is quickly becoming a viable source to boost economic development for many rural communities throughout these areas (Bradshaw & Blakely, 1982). The beauty of the mountains, rivers and lakes provide a serene escape for many travelling tourists. Global increases in eco and adventure tourism have many local governments pursuing tourism development in their towns. Tourism development can be beneficial for many of these areas as studies suggest that tourism can be credited with the successful restructuring of dying economies throughout rural parts of the country (Gunn, 1994). Still, it is imperative to the sustainability of rural tourism that precautions are considered while developing strategies for implementation. Recent impact studies suggest that host communities play a vital role in the planning, development and implementation of successful tourism (Gunn, 1994). Therefore, identifying what cultural and economic variables the residents of host

community's value will help determine key components to consider when developing tourism strategies. Existing findings suggests that motivation for tourism development in rural communities is primarily the result of economic stimulation and therefore the level of sustainability is determined by monetary success (Bradshaw & Blakely, 1982). However, other findings suggest that without the establishment of cultural benefits to the host community, long term sustainability is threatened (Rowe, 1992).

Many rural communities are working toward the promotion of tourism development in order to balance economic and cultural sustainability. In order to achieve economic success through tourism, rural communities must align their tourism development strategies to coincide with existing cultural values. According to Bramwell (1994), rural tourism should not be developed as the hapless outcome of inexorable, external forces, and hence prominence is given to the role of local communities and local businesses in shaping rural tourism. Residents must contribute to the initial development of tourism within their communities, or cultural identity may be sacrificed. Therefore, strategies must be created to maximize internal community interests. This investigation explores what host community residents' value regarding the benefits of tourism development and whether those perceptions differ regarding current levels of tourism exposure.

### **Literature Review**

Community is commonly defined as a set of interactions, human behaviors that have meaning and expectations between its members, furthermore, actions based on shared expectations, values and beliefs between individuals (Bartle, 2007). According to U.S. Census data, a rural area encompasses all populations, housing and territory not included within an urban area, more specifically, towns with less than 50,000 people (U.S. Census, 2015). Eastern Kentucky, the focus of this study, primarily consists of communities classified as rural.

Once established primarily from agricultural necessity, rural communities have changed significantly with economic, social, cultural and technological changes. Still, many sociologists agree, even with these changes to the structural and cultural dimensions of the community, events at local community levels greatly affect the resident's mental, emotional and social health. Furthermore, factors such as persistent poverty, workforce participation, intellectual development and socialization are greatly influenced at the local community level (Berkman, 1995).

### *Influences Shaping Community Ideology*

Rural communities throughout eastern Kentucky have been somewhat independent of influences from larger cities. This independence development has often been the result of isolation from other communities due to topographical location (Elam, 2002). Communities found throughout the counties of Harlan, Bell, Leslie and Clay are located beyond what many populations consider convenient places to live or visit. Many southeastern towns are located throughout the dense Appalachian Mountains with limited highway infrastructure. The geography of Appalachian Kentucky has also been problematic and greatly responsible for determining a way of life (Elam, 2002).

Eastern Kentucky's rural areas are often populated by residents that have become acclimated to this social isolation. Unfortunately, the cultural beliefs created from this social isolation are also interconnected with poverty (Elam, 2002). DeYoung (1987) suggests isolation and poverty have become deeply entrenched in the way of life for these communities. In fact, seventeen counties in eastern Kentucky are continually listed among the top one hundred poorest in the United States (KCEOC.org).

According to Bradshaw and Blakely (1982), there have been major shifts toward sustainable tourism development in rural communities to supplement sagging economies. Local governments often pursue economic benefits with blind regard to potentially negative impacts toward host community health. Host community's play a vital role in the planning, development, and implementation of successful tourism (Gunn, 1994). Sustainable tourism is significantly enhanced by establishing a framework of planning and development with residents as the primary focus. The balance between traditional utility frameworks and newly desired 'social' frameworks helps maximize economic benefits while preserving community well-being (Rowe, 1992).

#### *London and McKee, Kentucky*

The City of McKee has a mean resident age of 29, a 2010 population of 800 residents, and a median annual household income of \$13,466. McKee has obtained Kentucky Trail Town certification status; however current tourism infrastructure and programming was in the early stages of development during the time of data collection. The City of London has a mean resident age of 41, a 2010 population of residents, and the median annual income was \$30,645. London is also a certified Trail Town and has been experiencing a high level of tourism programming and development for many years. These two communities were selected to represent the perceptions of residents living in an area low- and high-level tourism activity.

A common challenge is how to properly identify 'communities.' Communities are most often identified as a set of common social characteristics and similar goals held by members of a population (Hall & Richards, 2000). In order to accomplish sustainable tourism, the host communities must find ways to incorporate their goals and values into the fabric of tourism activities they are providing (Hall & Richards, 2000).

Members of various communities possess different levels of community influence when establishing their tourism role. Inequality of power in a community is thought to hinder community participation from less involved and often less informed residents. Dahles (2000) supports the idea that this inequality of power is often used to benefit developers and wealthy entrepreneurs which seemed to be a hindrance to 'grass-roots' development approaches (pp. 154-169). This can often lead to rapid or intensive tourism development which has been shown to create negative impacts toward long term sustainability (Pearce, 1987). Often in rural communities, the distribution of wealth plays a role in the inequality of resident input.

#### **Methodology**

Two eastern Kentucky communities, McKee and London, were selected for comparison, as both cities were classified as rural and shared geographic, demographic, and cultural similarities. The purpose of this study was to provide information for rural communities considering tourism development for economic diversity. Residents were solicited near the local courthouse or city hall, using volunteer sampling of individuals aged 18 and over. A total of 177 individuals completed the survey. The survey contained preformatted quantitative questions with additional open-ended questions at the conclusion of the survey. The researchers were present at the research station from about 11am to about 7pm (variances due to traffic, weather) for a total of 5 weekdays and 5 weekend days per location.

## Results

Data analysis was performed separately for each sample population to determine individual findings based on survey location. Data analysis of the open-ended questionnaires began using an inductive reasoning process to recognize repeated phrases and identify patterns in terminology and ideas. Topics discussed included local development practices, volunteer participation, benefits associated with local tourism efforts, and the importance of host community participation to tourism sustainability. The researchers analyzed the surveys and major themes were identified among participant responses.

London residents that responded to the survey (111) answered a series of open-ended questions regarding perceptions of current tourism activities throughout their community. Many London survey respondents felt current tourism development was limited to the input from three primary groups: local tourism commission, local officials, and local business owners. Respondents stated that the local tourism commission was responsible for all planning, developing and administering of local tourism activities. However, only three respondents could identify the name of the organization or the location of the tourism commission office. According to one respondent, “A small committee is appointed by the city council; however, I am unaware how to be considered for membership or how the selection process is administered.”

Another major theme derived from the questionnaire was that respondents felt local government was responsible for decisions regarding local tourism activities. Examples of local officials included Mayors, Judge Executives and members of City Council. Participants that identified local government as the primary tourism influence, emphasized terminology such as *political leaders* and *local community leaders* as the governing bodies responsible for tourism activities.

Local business owners were included as a *primary* group that influenced local tourism development. Respondents felt that many businesses throughout the community contributed financially to the promotion of tourism activities and therefore could influence the promotion of specific activities of interest. Several respondents referred to local business owners as “elite” members of the community that possess more authority regarding local decisions. One respondent stated, “Due to the financial limitations of local funding available for tourism activities, several community business owners have the ability to influence the promotion of specific tourism activities through private monetary contributions.”

McKee residents (66) considered locally elected officials and select groups with monetary influence as the primary planners for tourism development. Many survey responses expressed dissatisfaction with local officials having primary control over planning decisions. Residents felt that local input was disregarded and non-influential during initial planning or development phases. Many responses from residents mentioned the lack of availability of the current parks and recreation department personnel which made them feel isolated and unimportant regarding new program development. Many respondents felt select individuals throughout the community leveraged community status and personal affiliations with elected officials to influence local tourism decisions.

Participants from both communities were asked to identify the most important benefits of local tourism development that contributed to their community. The major themes identified from the responses included generated revenue, economic growth, community interaction, and the improvement of community image.

All but two, 175 out of 177, participants listed generated revenue as a primary benefit of local tourism development in both communities. Another common response, with 56 participants listing it, was economic growth related to increased job opportunities and the promotion of new businesses. Interestingly, another common response was the improvement of the local community image and community pride. Many respondents discussed the importance of community inclusiveness and that local tourism activity helps to provide more opportunity for local interaction. To summarize a few respondents answer, the social benefits of tourism include community development and promotion.

Many participants stated the increase of businesses and job creation as being benefit of tourism development. These were often associated with economic growth and included the addition of local businesses. Three specific examples included restaurants, retail, and lodging.

Another major them that surfaced in the project was community enrichment. Responses including the improvement of residential quality of life and the community image. Community image was consistently listed among survey responses and included ideas such as the promotion of cleaner communities and improved resident morale. Many participants listed terminology such as loyalty and pride among their responses to describe how residents felt about their community.

Within the survey, participants were asked to provide their opinions regarding the importance of host community participation and the impact local environments have on tourism sustainability. Many participants felt local cultural characteristics were important influences regarding the success of local tourism sustainability. Responses discussed a variety of characteristics, including geography, local heritage, and population demographics.

Most residents also agreed the host community affected or influenced tourism development. Participants felt that friendly, interested, and involved local communities are vital to the long-term success of tourism. Interestingly, nearly half of the participant responses also stated that the lack of local participation from residents and businesses contributed to the limited amount of current development. To summarize a few stated responses, residents have not expressed enough interest in

tourism development. Without that voice or support, local leadership cannot promote a positive image to attract tourism.

### **Discussion & Conclusion**

Research findings support the theory that increased exposure to local tourism positively effects resident perceptions of benefits, resulting in a shift from initial economic outcomes to cultural outcomes. London residents had greater exposure to local tourism, and therefore, perceived a greater diversity of benefits. Having experienced long term economic benefits related to tourism development, results from London indicated that resident's monetary desires had been satisfied, allowing social and cultural benefits to become more of a priority. When asked about benefits associated with tourism development, many participants listed responses that focused on community inclusion, social diversity, and cultural enhancement.

Participants from McKee, having limited exposure to local tourism, reported much less diversity of perceived benefits. With limited experience of economic growth from tourism, most participants prioritized benefits associated with economic growth. Few participants felt that social and cultural growth were primary benefits of tourism development, and therefore, did not directly influence their perceptions.

Findings imply that by emphasizing social and cultural benefits during earlier phases of development, planning agencies can influence resident perceptions of tourism benefits. Rather than creating a singular monetary benefit, communities should focus on the non-monetary impacts that tourism generates. When residents only perceive monetary benefits as a measure of success, lack of increased revenue through tourism is perceived as a failure. However, if initial efforts focus on social and cultural benefits of tourism, residents may begin to see past monetary gains and discover other ways tourism benefits their communities.

Rural communities pursuing local tourism need the support and participation of residents to create a healthy balance of benefits. Engaging residents throughout the planning and developing process, rural communities can greatly improve resident perceptions toward tourism and greatly increase long term sustainability.

## References

- Bartle, P. (2007). What is community? A sociological perspective. *Community Empowerment Collective*. Retrieved from <http://cec.vcn.bc.ca/cmp/whatcom.htm>
- Berkman, L. (1995). The role of social relations in health promotion. *Psychosomatic Medicine* 57(3), 245–54.
- Bradshaw, T. & Blakely, E. (1982). The changing nature of rural America. *Policy Studies Review* 2, 12-25
- Bramwell, B. (1994). Rural tourism and sustainable rural tourism. *Journal of Sustainable Tourism*, 2(1-2), 1-6.
- Dahles, H. (2000). *Tourism and Sustainable Community Development*. London, United Kingdom: Routledge.
- Elam, C. (2002). Culture, poverty and education in Appalachian Kentucky. *Education and Culture*, XVIII (1), 10-13.
- Gunn, C.A. (1994). *Tourism basics, concepts, cases*. (3rd ed.) Washington, D.C.: Taylor & Francis.
- Hall, D. & Richards, G. (2000). *Tourism and sustainable community development*. New York: Taylor & Francis Group.
- KCEOC. (2015). *Poverty is real*. Retrieved from <http://www.kceoc.com/index.php?lang=en>
- Pearce, D. (1987). *Tourism today: A geographical analysis*. New York: Wiley.
- Rowe, J.S. (1992). The Ecosystem approach to forestland management. *The Forest Chronicle*, 682, 222-224.
- U.S. Census Bureau. (2015). *Rural populations*. Retrieved from <http://www.census.gov/>

