

GETTING OUTSIDE: IMPACTS OF OUTDOOR RECREATION FESTIVALS ON PARTICIPANTS' LEVELS  
OF OUTDOOR ENGAGEMENT

A THESIS

SUBMITTED TO THE GRADUATE SCHOOL

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS

FOR THE DEGREE

MASTER OF SCIENCE

BY

MICHAEL T. COOPER

DR. JOSHUA GRUVER - ADVISOR

BALL STATE UNIVERSITY

MUNCIE, INDIANA

MAY 2015

GETTING OUTSIDE: IMPACTS OF OUTDOOR RECREATION FESTIVALS ON PARTICIPANTS' LEVELS

OF OUTDOOR ENGAGEMENT

A THESIS

SUBMITTED TO THE GRADUATE SCHOOL

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS

FOR THE DEGREE

MASTER OF SCIENCE

BY

MICHAEL T. COOPER

Committee Approval:

Joshua Gruver  
Committee Chairperson

\_\_\_\_\_ Date

Amy Gregg  
Committee Member

\_\_\_\_\_ Date

Sam Carman  
Committee Member

\_\_\_\_\_ Date

Departmental Approval:

\_\_\_\_\_ Departmental Chairperson

\_\_\_\_\_ Date

\_\_\_\_\_ Dean of Graduate School

\_\_\_\_\_ Date

BALL STATE UNIVERSITY  
MUNCIE, INDIANA  
MAY 2015

## ABSTRACT

THESIS: Getting Outside: Impacts of Outdoor Recreation Festivals on Participants' Levels of Outdoor Engagement

STUDENT: Michael Cooper

Degree: Master of Science

COLLEGE: Sciences and Humanities

DATE: May 2015

PAGES: 91

Outdoor festivals are one method being used to attract youth and their families to the outdoors and increase their levels of engagement with the environment. While many attend festivals, research has not been done to determine if these events actually affect outdoor participation levels. This study took a novel approach to studying the impact of an annual outdoor festival in Indiana on participants' levels of outdoor engagement. Surveys were administered at the 2013 Ford Hoosier Outdoor Experience event and follow-up surveys were sent out to participants who agreed to participate in the follow-up study, nine months after the event. Follow-up surveys asked participants about their experiences at the event and subsequent outdoor activity levels. The evidence suggests that the event did not have an effect on participants' outdoor recreation levels, but did show increases in characteristics associated with outdoor recreation, such as helping participants learn specific outdoor skills and improving their skills in outdoor recreation activities. Findings also suggest that common barriers to participants' outdoor recreation include: the desire to use their free time to stay home, outdoor recreation opportunities being too far away, and outdoor recreation requiring too much effort.

Based on these results, in order to positively affect participants' levels of outdoor recreation, the Ford Hoosier Outdoor Experience must consider the following strategies: focus on educating event goers on the positive effects of engaging in the outdoors, focus its offerings on activities that can be done closer to home, and host additional events throughout the year. Furthermore, these results will ideally aid event hosts, planners, and partners to better serve the community and ultimately increase Hoosier engagement with the outdoors.

## **ACKNOWLEDGEMENTS**

I would like to thank my mother for her continual support and always optimistic thinking. I could not have done this without her persistent encouragement and support. She has taught me to always be positive and to chase my dreams at whatever cost. Without her, I would not be where I am today.

Secondly, thank you to Dr. Josh Gruver for your guidance and your willingness to help me through this process. Your patience and commitment to helping me never wavered. Thank you for your dedication to hard work and most importantly, thank you for your friendship.

Lastly, thank you to the Indiana Department of Natural Resources for the financial support and willingness to help me. Thank you to Dr. Amy Gregg and Sam Carman for your commitment to me and to this project. Thank you to the Natural Resources and Environmental Management Department for giving me the opportunity to succeed.

## TABLE OF CONTENTS

<b>ABSTRACT</b> .....	II
<b>ACKNOWLEDGEMENTS</b> .....	IV
<b>TABLES</b> .....	VI
<b>FIGURES</b> .....	VIII
<b>CHAPTER 1</b>	
<b>INTRODUCTION</b> .....	9
<i>STATEMENT OF THE PROBLEM</i> .....	9
<i>IMPLICATIONS OF THE RESEARCH</i> .....	10
<i>BACKGROUND</i> .....	10
<i>RESEARCH OBJECTIVES AND QUESTION</i> .....	12
<i>PURPOSE STATEMENT</i> .....	12
<b>EXPLANATION OF ORGANIZATION</b> .....	13
<b>CHAPTER 2</b>	
<b>LITERATURE REVIEW</b> .....	14
<i>A BRIEF HISTORY OF OUTDOOR RECREATION</i> .....	14
<i>FESTIVALS AND OUTDOOR EXPOSITIONS</i> .....	17
<i>NATURE DEFICIT DISORDER</i> .....	18
<b>CHAPTER 3</b>	
<b>METHODS</b> .....	21
<i>EXIT SURVEY (t<sub>1</sub>)</i> .....	21
<i>VALIDITY CONCERNS</i> .....	22
<i>FOLLOW-UP SURVEY (t<sub>2</sub>)</i> .....	24
<b>CHAPTER 4</b>	
<b>RESULTS</b> .....	26
<i>t<sub>1</sub> COMPLETION RATE</i> .....	26
<i>t<sub>1</sub> DEMOGRAPHICS</i> .....	26
<i>t<sub>1</sub> SURVEY RESULTS</i> .....	29
<i>t<sub>2</sub> RESONSE RATE</i> .....	36
<i>t<sub>2</sub> SURVEY RESULTS</i> .....	36
<b>CHAPTER 5</b>	
<b>ANALYSIS</b> .....	47
<i>DISCUSSION</i> .....	60
<i>SOCIODEMOGRAPHIC SIMILARITIES WITH INDIANA SCORP</i> .....	61
<i>CHANGE IN OUTDOOR RECREATION</i> .....	61
<i>INFLUENCES OF THE FHOE</i> .....	61
<i>FUNCTIONAL OUTCOMES</i> .....	64
<i>BARRIERS TO OUTDOOR RECREATION</i> .....	65
<i>VALUES</i> .....	66
<i>MANAGEMENT IMPLICATIONS</i> .....	68
<i>STUDY LIMITATIONS</i> .....	69
<i>SUGGESTIONS FOR FUTURE RESEARCH</i> .....	71
<b>REFERENCES</b> .....	72
<b>APPENDICIES</b> .....	77

## LIST OF TABLES

<b>Table 1:</b> t <sub>1</sub> Demographics.....	28
<b>Table 2:</b> t <sub>1</sub> Number of Times Attended the FHOE.....	29
<b>Table 3:</b> t <sub>1</sub> Rating of the Event.....	29
<b>Table 4:</b> t <sub>1</sub> Question 3.....	31
<b>Table 5:</b> t <sub>1</sub> Rating of Services at the FHOE.....	33
<b>Table 6:</b> t <sub>1</sub> Reason(s) for Attending the FHOE.....	33
<b>Table 7:</b> t <sub>1</sub> Future Intentions to Attend the FHOE.....	34
<b>Table 8:</b> t <sub>1</sub> Number of Times Participants Engage in Nature-Based Outdoor Activities Annually.....	34
<b>Table 9:</b> t <sub>2</sub> Who Participants Attended the 2013 FHOE With.....	36
<b>Table 10:</b> t <sub>2</sub> Participants' Enjoyment of the 2013 FHOE.....	37
<b>Table 11:</b> t <sub>2</sub> Participants' Primary Reasons for Attending the 2013 FHOE.....	37
<b>Table 12:</b> t <sub>2</sub> Participants' Plans to Attend the 2014 FHOE.....	38
<b>Table 13:</b> t <sub>2</sub> Participants' Suggestions to Improve the FHOE.....	38
<b>Table 14:</b> t <sub>2</sub> Question 6.....	39
<b>Table 15:</b> t <sub>2</sub> Activities Event Goers Participated in at the 2013 FHOE and Future Participation in Those Activities.....	40
<b>Table 16:</b> t <sub>2</sub> Number of Times Participants Engage in Nature-Based Outdoor Activities Annually.....	41
<b>Table 17:</b> Comparison of t <sub>1</sub> and t <sub>2</sub> Levels of Outdoor Engagement .....	41
<b>Table 18:</b> t <sub>2</sub> Participants' Time Spent Outside Doing Activities Not Presented at the 2013 FHOE.....	42
<b>Table 19:</b> t <sub>2</sub> Question 11.....	43
<b>Table 20:</b> t <sub>2</sub> Question 12.....	45
<b>Table 21:</b> Cross Reference of t <sub>1</sub> and t <sub>2</sub> Outdoor Recreation Levels.....	47
<b>Table 22:</b> Paired Samples T Test of t <sub>1</sub> and t <sub>2</sub> Outdoor Recreation Levels.....	50
<b>Table 23:</b> t <sub>2</sub> Participants' Time Spent Outside Doing Activities Not Presented at the 2013 FHOE.....	50
<b>Table 24:</b> t <sub>2</sub> Level of Positive Influence the FHOE had on Participants' Level of Nature-based Outdoor Recreation.....	51
<b>Table 25:</b> t <sub>1</sub> , t <sub>2</sub> Paired Samples T Test of Change in Positive Influence.....	52
<b>Table 26:</b> t <sub>2</sub> Q6 Significant Correlations Between Participants' Levels of Positive Influence and Question 6.....	53
<b>Table 27:</b> t <sub>1</sub> , t <sub>2</sub> Paired Samples T Test of Change in the FHOE Helping Participants Learn a Particular Skill.....	54
<b>Table 28:</b> t <sub>1</sub> , t <sub>2</sub> Paired Samples T Test of Change in Participants' Levels of Enjoyment.....	55
<b>Table 29:</b> t <sub>1</sub> , t <sub>2</sub> Paired Samples T Test of Change in Participants Learning Useful Information at the FHOE.....	56
<b>Table 30:</b> t <sub>1</sub> , t <sub>2</sub> Paired Samples T Test of the Change in Improving Participants' Skill in At Least One Activity.....	57
<b>Table 31:</b> t <sub>1</sub> , t <sub>2</sub> Paired Samples T Test of Change in the FHOE Helping Participants Feel More Connected to Nature and the Environment.....	58

## LIST OF TABLES

<b>Table 32:</b> $t_2$ Significant Correlations Between Level of Outdoor Recreation and Question 11.....	59
<b>Table 33:</b> $t_2$ Significant Correlations Between Level of Outdoor Recreation and Question 12.....	60
<b>Table 34:</b> Comparison of $t_1$ and Critical Participants' Sociodemographics.....	70
<b>Table 35:</b> Compared Samples T Test of $t_1$ and Critical Participants' Sociodemographics.....	70



## LIST OF FIGURES

<b>Figure 1:</b> $t_1$ and $t_2$ Survey Timeline.....	25
<b>Figure 2:</b> Comparison of $t_1$ and $t_2$ Annual Outdoor Recreation Levels.....	48
<b>Figure 3:</b> Outdoor Recreation Level Change From $t_1$ to $t_2$ .....	49
<b>Figure 4:</b> Comparison of $t_1$ and $t_2$ Levels of Positive Influence on Participants' Outdoor Recreation.....	51
<b>Figure 5:</b> $t_1$ and $t_2$ Comparison of Participant Ratings of the FHOE Helping Participants Learn a Particular Skill.....	54
<b>Figure 6:</b> $t_1$ , $t_2$ Comparison of Participants Level of Enjoyment at the FHOE.....	55
<b>Figure 7:</b> $t_1$ , $t_2$ Comparison of Participants Learning Useful Information at the FHOE.....	56
<b>Figure 8:</b> $t_1$ , $t_2$ Comparison of FHOE Improving Participants' Skill in At Least One Activity.....	57
<b>Figure 9:</b> $t_1$ , $t_2$ Comparison of FHOE Helping Participants Feel More Connected to Nature and the Environment.....	58

## **CHAPTER 1: Introduction**

### *Statement of the Problem*

Health and wellness preoccupy the American mind. A recent U.S. study showed that 30 percent of people are trying to lose weight most of the time (Intel, 2010). While obesity represents one of the major health problems worldwide (World Health Organization, 2000), there are other aspects to health and wellness beyond dieting that should be considered. Evidence suggests that the health and well-being of our nation, children in particular, are being compromised by Nature Deficit Disorder, a term coined by Richard Louv (Louv 2005). The term itself suggests we are spending less time outside resulting in a variety of behavioral and wellness problems. Louv explains how the term "...is not a formal diagnosis, but a way to describe the psychological, physical and cognitive cost of human alienation from nature" (Louv, 2009). Nature Deficit Disorder is gaining momentum in the medical field as information regarding the medical effects of Nature Deficit Disorder is becoming more readily available through numerous research studies (Wells, 2000; Takano, Nakamura, & Watanabe, 2002; Louv 2006; Warber, S., Bialko, M., Dehudy, A., & Irvine, K. 2012; Gomes 2012; Maas, Verheij, Groenewegen, Vries, and Spreeuwenberg 587-592).

Louv (2005) suggests that the key causes of Nature Deficit Disorder are the rise in use of technology, parents being more protective of their children from the outdoors, and the decline in access to developed outdoor recreation areas. In addition to the lack of access, research has also linked increased technology use to a decline in visits to US national parks (Pergams & Zaradic, 2006). The concept of Nature Deficit Disorder and the general public's decrease in outdoor engagement is becoming more familiar and researchers are beginning to provide plans

and strategies to resolve the issue. To address the decline in outdoor recreation, managers and planners are focusing their efforts on offering local outdoor events and regional festivals to increase outdoor activity levels. One of the many ways recreation professionals are doing this is by hosting outdoor recreation based events or festivals which include objectives to get participants more active in the outdoors. While many events have been planned and hosted by recreation professionals, little research has been done to determine if outdoor recreation based events have affected the participants' levels of outdoor involvement. The purpose of this study is to determine the effects of an outdoor recreation event on participants' levels of outdoor activity.

#### *Implications of the Research*

Results from this research will be used by Indiana Department of Natural Resources and the Natural Resources Foundation to determine the effectiveness of the FHOE and to better understand the impacts of the FHOE on visitors' levels of outdoor involvement. Furthermore, results will ideally aid event hosts, planners, and partners to better serve the community and ultimately increase Hoosier engagement with the outdoors.

#### *Background*

The impact of outdoor/sporting festivals on participants is a new area of research. Getz (1991) initially classified three categories of participants' basic needs met by festivals: physical, interpersonal, and personal. Since then several studies have identified five motivation domains for festival visitors: escape, excitement/thrills, event novelty, socialization, and family togetherness (Uysal, Gahan, and Martin, 1993; Mohr et. Al, 1993; Crompton and McKay, 1997).

Studies that focus on length of time spent outdoors and the positive effects on other areas of people's lives such as attention span and mood are relatively new as well (Wells, 2000; Takano, Nakamura, & Watanabe, 2002; Louv, 2006; Gomes 2012 Warber, S., Bialko, M., Dehudy, A., & Irvine, K. 2012; Maas, Verheij, Groenewegen, Vries, and Spreeuwenberg 587-592). With the new attention being brought to the benefits that nature brings, researchers have been conducting numerous studies on the relationship between time spent outdoors and health. The literature suggests that children having more access to the restorative properties of the outdoors are likely to benefit in terms of cognitive and attentional capacities (Wells, 2000).

From these findings came additional research looking at children and their involvement with the outdoors. Today, children between the ages of 8 and 18 are exposed to an average of 6.5 hours of electronic media per day (Roberts, Foehr, & Rideout, 2005; Roberts & Foehr, 2008). Not only have children been consumed with the use of electronic media, but researchers are also looking deeper into the possibility that national parks are being overlooked as a result. The decline in per capita visits to US national parks since 1988 has a strong positive correlation to several electronic entertainment indicators: hours of television, video games, home movies, theatre attendance, and internet use (Pergams & Zaradic, 2006). In addition, there has been an overwhelming amount of evidence showing the decrease in outdoor involvement (Mike, 2007; Outdoor Recreation Participation, 2008; Scotland's Nature England, 2009).

The Indiana Department of Natural Resources has been hosting its annual Ford Hoosier Outdoor Experience (FHOE) now for five years at Fort Benjamin Harrison State Park in Indianapolis, Indiana. Records show that the event has been growing in popularity, with

approximately 31,000 people attending in 2013. The idea behind the FHOE is to be a hands-on outdoor recreation event that offers instruction on a variety of outdoor skill in hopes that people will use the newly learned skills thereby increasing their levels of outdoor recreation.

A marketing plan was also developed with the overall goals to (1) Increase awareness of the Department of Natural Resources (DNR); (2) Attract a diverse audience of new or lapsed DNR parks users to the two-day event; (3) Increase the number of people using DNR properties (Willow Marketing, 2009).

#### *Research Objectives and Question*

Research objectives were to: (1) gauge participants' level of outdoor recreation; (2) learn about what activities they participated in at the event; (3) learn about their barriers to outdoor recreation; (4) learn about their overall experience attending the event. The research also seeks to answer the following question: Does the FHOE have an effect on participants' levels of outdoor recreation and/or influence their choices in selecting an outdoor activity to participate in?

#### *Purpose Statement*

One of the many ways recreation professionals are curbing the rise of Nature Deficit Disorder is by hosting outdoor recreation based events. In order to use outdoor recreation based events as a tool to increase outdoor engagement, recreation managers and practitioners need to better understand the public's barriers to outdoor recreation and how to better encourage people to engage in the outdoors. This research will provide recreation professionals

with ideas and ways to improve their events, barriers to outdoor recreation will be analyzed and changes in strategy will be provided.

In order to determine if FHOE had an impact on participants' levels of outdoor engagement, participants were asked to fill out two surveys. The first during the FHOE event and the second, nine months after the event to determine a variety of factors associated with their levels' of outdoor engagement. Descriptive statistics, T-tests, and analysis of variance were employed to help describe and understand factors related to participant's recreational behaviors and if these behaviors were impacted by engagement with FHOE.

#### *Explanation of Organization*

The remaining chapters are organized as follows: Chapter 2 discusses a broad range of topics within the outdoor recreation field including: policy, festivals, and Nature Deficit Disorder; Chapter 3 covers the methodology used to conduct the research; Chapter 4 examines the results from both surveys ( $t_1$  and  $t_2$ ) separately; Chapter 5 provides similarities to previous studies and analyzes the survey data of event-goers that participated in both surveys. Future management recommendations were based on those findings and the chapter concludes with limitations to the study and suggestions for future research.

## CHAPTER 2: Literature Review

### *A Brief History of Outdoor Recreation*

Outdoor recreation is a concept that dates as far back as the beginnings of recorded history. Jensen and Guthrie (2006) found evidence that the Sumerians of Mesopotamia participated in outdoor recreation as far back as 4000-2000 B.C. More specifically some believe that villa gardens were constructed in Mesopotamia in an attempt to maintain direct contact with nature (Ulrich and Parsons, 1992). Though outdoor recreation has been around for ages, little had been documented on organizations established to strategically promote and conserve opportunities for outdoor recreation until the mid-1900'. In 1958, the Outdoor Recreation Resources Review Commission (ORRRC) was created to determine: (1) future outdoor recreational wants and needs expected for 1976-2000; (2) recreational resources expected to be available to meet those demands; (3) policies and procedures to meet present and future outdoor recreational needs (Siehl, 2008). In light of the Commission's published reports, the Department of the Interior formed the Bureau of Outdoor Recreation (Wolfe, 1964).

Over the years, policies were written, such as the Land and Water Conservation Act, and much progress was made for the development of outdoor recreation. In 1965 the Land and Water Conservation Fund Act was enacted to assist states and federal agencies in preserving, developing, and assuring for all citizens and visitors accessibility to a desirable quality and quantity of outdoor recreation resources (Beckman and Ingraham, 1966). Due to this opportunity, Beckman and Ingraham (1966) state that by May of 1966, 48 states had developed comprehensive outdoor recreation plans with the intentions of putting them into action. These

types of plans still exist today and are published by each state every five years and are now officially called State Comprehensive Outdoor Recreation Plans (SCORP). SCORPs were created to determine the respective state's outdoor recreation demand and formulate a plan accordingly. For instance, the Indiana SCORP 2011-2015 sent out an outdoor recreation participation survey and received 6,824 responses (Indiana statewide, 2012). These responses represented the voices of Indiana residents regarding outdoor recreation and helped managers develop Indiana's outdoor recreation plan for the following five years.

The current Indiana SCORP shows that that majority of respondents' reasons for participating in outdoor recreation were to be with friends or family, physical health, and mental health (Indiana statewide, 2012 p. 22). Participants also favored walking/hiking/jogging/running as their most popular outdoor recreation activities (Indiana statewide, 2012 p. 22). The survey also showed that over 60% of respondents drove to reach their chosen outdoor recreation activity (Indiana statewide, 2012 p. 22). Due to factors like these, the report has put an emphasis on the state's goal to get all Indiana residence within 7.5 miles or 15 minutes of a trail (Indiana statewide, 2012 p. 79).

During this boom in the organization of outdoor recreation came many different research studies on various aspects of the subject. In 1963 Knetsch's research on the demands and benefits of outdoor recreation showed that recreation should be viewed, in a sense, as producing an economic product (Knetsch, 1963). Burt and Brewer's (1971) research then developed a framework to measure the social benefits associated with outdoor recreation. Through these findings they suggest that there is an economic benefit to investing in outdoor



recreation. Two years later, Brown and Narwas developed a study to show a more accurate approach to estimating outdoor recreation demand functions (Brown and Narwas, 1973). Shortly after that Martin and Gum (1975) showed that while the economic valuation is relevant, interpretations of these non-priced estimates are essential. Also during this time researchers began to measure the relationship between outdoor recreation and increased environmental concern within the general public (Dunlap and Heffernan, 1975). In addition to Dunlap and Heffernan, a variety of researchers looked into this shortly thereafter. Many of these studies, however, have been reexaminations of the Dunlap-Heffernan Theory and show that the relationship between outdoor recreation and increased environmental concern is weak at best (Pinhey and Grimes, 1979; Van Liere and Noe, 1981). More recently, with the increased demand for outdoor recreation, studies began to focus on a newly created issue of overcrowding. A variety of research has also been done in regards to this recent issue including Stankey ET. Al (1985) and Graefe, Kuss, and Vaske, (1990) who focus on Limits of Acceptable Change (LAC), a planning system developed to assign recreational carrying capacities in an effort to help the issue of overuse. The National Park Service came out with a similar program to address carrying capacity known as Visitor Experience and Resource Protection (VERP) (1997).

## *Festivals & Outdoor Expositions*

Much like outdoor recreation, festivals have been around for ages, but as Getz points out, the idea of studying them and their impacts on attendees is a relatively new idea (Getz, 1991). To be clear, festivals: must be public, as opposed to private parties and celebrations, since all festivals have social and cultural meaning to the host community. Visitors to festivals are likely to be seeking cultural enrichment, education, novelty, and socialization (Crompton and Mackay, 1989).

The majority of traditional festival research focuses on visitors' motivations for attending (Getz, 1991; Mohr ET. Al, 1993; etc.). Most notably is Crompton and McKay's research, which provides a model to understand the motives of festival goers (1997). Surveys were administered at 16 different locations of a festival in San Antonio, Texas where participants were asked questions about their motivations for attending the festival. Their research found that "six domains should be incorporated on a festival motivations instrument: cultural exploration, novelty/regression, recover equilibrium (rest and relaxation/escape), and family togetherness (enhancing kinship relationships)" (Crompton and Mackay, 1997 pg.438). Separately, when looking at the effect of festivals on visitors' emotional experiences of satisfaction, psychological commitment, and loyalty, Lee found that perceived service value appeared to be a good predictor of behavioral intentions for visitors (2009).

In the early to mid-90s two outdoor expositions were held to help educate the public and to help emphasize involvement in the outdoors for all ages. Texas Parks and Wildlife held the Texas Wildlife Expo in 1992 and the Wyoming Game and Fish Department held the Hunting

and Fishing Expo in 1998. These events proved to be highly effective. The Weatherby Foundation International, a non-profit organization, partnered with the Wyoming Game and Fish Department and Texas Parks and Wildlife to develop a guide book to help direct organizers through their events. The resulting book, *Outdoor Exposition Planning Guide: A Guide for the Planning and Management of a Regional or Statewide Outdoor Exposition* was written in 2002. The planning guide goes through all aspects of planning an event, from financial support to site planning, with an overall objective, "To help other states, provinces and organizations envision their own exposition, understand the planning and work involved and provide a framework for producing an outdoor exposition on local, regional or statewide scale" (Lockman, 2002 p. 4). Many outdoor events have followed this guide including the Indiana Department of Natural Resource's FHOE.

### *Nature Deficit Disorder*

Richard Louv coined the term Nature Deficit Disorder in 2005 (Louv, 2005). This term stemmed from research and what Gesler calls, "A long tradition that healing powers may be found in the physical environment, whether that entails materials such as medicinal plants, the fresh air, and pure water of the countryside, or magnificent scenery" (Gesler, 1992 p. 736). Moving forward, there has been a growing contingent of research showing the positive effects of green spaces on people's health as well as social, economic, and environmental benefits (Burns, 1998; Wells, 2000; Cox, 2002; Takano, Nakamura & Watanabe, 2002).

Since then, researchers have uncovered a trend that children are spending a decreasing amount of time experiencing nature (Hofferth and Curtin 2001; Kellert, 2005; Roberts, Foehr,

and Rideout, 2006, etc.). This link was initially uncovered when Hofferth and Curtin discovered that children have less discretionary time at home (2001). In 2005, Kellert reports that, “Most children today have fewer opportunities to spontaneously engage and immerse themselves in the nearby outdoors” (Kellert, 2005 p. 83). Multiple reports also emerged that children are spending an increasing amount of time with electronic media. Roberts, Foehr, and Rideout reported that children 8 to 18 spend an average of 6.5 hours a day with electronic media, which includes 3 hours of TV and 1.75 hours of music (2006). This is around the same time that Louv devised the term Nature Deficit Disorder (Louv, 2005). More recently, Common Sense Media found that over half of households sampled 0-8 years-old have a mobile phone, a tablet, and iPod or similar device and make a case that children are more connected than ever with the progress of technology (2011).

Furthermore, research continues to link various factors such as declining visits to National Parks and declining nature experiences to Nature Deficit Disorder. Stemming from previous research which reported that there had been a 25% decline in per capita visits to national parks between 1987 and 2003, Pergrams and Zaradic linked this research to an overall decline in nature-based recreation (Pergrams and Zaradic, 2006). 2007 brought findings that outdoor participation in the US had decreased among 6 to 17 year olds by 11% (The Outdoor Foundation, 2008). A 2009 survey by Singer also suggested that these low rates of nature experiences were not unique to the US. The survey reported that the percentages of mothers that said their child or children often explored nature were: China 5%; Brazil 18%; Indonesia 7%; UK 25%; Morocco 7%; South Africa 18%; France 45%; India 18% (Singer Et Al., 2009).

As previously mentioned, many outdoor events have followed Lockman's *Outdoor Planning Guide* (2002). However, due to the newness of these types of events, little to no research has been done on them. While the literature in this area is lacking, numerous events have held and many more will be hosted which could contribute to this new area of research.

### CHAPTER 3: Methods

The research took place beginning in the fall of 2013 and went through the summer of 2014 (Figure 1). Surveys were designed by a four person team (PI Cooper, and Co-PIs - Gruver, Carman, and Gregg) and administered at the 2013 FHOE and follow-up surveys were sent to willing participants nine to eleven months later. The data from participants who completed both surveys (Critical Participants) were then analyzed to determine if there were significant changes in a number of characteristics, including outdoor recreation levels.

A booth was set up at the event where attendees were asked to participate in a brief survey about their experiences at the event and also about their levels of outdoor involvement. The goal was to have 300 completed surveys at the event and respondents who indicated accordingly were sent a follow-up survey. The initial survey gaged each participant's level of outdoor involvement and identified which activities they participated in at the 2013 FHOE. The follow-up survey determined if their overall level of outdoor activity had increased since attending the 2013 FHOE, and if the event influenced their choices of outdoor activities in which to participate.

#### *Exit Survey ( $t_1$ )*

The research took place beginning in the fall of 2013 and went through the summer of 2014 (Figure 1). A survey team of three administered random surveys (Appendix A) to willing participants at the exit line of the event. The FHOE is a hands-on, outdoor recreation event that occurs annually at Fort Benjamin Harrison State Park and is open to the public over a weekend in September. Parking is made available outside of the park and guests can either walk in or

take a shuttle bus, however, most guests take the shuttle bus as the parking is offsite. At the end of the day, all FHOE attendees standing in the exit line waiting for the shuttle bus were asked if they would like to complete a short survey. The survey focused on the participants' experiences and welcomed suggestions on improvement.

Dick's Sporting Goods coupons were given to all participants who completed the initial survey to help increase interest in completing the survey. In addition, participants were told up front that if they complete the follow up survey as well, they would be entered in a drawing to win a \$100 gift card to Rusted Moon Outfitters. A table was set up towards the end of the line and visitors waiting to take the shuttle to the parking lot were approached. To further offer convenience, the participants were able to remain in line while filling out the survey as clipboards were also handed out. The shuttle line was typically very long (approximate 10 to 20 minute wait time) so this helped ensure that participants had plenty of time to complete the survey without getting out of line. Once the survey was completed, a survey team member came by to pick the survey up so participants did not have to get out of line.

#### *Validity Concerns*

To reduce the incidence of sampling error, the survey sample size selected was based on previous attendance numbers (approximately 20,000 visitors), confidence level (95%), and the type of questions asked (50/50 split) (Dillman, Smyth, and Christian, 2007). Following this method, the completed sample size needed was 377 respondents. Due to the fact that we are approaching the visitors as they are exiting the event, we predict that some of the surveys will

not be 100% completed. To prevent this from affecting the data 500 surveys were brought to the event to ensure a total of 377 fully completed surveys would be received.

Self-selection does pose a threat to internal validity. To help avoid this, the area chosen to administer the exit survey was centrally located. Since the large majority of visitors enter the event on the buses, we estimate that if visitors are approached with the exit survey in the bus lines, this will be the area that is the best representation of the whole population. However, there is a chance that a group of event-goers choose to walk back instead of taking the shuttle. This creates the possibility of an unequal opportunity to be surveyed, thus further impacting internal validity.

The duration between the initial survey and follow-up was nine to eleven months, to ensure the follow-up survey included the months in which recreation numbers are the highest. However, this does cause a historical threat to internal validity, which could happen because while time is passing during the experiment, events could occur that would influence the outcome beyond the experimental treatment (Creswell, 2009).

Lastly, Social Desirability Bias could play a part in the research. This is the idea that respondents will answer questions based on what they perceive is socially acceptable or “correct” (Maccoby and Maccoby, 1954). The potential for this bias is high as the purpose of the FHOE is clearly centered on outdoor recreation and spending time outside.

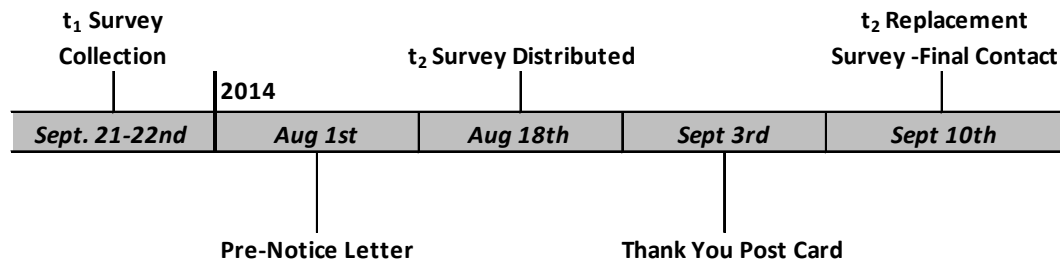


### *Follow-Up Survey (t<sub>2</sub>)*

Survey administration followed a modified Dillman approach (Dillman, Smyth, & Christian, 2000). The survey was sent out as a mixed mode survey (online and mail) to help increase response rates. The online version was a Qualtrics survey sent via a link to participants' designated email addresses. Much time was spent making the surveys as similar as possible, but small variations were unavoidable due to the variation in survey modes (i.e. survey look, question layout, etc.).

Pre notice letters were sent out on August 1<sup>st</sup> (Appendix C) and the initial round of t<sub>2</sub> surveys were sent out on August 18<sup>th</sup> (Appendix E) to all participants who supplied their home address or email address during the summer of 2014 via e-mail and/or regular mail. t<sub>2</sub> focused on participants' outdoor activity levels and habits. The survey was emailed to 238 participants and sent via regular mail to 46 participants. Both mail and online surveys were sent out on the same day for consistency. However, the online surveys were delivered immediately as the link to the survey was emailed to their specific addresses. Thank you cards were sent out on September 3<sup>rd</sup> (Appendix F). These cards were sent out to all participants as the cards also served as a reminder for those who had not yet responded. The final contact was a replacement survey sent out on September 10<sup>th</sup> (Figure 1).

The survey was sent out on August 18<sup>th</sup> to help give people time to recreate outside during the warm months, which tend to have higher rates of outdoor recreation. As previously mentioned, all participants who completed the follow-up survey were entered into a drawing for a \$100 gift card to Rusted Moon Outfitters.



**Figure 1. t<sub>1</sub> and t<sub>2</sub> Survey Timeline**

## CHAPTER 4: Results

### *t<sub>1</sub> Completion Rate*

A total of 500 Surveys were taken to the HOE with a goal of 377 completed surveys to ensure statistical significance. 483 total surveys were collected from the event with an estimated 31,000 in attendance resulting in a response rate of 96.6%. This abnormally high response rate could be attributed to a number of factors: (1) the incentives that were offered (Dick's Sporting Goods coupons and the eventual raffle drawing of a \$100 gift card to Rusted Moon Outfitters) could have increased the desire or willingness for people to participate; (2) the survey method – Most festival goers rode in on the shuttle buses and because of this had to wait in an exit line that sometimes extended well over an eighth of a mile and taking up to 25 minutes to get through. Because of the length of the line, festival goers had this extra time to participate in the survey; (3) the nature of the event – the FHOE is a community-based event predicated on giving back. Most festival goers seemed to appreciate the event and in turn, desired to help improve the event and share their feedback; (4) because the festival goers were approached and directly asked if they would participate, they felt increased pressure to comply; (5) a combination of the four.

### *t<sub>1</sub> Demographics*

Survey participants were typically middle-aged (average 59.6 years of age) and have lived in their particular Indiana communities for a substantial amount of time (average 15.3 years). Participants had an average of 2 children and were either married or living with their partner. The majority had either a Bachelor's degree (27%) or school beyond high

school/Associates Degree (24%) and worked full-time (65%) which equated to a household income (before taxes) over \$50,000 (Table 1).

<b>N</b>	483
<b><u>Gender</u></b>	
-Male	117 (30%)
-Female	278 (70%)
<b><u>Age</u></b>	59.6
<b><u>Household</u></b>	
-Average number of children.....	2.27
-Average number of years in your community.....	15.3
<b>-Marital Status</b>	
Never married.....	55 (13%)
Married/Living with partner.....	298 (73%)
Divorced/Separated.....	52 (14%)
Widowed.....	5 (1%)
<b>-Household income (before tax)</b>	
Less than \$15,000.....	26 (7%)
\$25,000 - \$34,000.....	32 (9%)
\$35,000 - \$49,999.....	54 (15%)
\$50,000 - \$74,999.....	83 (22%)
\$75,000 - \$99,999.....	81 (22%)
\$100,000 - \$149,999.....	60 (16%)
\$150,000 or more.....	21 (6%)
<b><u>Education</u></b>	
Grade School.....	1 (1%)
Some high school.....	15 (4%)
Completed high school or GED.....	52 (13%)
Technical school beyond high school or.....	99 (24%)
Associates Degree	
Bachelors Degree.....	154 (37%)
Graduate/Professional Degree.....	90 (22%)
<b><u>Job Status</u></b>	
Full-time.....	257 (65%)
Part-time.....	42 (11%)
Retired.....	16 (4%)
Student.....	15 (4%)
Homemaker.....	49 (12%)
Non-employed.....	15 (4%)

**Table 1.** t<sub>1</sub> Demographics

*t<sub>1</sub> Survey Results*

59% of the survey participants are first timers to the FHOE (Table 2). Of those participants who are returning to this year's FHOE, over 20% rated this year's event as better (15%) or much better (7%) than previous years (Table 3).

---

Q1. How many times have you attended in the past?	
0 times	281 (59%)
1 time	66 (14%)
2 times	52 (11%)
3 times	45 (10%)
4 times	17 (4%)
5 times	12 (2%)

---

**Table 2.** *t<sub>1</sub>* Number of Times Attended the FHOE

---

Q2a. How would you rate this year's FHOE?	
Much Worse	0 (0%)
Worse	9 (2%)
About the Same	77 (16%)
Better	72 (15%)
Much Better	32 (7%)
First Experience, so can't compare	284 (60%)

---

**Table 3.** *t<sub>1</sub>* Rating of the Event

When asked about their reasons for how they rated the event this year, participants who rated the event as worse or much worse than previous years typically cited waiting in line and line length as reasons (Table 3). Participants who rate the event as better pointed to the better organization, faster shuttle buses, and more amenities than in previous years (Table 3). Almost a fifth of the sample mentioned it was the same as in previous years (Table 3).

---

Q2b. Referring to Q2a, is there anything specific that makes you feel this way?

---

*Much Worse:* None listed

*Worse:* Participants expressed discontent with the length of the shuttle bus lines and lack of volunteers. One participant even suggested a new name for the event, “The Hoosier Outdoor Line Up and Wait Event”.

*About the Same:* While these participants expressed their pleasure with the event, many noted that the activities offered were the same as years passed.

*Better:* Participants had an easier time finding things at the event while others mentioned that they had learned their way around from the past events. Participants also spoke of better trolley service, bus pickup/drop-off, food, and activities in general.

*Much Better:* Participants spoke of better organization, more efficient trolley service and shuttle busses, as well as more restrooms and food options.

**Q3. To what extent do you agree or disagree with the following statements about your participation in the FHOE?**

STATEMENT	AGREEMENT						Standard Deviation
	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree	Response Average	
A. The FHOE helped me learn a particular skill	11 (2%)	21 (5%)	116 (26%)	161 (36%)	143 (32%)	3.89	0.9842
B. I enjoyed the FHOE	11 (2%)	6 (1%)	19 (4%)	77 (16%)	367 (77%)	4.63	0.8144
C. My family enjoyed the FHOE	12 (3%)	7 (2%)	19 (4%)	74 (16%)	350 (76%)	4.61	0.8513
D. The level of instruction for the FHOE activities is, in general, too basic for my needs	57 (13%)	129 (28%)	127 (28%)	73 (16%)	72 (16%)	2.94	1.2522
E. The instructors at the FHOE are knowledgeable	10 (2%)	9 (2%)	31 (7%)	162 (34%)	259 (55%)	4.38	0.8595
F. I would like to see more advanced instruction	27 (6%)	61 (13%)	142 (31%)	121 (27%)	103 (23%)	3.47	1.1537
G. I learned useful information about the outdoors at the FHOE	10 (2%)	11 (2%)	62 (13%)	170 (37%)	210 (45%)	4.2	0.9142
H. The FHOE will have a positive influence on my level of nature-based outdoor recreation	7 (2%)	10 (2%)	80 (17%)	173 (37%)	198 (42%)	4.13	0.8881
I. The FHOE introduced me to an outdoor skill that I had never tried before	15 (3%)	33 (7%)	68 (15%)	120 (26%)	221 (49%)	4.09	1.1004
J. The FHOE introduced my family to an outdoor skill had never tried before	11 (2%)	20 (4%)	39 (9%)	131 (29%)	253 (56%)	4.31	0.9711
K. The FHOE improved my skill in at least one activity	14 (3%)	29 (6%)	93 (20%)	151 (33%)	169 (37%)	3.95	1.0511
L. Learning about the outdoors is important to me	9 (2%)	7 (2%)	34 (7%)	134 (29%)	278 (60%)	4.43	0.8484
M. Having a skilled instructor teach particular outdoor skills is important to me	8 (2%)	8 (2%)	39 (8%)	149 (32%)	260 (56%)	4.39	0.8473
N. The FHOE helps me feel more connected to nature and the environment	11 (2%)	6 (1%)	48 (10%)	140 (30%)	258 (56%)	4.36	0.8952

**Table 4. t<sub>1</sub> Question 3**

To better understand participants' individual experiences at the FHOE, we asked several questions about the activities they did and what they gained from it (Table 4). For the most part, participants and their families enjoyed the event (93% agree), felt like they learned something from the activities (82% agree), and that the event will have a positive influence on their level of outdoor recreation (80% agree).

**Q4a. Which activities did you participate in at this year's FHOE?**

Top answers for Q4a (in order): Archery, Canoe/Kayaking, Hunting/Fishing, Shooting Range, Off Road Rides, Mountain Biking, and Horse Rides.



---

Q4b. Which of these activities do you plan to do again in your own time?

Top answers for Q4b (in order): Hunting/Fishing, Canoe/Kayaking, Hiking, and Camping.

---

Q5. Please list any activities where you felt the instruction was too advanced:

Top answers for Q5: While only 11 participants in total answered this question, the activities cited as being too advanced in instruction are (in order): Shooting Range and Fishing.

---

Q6. Please list any activities where you felt the instruction was too basic:

Top answers for Q6: Again, very few participants answered this question, but those activities cited as being too basic in instruction are (in order): Archery and Shooting Range

---

Q7. Please list activities that were not at the event that you would like to see in the future:

Top answers for Q7 (in order): Zip Line and more shotguns. Unique Notables - Outdoor survival, kayaking on Fall Creek, backpacking, and panning for gold.

Topic	Rating					Response Average
	Very Bad	Bad	Neither Good nor Bad	Good	Very Good	
A. Parking	12 (3%)	22 (2%)	56 (12%)	159 (34%)	159 (39%)	4.06
B. Trolley Service	3 (1%)	7 (2%)	33 (8%)	140 (35%)	218 (54%)	4.40
C. FHOE Overall	2 (1%)	1 (1%)	15 (4%)	114 (28%)	270 (67%)	4.61
D. Variety of Activities	0 (0%)	4 (1%)	16 (4%)	117 (29%)	267 (66%)	4.60
E. Location of Event	3 (1%)	3 (1%)	8 (2%)	73 (18%)	314 (78%)	4.71

**Table 5.** t<sub>1</sub> Rating of Services at the FHOE

Table 5 shows participant ratings of parking, trolley service, the FHOE overall, activity variety, and location of the event. All of which averaged above a 4 (good), displaying participants satisfaction among the parking, trolley service, the variety of activities, event location, as well as the entirety of the event.

---

**Q9. Why did you attend the FHOE? Please check ALL that apply**

- Wanted to visit Fort Harrison - 132
  - Fun activity for the family - 246
  - Learn more about a particular skill - 111
  - Introduce a child to a particular skill - 148
  - Other - 32
- 

**Table 6.** t<sub>1</sub> Reason(s) for Attending the FHOE

The majority (51%) of participants attend the FHOE as a fun activity for the family; while 50 percent also came to learn a new skill. The *other* category consisted mostly of survey participants who were initially working at the event (typically Boy and Girl Scouts).

<b>Q10.</b> Do you plan to attend the event next year?	Definitely	Probably	Probably Not	Definitely Not	Average Response
	288 (72%)	105 (26%)	8 (2%)	1 (1%)	1.34

**Table 7.** t<sub>1</sub> Future Intentions to Attend the FHOE

The vast majority of participants (72%) definitely plan to attend the event next year (Table 7). Add to that the percentage that will probably attend next year (26%) which results in 98% of this year’s participants will probably attend next year’s event.

---

**Q11.** How often do you engage in nature-based outdoor activities (e.g., hiking, hunting, boating, etc.) annually?

Times	Never	1 - 5	6 - 10	11 - 15	16 - 20	Over 20	Average Response
		17 (4%)	118 (29%)	94 (23%)	50 (12%)	41 (10%)	82 (20%)

**Table 8.** t<sub>1</sub> Number of Times Participants Engage in Nature-Based Outdoor Activities Annually

As Table 8 shows, participant engagement in outdoor activities varied. While the average response was between 11 and 20 times per year, the largest category of participants engaged in nature-based outdoor activities between 1 and 5 times per year. Over 40 percent also responded as engaging in nature-based activities more than 10 times per year.

---

**Q12** What outdoor, nature-based activities do you participate in most?

---

Top answers for Q12 (in order): Walking, Hunting/Fishing, Camping, Hiking, and Boating. These results were expected as they generally reflected the information released in Indiana’s most recent SCORP (Indiana statewide, 2012).

---

Do you have any further comments about the FHOE and/or the survey?

Lastly, participants were asked if they had any comments concerning any aspects of the event. The most common complaint was the horseback riding (approximately 15 mentions). "Horseback sign in lady and pony ride volunteer were unprofessional in the way they spoke to us." "No type of customer service and rude to the kids..." and "Horseback riding was not organized well. People stood in line for 30+ minutes before finding out all were booked up." One participant did suggest a possible online registration to help fix this particular issue.

Other notable responses included: needing more trash cans and recycling bins as well as general complaints about the long lines. "Bus line at the end needed to be watched better." "More activities along the bus line" and "Change the loading and unloading of the buses. Have two separate areas", were among the suggestions to help fix the aforementioned problems.

However, the majority of the comments consisted of "Excellent" and "Wonderful" or "Thank you!" People were very grateful for the DNR and the event as shown by the following comments:

- "Thank you for providing this experience to my 2 and 4 year old boys. We plan to come every year. The memories will last a life time."
- "My son and I had a great time and we were able to bond over the activities."
- "Thanks for having this great community event."

### *t<sub>2</sub> Response Rate*

A total of 73 total responses from online and mail surveys combined were collected resulting in a combined response rate of 25.7%. The responses by mode were email - 55 and mail – 18, resulting in response rates of 23.11% (email) and 39.15% (mail) respectively. One detail to note is that the response rate was substantially higher (16%) for the mail survey versus the electronic copy. This could be due to a variety of reasons: 1) Research has shown that the personalization of stamped envelopes in some way connects with a participant and evokes them to respond; 2) the email response rate could be artificially deflated due to the 49 undeliverable emails.

### *t<sub>2</sub> Survey Results*

All percentages reflect results from the mail survey and email survey combined.

---

**Q. 1** Who did you attend the 2013 FHOE with?

- Members of my family - 65 (88%)
  - Friends - 6 (8%)
  - I attended alone - 1 (1%)
  - Other - 2 (3%)
- 

**Table 9.** t<sub>2</sub> Who Participants Attended the 2013 FHOE With

65 respondents (88%) indicated attending the event with members of their families. This is congruent with the previous data collected which showed the FHOE as a family-based event.

---

**Q. 2** Did you enjoy the location of the FHOE?

Yes - 73 (99%)

No - 0

I do not remember the location - 1 (1%)

---

**Table 10.** t<sub>2</sub> Participants' Enjoyment of the 2013 FHOE

Nearly all respondents (99%) indicated that they enjoyed the location of the event (Table 10).

---

**Q.3** What was your primary reason for attending the 2013 FHOE?

To visit the park - 13 (10%)

Fun activity for the family - 61 (48%)

Learn more about a particular skill - 22 (17%)

Introduce a child to a particular skill - 25 (20%)

Other - 6 (5%)

---

**Table 11.** t<sub>2</sub> Participants' Primary Reasons for Attending the 2013 FHOE

Two answers at or around the 20 percent mark, help question three show that there were a variety of reasons that participants attended the FHOE. However, the largest category was a fun activity for the family at 48 percent, which further re-enforces the idea of attending the event with members of their respective families (Table 9). Other responses stemmed from a theme of volunteerism or some were attending the event purely because it was a free event.

---

**Q4.** Do you plan to attend the event this year?

- Definitely - (57%)
  - Probably - (31%)
  - Probably not - (4%)
  - Definitely not - (0%)
  - Not sure - (8%)
- 

**Table 12.** t<sub>2</sub> Participants' Plans to Attend the 2014 FHOE

When participants were asked if they'd attend the event the following year, 57 percent of the participants indicated that they definitely planned to attend the event in 2014. 31 percent also indicated that they were probably attending. So, when added together, 88% of respondents will most-likely be attending the following year's event.

---

**Q5.** How would you improve the FHOE? (check all that apply)

- Have it on multiple weekends - (35%)
  - Include more activities - (23%)
  - Provide more info on doing activities on my own - (20%)
  - Other - (22%)
- 

**Table 13.** t<sub>2</sub> Participants' Suggestions to Improve the FHOE

While the majority of respondents indicated that they enjoyed the event overall, they also showed a willingness to provide suggestions on how to improve the FHOE. The multiple-choice suggestions were derived from the previous survey's open-ended comments section on how to improve the event. Answers ranged from 20 percent to 35 percent showing no particular suggestion dominated the answers. This is also further indicated by the array of written suggestions under the "other" response, which ranged from increasing shuttle routes to implementing techniques to shorten the long lines.

**Q6. To what extent do you agree or disagree**

STATEMENT	AGREEMENT					Response Average	Standard Deviation
	Strongly Disagree	Disagree	Neither	Agree	Strontly Agree		
A. The FHOE helped me learn a particular outdoor skill	1 (1%)	5 (7%)	19 (28%)	28 (41%)	15 (22%)	3.75	0.9360
B. I enjoyed the FHOE	0 (0%)	0 (0%)	0 (0%)	10 (14%)	61 (86%)	4.86	0.3479
C. My family enjoyed the FHOE	4 (4%)	11 (16%)	3 (4%)	11 (16%)	41 (59%)	4.06	1.3390
D. I learned useful information about the outdoors at the FHOE	0 (0%)	0 (0%)	7 (10%)	32 (46%)	31 (41%)	4.34	0.6522
E. The FHOE had a positive influence on my level of nature-based outdoor recreation	0 (0%)	2 (3%)	7 (10%)	33 (46%)	30 (42%)	4.17	0.9639
F. The FHOE improved my skill in at least one activity	1 (1%)	5 (7%)	20 (28%)	29 (41%)	16 (23%)	3.9	0.9032
G. I felt less confident about trying new outdoor skills after the FHOE	29 (42%)	16 (23%)	9 (13%)	6 (9%)	9 (13%)	2.28	1.4230
H. The FHOE helped me feel more connected to nature and the environment	9 (13%)	4 (6%)	10 (14%)	28 (39%)	21 (29%)	3.67	1.2910
I. I would rather learn outdoor skills on my own rather than from an instructor	3 (4%)	3 (4%)	14 (20%)	27 (39%)	22 (32%)	3.76	0.9264

**Table 14.** t<sub>2</sub> Question 6

Participants and their families generally enjoyed the event as evidenced by high response averages on Parts B and C. Over 85 percent either agreed or strongly agreed that they or their families enjoyed the event.

Parts A and D also show that the event had functional outcomes for participants. Part D showed that over 80 percent agreed or strongly agreed that they learned useful information and over 60 percent agreed or strongly agreed that they learned a particular skill.



Over 85 percent agreed or strongly agreed that the FHOE had a positive influence on their level of outdoor recreation and that the event helped them feel more connected to the environment (Parts E and H). These results were consistent with  $t_1$ .

**Q7a.** In column 1 please list the activities that you participated in at the 2013 FHOE in column 2 please indicate if you have participated in this activity since the event, and in column 3 tell us how many times you have done this activity since the 2014 FHOE.

Column 1	Column 2	Column 3		
Please list below the activities you participated in at the	Have you participated in this activity SINCE the 2013 FHOE?	Please circle the number of times you have participated in this activity SINCE the 2013 FHOE:		
1:	Yes - 138 No - 94	1 to 3 - 65	4 to 5 - 34	6 or more - 39

**Table 15.**  $t_2$  Activities Event Goers Participated in at the 2013 FHOE and Future Participation in Those Activities

Question 7 shows 138 instances in column two of participants revisiting an activity that they previously tried at the 2013 FHOE and 94 instances of participants not revisiting a particular activity. Of the 138 instances of revisited activities at the 2013 FHOE, 47 percent recorded participating in that activity a maximum of three times. However, 28 percent of respondents recorded revisiting those same activities six or more times, which would indicate participants moving beyond trying a new activity to becoming a frequent participator of a certain outdoor recreation activity.

**Q7b.** Generally, what are some barriers that kept you from participating in some of the activities from the 2013 FHOE that you indicated in Q7a above?  
(please check all that apply)

Conversely, participants also listed reasons why activities were not repeated after the 2013 FHOE. Top answers (in order): No equipment or lack of access (20 responses), no time for the activity (13 responses), and cost (11 responses). 48 total responses.

- 
- Q8.** How often do you engage in nature-based outdoor activities (e.g., hiking, hunting, boating, etc.)
- Never - (3 %)
  - 1 - 5 times per year - (28%)
  - 6 - 10 times per year - (18%)
  - 11 - 15 times per year - (16%)
  - 16 - 20 times per year - (9%)
  - more than 20 times per year - (25%)
- 

**Table 16.**  $t_2$  Number of Times Participants Engage in Nature-Based Outdoor Activities Annually

Table 16 shows participant engagement in outdoor activities similar to the initial survey. An average response ranged between eleven and twenty times per year, but the one to five times (28%) and the more than 20 (25%) categories were the largest. This shows that the typical festival-goer’s level of outdoor recreation was either very high or very low.

---

How often do you engage in nature-based outdoor activities (e.g., hiking, hunting, boating, etc.) annually?

Survey	Times						Average Response
	Never	1 - 5	6 - 10	11 - 15	16 - 20	Over 20	
$t_1$	17 (4%)	118 (29%)	94 (23%)	50 (12%)	41 (10%)	82 (20%)	3.6
$t_2$	2 (3%)	19 (28%)	12 (18%)	11 (16%)	6 (9%)	17 (25%)	3.76

**Table 17.** Comparison of  $t_1$  and  $t_2$  Levels of Outdoor Engagement

When comparing how often participants engaged in outdoor recreation activities, there is only a marginal difference when looking at  $t_1$  to  $t_2$ . As Table 17 illustrates, no category of outdoor recreation levels increased or decreased by more than 5 percent.

---

**Q9. What outdoor, nature-based activities do you participate in most?**

---

The most participated in outdoor, nature-based activities (in order): hiking (44 responses), camping (19 responses), fishing (16 responses), biking and hunting both received 8 responses.

---

**Q10. The amount of time I now spend outside doing activities that were NOT presented at the 2013 FHOE has:**

- Increased - (14%)
  - Decreased - (0%)
  - Remained about the same - (86%)
- 

**Table 18.  $t_2$  Participants' Time Spent Outside Doing Activities Not Presented at the 2013 FHOE**

86% of festival goers did not participate in outdoor recreation activities other than those offered at the FHOE.

**Q11.** To what extent do you agree or disagree with the following statements about recreating outdoors

STATEMENT	AGREEMENT					Response Average	Standard Deviation
	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree		
A. Family commitments leave little time for outdoor recreation	2 (3%)	18 (26%)	23 (33%)	22 (32%)	4 (6%)	3.12	0.9631
B. When I have free time, I like to stay at home	9 (13%)	30 (43%)	18 (26%)	11 (16%)	1 (1%)	2.49	0.9644
C. I lack the skills required to participate in the activities that interest me	16 (23%)	32 (46%)	10 (14%)	9 (13%)	2 (3%)	2.26	1.0523
D. Travel costs (lodging, food, and gas) make outdoor recreation too expensive	5 (7%)	20 (29%)	13 (19%)	25 (36%)	6 (9%)	3.1	1.1395
E. I don't know where to participate in the outdoor recreation activities that interest me	16 (23%)	18 (26%)	14 (20%)	18 (26%)	2 (4%)	2.62	1.2260
F. Outdoor recreation opportunities are too far away	15 (22%)	35 (51%)	8 (12%)	10 (14%)	1 (1%)	2.23	1.0021
G. Outdoor recreation requires too much effort	21 (30%)	30 (43%)	14 (20%)	4 (6%)	0 (0%)	2.01	0.8659
H. I see outdoor recreation as a way to spend time with my family	1 (1%)	0 (0%)	2 (3%)	26 (38%)	40 (58%)	4.51	0.6992
I. Childcare responsibilities prevent me from outdoor recreation	25 (37%)	26 (39%)	7 (10%)	7 (10%)	2 (3%)	2.03	1.0867
J. The cost of equipment makes outdoor recreation too expensive	4 (6%)	16 (23%)	16 (23%)	26 (38%)	7 (10%)	3.23	1.1001
K. I don't feel confident enough to participate in the outdoor activities that interest me on my own	19 (28%)	28 (41%)	10 (14%)	10 (14%)	2 (3%)	2.25	1.1035
L. Disability-related access prevents me from participating in outdoor activities as much as I would like	39 (60%)	11 (17%)	10 (15%)	2 (3%)	3 (5%)	1.75	1.1185

**Table 19.** t<sub>2</sub> Question 11

Question 11 was designed to understand participants' barriers to outdoor recreation. These barriers ranged from cost and access to free time and disabilities. Parts A, B, and H dealt specifically with time restrictions. A. *Family commitments leave little time for outdoor recreation* had an average response of 3.12. B. *When I have free time, I like to stay home* had an average response rate of 2.49. Parts A and B's scores were closely related, but part H was the strongest statement of question 11. Participants very much view outdoor recreation as a way to spend time with their families, as evidenced by the average response of 4.51 with a standard deviation of only 0.6992.

Parts C, G, and K revolved around skills and effort. Participants do not necessarily lack the skills to participate in the outdoor recreation activities of their interest (Part C – average response 2.26) nor do they lack the confidence to participate in those activities (Part K – average response 2.25). Coupled with these, they do not view outdoor recreation as requiring too much effort as evidenced by the average response of 2.01.

Parts D and J were implemented to look at cost. Participants tended more towards the middle ground on these. When asked if travel cost were too high respondents neither agreed nor disagreed (average response of 3.1 and standard deviation of 1.1395). Also, when asked if the cost of equipment makes outdoor recreation too expensive, the question showed an average response of 3.23 with a standard deviation of 1.1001.

Access tends to be an issue for outdoor recreation participants in the area, but parts E and F don't seem to indicate that this is a pressing issue for respondents. They seem to have the knowledge of when to participate in their outdoor recreation activities (average response 2.62).

Part I relating to obstacles of childcare interfering with outdoor recreation did not seem to be an issue as the average response was 2.03. Also, disability issues did not seem to be a common struggle for participants (average score 1.75 on Part L).

**Q12. To what extent do you agree or disagree with the**

STATEMENT	AGREEMENT						Response Average	Standard Deviation
	Strongly Disagree	Disagree	Neither	Agree	Strontly Agree			
A. Actively engaging with nature/outdoors helps me spend quality time with my kids	2 (4%)	1 (2%)	7 (13%)	17 (30%)	29 (52%)	4.27	0.9954	
B. Kids engaged in unstructured play outside outside is good	1 (2%)	2 (4%)	10 (19%)	15 (28%)	26 (48%)	4.19	0.9857	
C. I would like to get myself or my kids more involved in structured outdoor activities (e.g. hunting, mountain biking, hiking etc,)	1 (2%)	4 (7%)	7 (13%)	28 (50%)	16 (29%)	4.00	0.9335	
D. Actively engaging with nature/outdoors increases my well being	0 (0%)	5 (9%)	0 (0%)	21 (38%)	30 (54%)	4.36	0.8827	
E. Outdoor educational programs for kids should be cut from school curriculums	35 (65%)	15 (28%)	1 (2%)	2 (4%)	1 (2%)	1.51	0.8633	
F. It is my responsibility as a parent to make sure that my kidsspend time in nature outdoors	2 (4%)	1 (2%)	6 (11%)	20 (28%)	24 (45%)	4.21	0.9817	

**Table 20.** t<sub>2</sub> Question 12

Question 12 revealed that the participants valued outdoor recreation and that engaging in the outdoors increases one’s well-being. These are supported by the response averages and standard deviations of parts A, B, and D. Along with this, patrons would like to get them and/or their children more involved with structured activities and they agree that it is their responsibility as parents to make this happen (Parts C and F). However, parents still see the value in schools’ outdoor educational programs and agree that they should remain in their curriculums (response average 1.51).

**Do you have any further comments about the FHOE, outdoor recreation, and/or the survey?**

Again, participants were provided with a section at the end of the survey to relay any comments and/or concerns. The two most frequently mentioned concerns matched those of the initial survey; the horseback riding and long lines. People seem to remember the disappointment of missing the opportunity to ride the horses and even revisited their

situations. For example, “My son and I dressed like cowboys just for the horseback riding.” As for complaints about long lines, participants seemed to be constructive with their responses and conveyed the idea that the long lines should be reduced, but this was just an area that needed improvement rather than a scenario that would hinder them from returning in the future.

As for positive comments, participants were eager to compliment the event and seemed very enthusiastic. Many even spoke of the future effects of the event with comments such as: “I have learned quite a bit and it has increased my interest in activities I may not have tried otherwise.” And one respondent even said “We (parent and child) were just on the trail last week after school.”

While some didn’t necessarily speak of an increase in their outdoor recreation activity, many still spoke of the importance of the event and of outdoor recreation itself. “I may not participate in the activities regularly, but I do appreciate the exposure to activities I wouldn’t otherwise attempt.” Another mentioned, “I hope public policy can be shaped around ways to encourage more outdoor activities and (ways to) access them with ease.”

## CHAPTER 5: Analysis

Data was analyzed using the Statistical package for the Social Sciences 21.0 (SPSS) and focused on three elements; (1) Sociodemographic characteristics of the FHOE participants; (2) their attitudes regarding recreation in the outdoors and; (3) the extent to which the event has impacted the quantity and quality of their outdoor engagement. Analysis was performed to uncover emerging themes from participants' responses.

The methodology calls to look specifically at participants who participated in both surveys ( $t_1$  and  $t_2$ ). These participants will be termed Critical Participants. Therefore, unless specifically noted, any reference to participants in the statistical analysis section will be referring to Critical Participants.

Q 8. How often do you engage in nature-based outdoor activities (e.g., hiking, hunting, boating, etc.)...

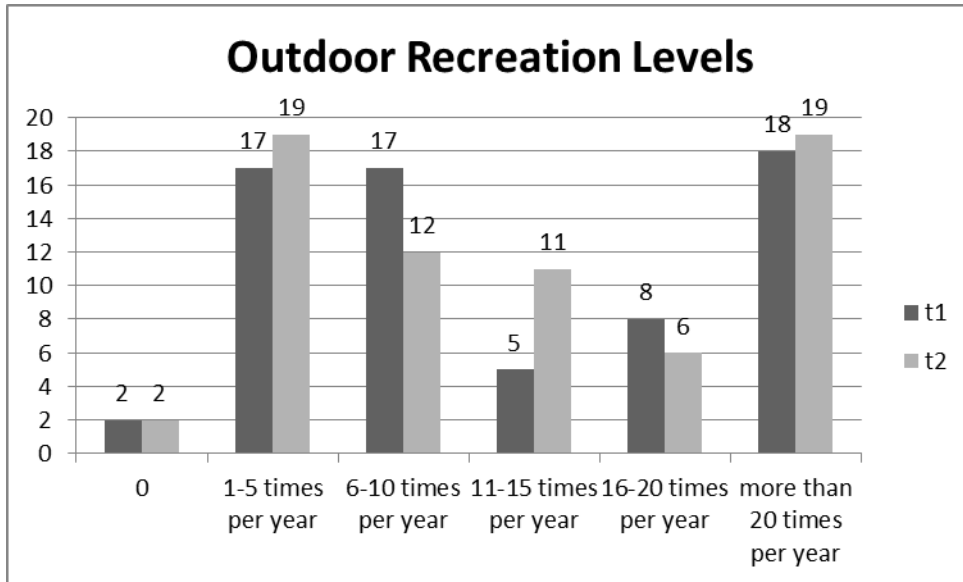
		$t_2$					Total	
		Never	1 - 5 times per year	6 - 10 times per year	11 - 15 times per year	16 - 20 times per year		> 20 times per year
$t_1$	Never	1	0	0	0	0	1	2
	1 - 5 times per year	1	11	4	1	0	0	17
	6 - 10 times per year	0	6	4	3	0	3	16
	11 - 15 times per year	0	0	2	3	0	0	5
	16 - 20 times per year	0	1	1	2	2	1	7
	> 20 times per year	0	0	0	2	4	11	17
Total		2	18	11	11	6	16	64

**Table 21.** Cross Reference of  $t_1$  and  $t_2$  Outdoor Recreation Levels

Table 21 shows the cross referencing of participants' outdoor recreation levels.  $t_1$  is placed in the row and the  $t_2$  in the column showing the potential change in participants'

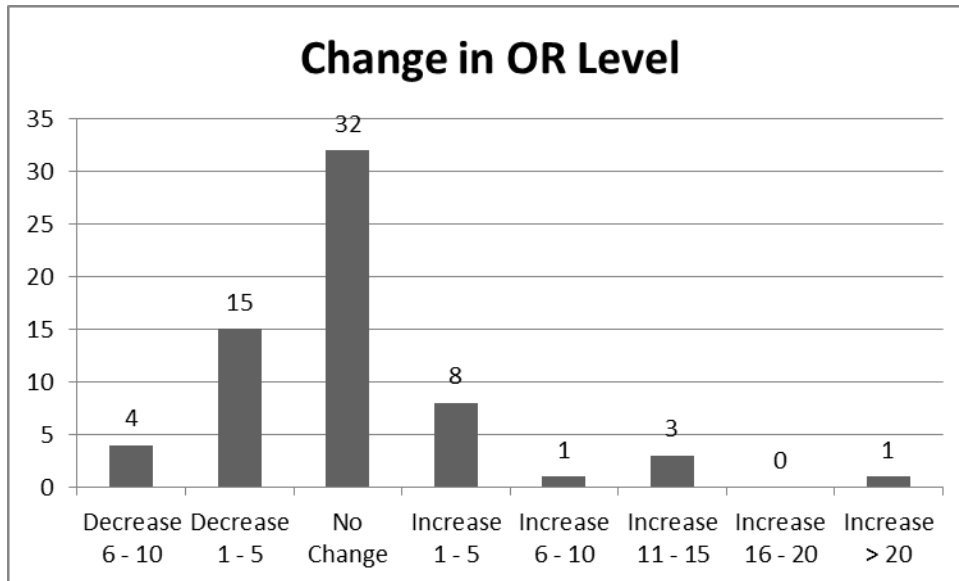


outdoor recreation levels. The results show that there is no significant change in outdoor recreation levels.



**Figure 2.** Comparison of  $t_1$  and  $t_2$  Annual Outdoor Recreation Levels

As figure 2 further illustrates,  $t_1$  and  $t_2$  outdoor recreation levels are relatively similar. The largest categorical change happens in the 11-15 times per year column, yielding an increase of 6 respondents. While some variation exists,  $t_1$ 's response average was 3.76 (6-10 times per year) and  $t_2$ 's response averaged was 3.83 (6-10 times per year) with a net increase of only 0.07. However, this table is only showing the change across categories and is not tied to each individual respondent's answers.



**Figure 3.** Outdoor Recreation Level Change From  $t_1$  to  $t_2$

Figure 3 shows the outdoor recreation changes in regards to each individual participant, yet still results in a normal distribution. The highest category shows 32 participants (50%) reporting no change in their outdoor recreation levels between  $t_1$  (September 2013) and  $t_2$  (August 2014), a time span of 11 months. In total, the results indicated 20.31% with a positive change in their outdoor recreation levels, 29.69% with a negative change, and 50% remaining the same, again resembling the shape of a normal distribution. The most effective illustration of the change in outdoor recreation levels comes when looking at the individual change of each participant by the Paired Samples T Test (Table 24).

Paired Samples Test: t2 Q8 and t1 Q11 How often do you engage in nature-based outdoor activities annually								
	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Dev	Std. Error Mean	Interval of the				
				Lower	Upper			
T <sub>2</sub> - T <sub>1</sub>	0.000	1.260	.157	-.315	.315	0.000	63	1.000

**Table 22.** Paired Samples T Test of t<sub>1</sub> and t<sub>2</sub> Outdoor Recreation Levels

The Paired Samples T Test (Table 22) demonstrates that there is no statistically significant change in participants' outdoor recreation levels between the averages t<sub>1</sub> (3.76) and t<sub>2</sub> (3.83) ( $p = 1.000$   $\alpha = .05$ ).

- 
- Q10.** The amount of time I now spend outside doing activities that were NOT presented at the 2013 FHOE
- Increased - (14%)
  - Decreased - (0%)
  - Remained about the same - (86%)
- 

**Table 23.** t<sub>2</sub> Participants' Time Spent Outside Doing Activities Not Presented at the 2013 FHOE

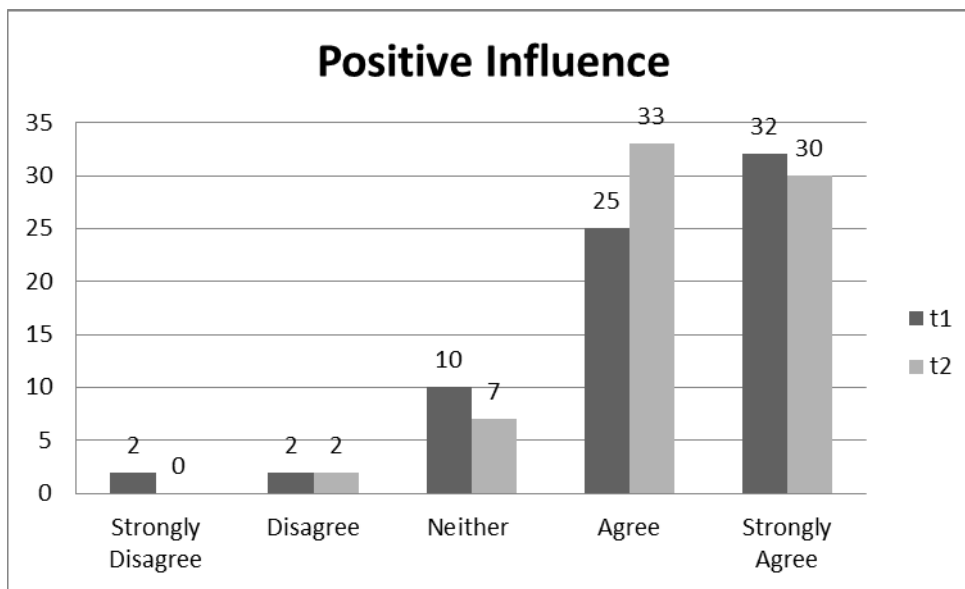
The data suggests that the FHOE had little to no effect on participants' level of outdoor recreation, but some variation has been identified. Table 23 shows that 14% of respondents increased the amount of time participating in outdoor recreation activities that were not offered at the 2013 FHOE.

**Q6. To what extent do you agree or disagree**

STATEMENT	AGREEMENT					Response Average	Standard Deviation
	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree		
E. The FHOE had a positive influence on my level of nature-based outdoor recreation	0 (0%)	2 (3%)	7 (10%)	33 (46%)	30 (42%)	4.17	0.9639

**Table 24.** t<sub>2</sub> Level of Positive Influence the FHOE had on Participants’ Level of Nature-based Outdoor Recreation

The majority of respondents agree or strongly agree (88%) that the FHOE had a positive influence on their level of nature-based outdoor recreation (Table 24). Figure 4 further explains.



**Figure 4.** Comparison of t<sub>1</sub> and t<sub>2</sub> Levels of Positive Influence on Participants’ Outdoor Recreation

Figure 4 illustrates that the majority of Critical Participants’ from both surveys (t<sub>1</sub> and t<sub>2</sub>) either agree or strongly agree that the FHOE had a positive influence on their level of outdoor recreation. The data also suggests that there is a slight upward trend as t<sub>1</sub> showed 80% of

respondents either agreed or strongly agreed and  $t_2$  showed 87.5% agreed or strongly agreed. This is over a 7% increase from  $t_1$  to  $t_2$ , which would indicate that the influence of the FHOE on respondents' outdoor recreation levels became more apparent as time progressed. However, a paired-samples T test (Table 25) demonstrates that there is no statistically significant change between  $t_1$  and  $t_2$ 's averages ( $p = .552$   $\alpha = .05$ ).

---

Paired Samples Test: Q6 F. *The FHOE had a positive influence on my level of nature-based outdoor recreation*

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Dev	Std. Error Mean	95% Confidence				
				Lower	Upper			
$T_2 - T_1$	-.083	1.184	.140	-.362	.195	-.597	71	.552

**Table 25.**  $t_1, t_2$  Paired Samples T Test of Change in Positive Influence

Since the event proved to be influential, a Pearson Correlation was run to determine which questions in  $t_2$  Q6 correlated to the question regarding positive influence ( $t_2$  Q6F). Table 26 only shows the questions from  $t_2$  Q6 that correlated to the positive influence question. See Appendix G for the full correlation matrix of Q6.

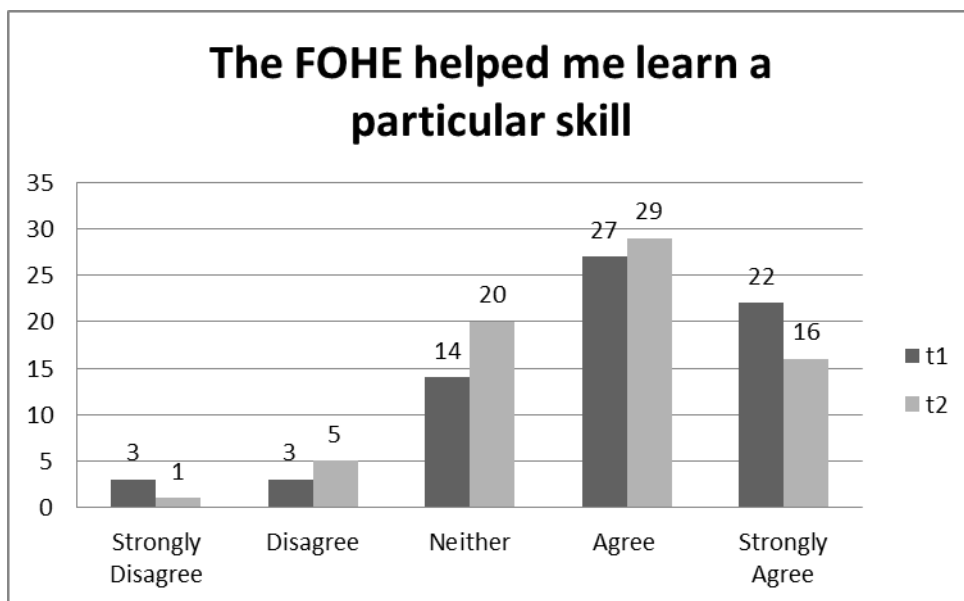
Correlations						
		The FHOE helped me learn a particular outdoor skill	I enjoyed the FHOE	I learned useful information about the outdoors at the FHOE	The FHOE improved my skill in at least one activity	The FHOE helped me feel more connected to nature and the environment
The FHOE had a positive influence on my level of nature-based outdoor recreation	Pearson Correlation	.356**	.482**	.531**	.358**	.294*
	Sig. (2-tailed)	.002	.000	.000	.002	.012
	N	71	72	72	72	72

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).

**Table 26.**  $t_2$  Q6 Significant Correlations Between Participants' Levels of Positive Influence and Question 6

Five of the nine questions in Q6 proved to be correlated to the positive influence factor. Q6 A. *Learning a particular skill*, Q6 B. *Enjoying the FHOE*, Q6 E. *Learning useful information*, and Q6 G. *Improved skill in at least one activity* were all correlated at the 99% confidence level ( $\alpha = 0.01$ ) and Q6 H. *I Feel more connected to nature and the environment* was correlated at the 95% confidence level ( $\alpha = 0.05$ ). Since these factors prove to be correlated to influencing participants' levels of nature-based outdoor recreation, each factor will be further examined to determine if the FHOE has affected them.



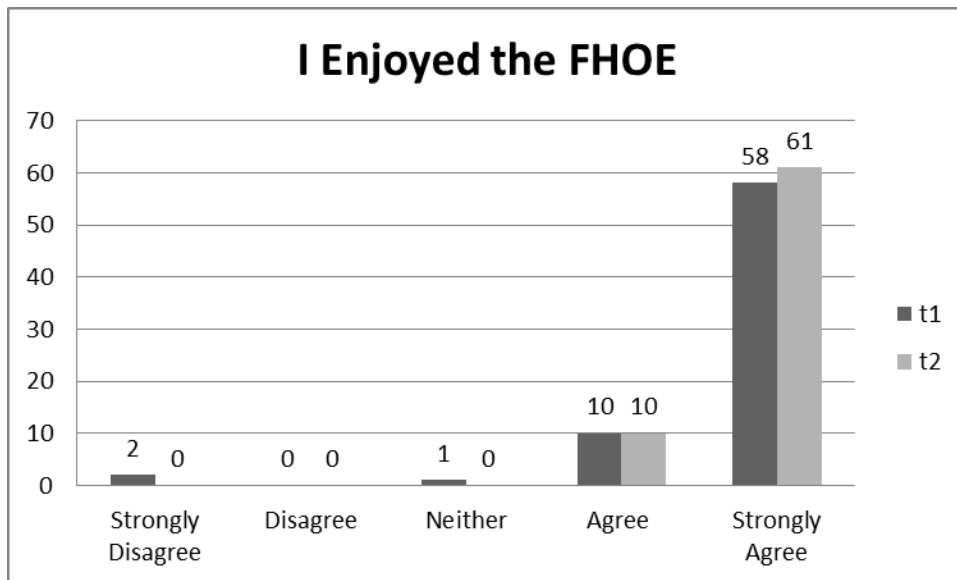
**Figure 5.**  $t_1$  and  $t_2$  Comparison of Participant Ratings of the FHOE Helping Participants Learn a Particular Skill

Figure 5 shows the frequency of scores for Q6 A. *The FHOE helped me learn a particular skill*. The average response fell within the agree category ( $t_1 = 3.93$ ,  $t_2 = 3.82$ ), but showed an average decrease of -0.10.

Paired Samples Test: Q6 A. <i>The FHOE helped me learn a particular outdoor skill</i>								
	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Dev	Std. Error Mean	Interval of the				
				Lower	Upper			
$T_2 - T_1$	-.10294	1.25947	.15273	-.40780	.20192	-.674	67	.503

**Table 27.**  $t_1$ ,  $t_2$  Paired Samples T Test of Change in the FHOE Helping Participants Learn a Particular Skill

The paired samples T Test for Q6 A (Table 27) demonstrates that there is no statistically significant change between  $t_1$  and  $t_2$  ( $p = .053$ ) ( $\alpha = .05$ )



**Figure 6.** t<sub>1</sub>, t<sub>2</sub> Comparison of Participants Level of Enjoyment at the FHOE

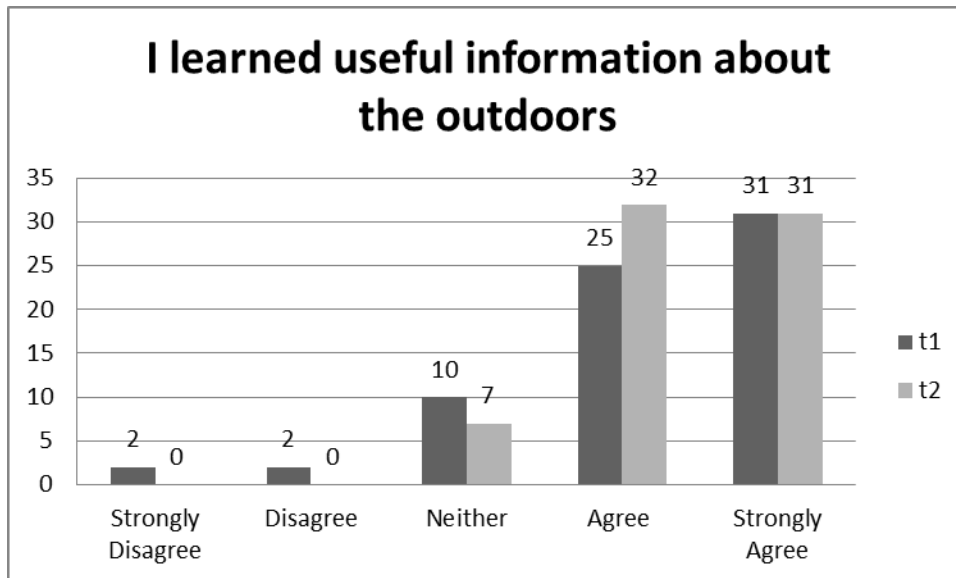
Figure 6 shows that the large majority of respondents strongly agreed that they enjoyed the FHOE (t<sub>1</sub> = 81.7%, t<sub>2</sub> = 85.9%).

Paired Samples Test: Q6 B. <i>I enjoyed the FHOE</i>								
	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Dev	Std. Error Mean	Interval of the				
				Lower	Upper			
T <sub>2</sub> - T <sub>1</sub>	.14085	.78003	.09257	-.04379	.32548	1.521	70	.133

**Table 28.** t<sub>1</sub>, t<sub>2</sub> Paired Samples T Test of Change in Participants' Levels of Enjoyment

The paired samples T Test for Q6 B (Table 28) demonstrates that there is no statistically significant change between t<sub>1</sub> and t<sub>2</sub> (p = .133) ( $\alpha$  = .05).



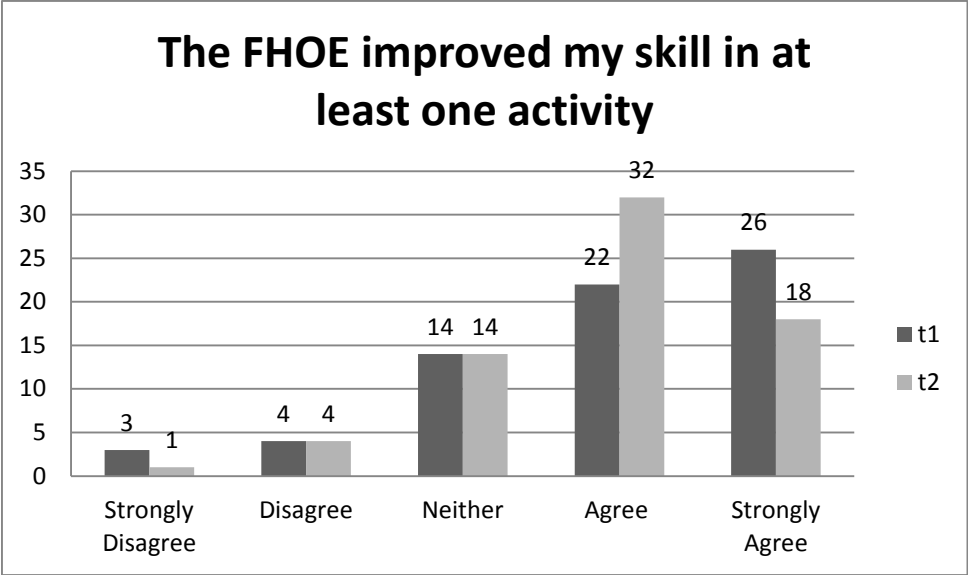


**Figure 7.**  $t_1$ ,  $t_2$  Comparison of Participants Learning Useful Information at the FHOE

Figure 7 shows that 80% of  $t_1$  respondents agree or strongly agree that they learned useful information about the outdoors at the FHOE, while  $t_2$  saw an increase in the same category of 10% (90% total). However, the Paired Samples T Test (Table 29) demonstrates that there is no statistically significant change ( $p = .207$ ) ( $\alpha = .05$ ).

Paired Samples Test: Q6 E. <i>I learned useful information about the outdoors at the FHOE</i>								
	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Dev	Std. Error Mean	Interval of the				
				Lower	Upper			
$T_2 - T_1$	.186	1.219	.146	-.105	.476	1.274	69	.207

**Table 29.**  $t_1$ ,  $t_2$  Paired Samples T Test of Change in Participants Learning Useful Information at the FHOE

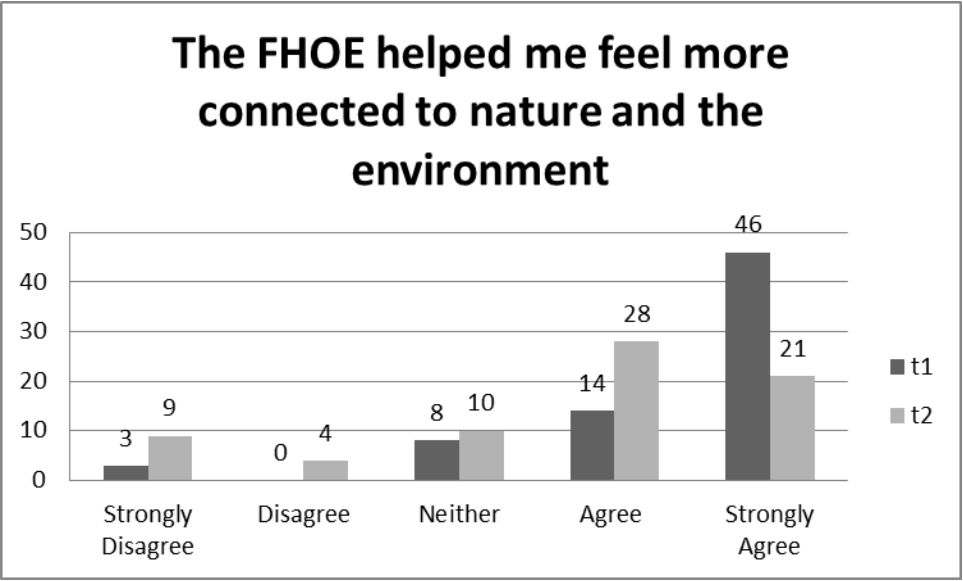


**Figure 8.** t<sub>1</sub>, t<sub>2</sub> Comparison of FHOE Improving Participants' Skill in At Least One Activity

Figure 8 shows that roughly 70% of t<sub>1</sub> respondents agreed or strongly agreed that the FHOE improved their skill in at least one activity. t<sub>2</sub> resulted in an increase of 2.5% in the same categories. However, the Paired Samples T Test (Table 30) again demonstrates that there is no statistically significant change (P = .854) ( $\alpha = .05$ ).

Paired Samples Test: Q6 B. <i>I enjoyed the FHOE</i>								
	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Dev	Std. Error Mean	Interval of the				
				Lower	Upper			
t <sub>2</sub> - t <sub>1</sub>	.14085	.78003	.09257	-.04379	.32548	1.521	70	.133

**Table 30.** t<sub>1</sub>, t<sub>2</sub> Paired Samples T Test the Change in Improving Participants' Skill in At Least One Activity



**Figure 9.** t<sub>1</sub>, t<sub>2</sub> Comparison of FHOE Helping Participants Feel More Connected to Nature and the Environment

Figure 9 shows that 84.5% of t<sub>1</sub> respondents either agreed or strongly agreed that the FHOE helped them feel more connected to nature and the environment. In this same category, t<sub>2</sub> resulted in a 16.5% decline.

Paired Samples Test: Q6 H. *The FHOE helped me feel more connected to nature and the environment*

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Dev	Std. Error Mean	Interval of the				
				Lower	Upper			
T <sub>2</sub> - T <sub>1</sub>	-.611	1.724	.203	-1.016	-.206	-3.007	71	.004

**Table 31.** t<sub>1</sub>, t<sub>2</sub> Paired Samples T Test of Change in the FHOE Helping Participants Feel More Connected to Nature and the Environment

Using a Paired Samples T Test (Table 31) we found significant decrease in the feeling of connectedness to nature and the environment (P = .004) ( $\alpha = .05$ ).

As a result, only one of the five factors correlated to the FHOE positively influencing participants' levels of nature-based recreation had a statistically significant change.

As the FHOE was unable to show any effective change to attendants' outdoor recreation levels, the respondents' barriers to outdoor recreation (t<sub>2</sub> Q11) would seem to be the primary reason(s) for the lack of change. A Pearson Correlation was run to see which barriers to outdoor recreation (t<sub>2</sub> Q11) correlated to how often participants engaged in nature-based outdoor activities (t<sub>2</sub> Q8).

Correlations				
		When I have free time, I like to stay at home	Outdoor recreation opportunities are too far away	Outdoor recreation requires too much effort
How often do you engage in nature-based outdoor activities (e.g., hiking, hunting, boating, etc.)...	Pearson Correlation	-.397**	-.277*	-.337**
	Sig. (2-tailed)	.001	.021	.005
	N	69	69	69

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).

**Table 32.** t<sub>2</sub> Significant Correlations Between Level of Outdoor Recreation and Question 11

Three of the twelve questions in t<sub>2</sub> Q11 were significant to participants' levels of nature-based outdoor activities (Table 32). t<sub>2</sub> Q11 B. *When I have free time, I like to stay home* and t<sub>2</sub> Q11 G. *Outdoor recreation requires too much effort* were both correlated at the 99% confidence level ( $\alpha = .01$ ). t<sub>2</sub> Q11 F. *Outdoor recreation opportunities are too far away* was also correlated at the 95% confidence level ( $\alpha = .05$ ). See Appendix H for the full correlation matrix of t<sub>2</sub> Q10 and t<sub>2</sub> Q11.

Correlation of free time barrier and t2 Q12				
		Kids engaged in unstructured play outside is good	Actively engaging with nature/outdoors increases my well being	Outdoor educational programs for kids should be cut from school curriculum
When I have free time, I like to stay at home	Pearson	-.248*	-.399**	.347**
	Sig. (2-tailed)	.040	.001	.003
	N	69	68	69

\*. Correlation is significant at the 0.05 level (2-tailed).

\*\* . Correlation is significant at the 0.01 level (2-tailed).

**Table 33.** t<sub>2</sub> Significant Correlations Between Barriers to Outdoor Recreation and Question 12

Question 12 has a variety of questions concerning peoples’ values toward outdoor recreation. The barriers in Table 32 that were found to be significantly correlated to outdoor recreation levels were then measured against t<sub>2</sub> outdoor recreation values (Question 12) to see if any correlations exist. Two items were correlated at the 99% confidence level ( $\alpha = 0.01$ ) with participants’ barrier to outdoor recreation concerning staying home with their free time and one item correlated at the 95% confidence level ( $\alpha = 0.01$ ). See Appendix I for the full correlation matrix of Barriers to Outdoor Recreation and t<sub>2</sub> outdoor recreation values (Question 12).

**Discussion**

To better understand the possible effects of the FHOE on participants’ outdoor engagement levels, surveys were conducted to determine the factors associated with outdoor recreation levels and to determine any relevant changes to these factors. The research objectives were to: (1) gauge participants’ level of outdoor recreation; (2) learn about what activities they participated in at the event; (3) learn about their barriers to outdoor recreation; (4) learn about their overall experience attending the event.

### *Sociodemographic Similarities with Indiana SCORP*

The dataset had sociodemographic similarities with the 2011 – 2015 Indiana SCORP which reported 60% of its respondents were married and 19% were single (never married). This is congruent with the FHOE population as 73% were married and 13% were single. Also, the SCORP and the FHOE both reported that some of the most frequented outdoor recreation activities or “favorite” activities were walking, hiking, and camping. The SCORP results were also based off of a much larger sample size ( $n = 6,824$ ), which included representation from every county within the state of Indiana.

### *Change in Outdoor Recreation*

When looking at a comparison of the change in outdoor recreation levels from  $t_1$  to  $t_2$  (Table 24), it is apparent that a majority of participants did not have a change in their level of outdoor recreation due to the FHOE. This is further evidenced by the Paired Samples T Test demonstrating no statistically significant change in the levels (Table 25). Participants reiterated these findings by accurately selecting that their outdoor recreation levels had remained the same over a period of 11 months.

### *Influence of the FHOE*

It was thought that participants would initially be challenged when attempting to gauge the impact that the event had on participants’ levels of nature-based outdoor recreation. Meaning, normally it is hard to see how an event has affected one’s behavior without a significant amount of time passing from the time of the event. As time would pass the

participants, in theory, would gain a better perspective of the level of impact the event had on their outdoor recreation levels. This assumption was not significant as illustrated by the Paired Samples T Test (Table 26). Regardless of a change from  $t_1$  to  $t_2$ , the majority of participants agreed that the event did influence their outdoor recreation levels. The data showed that 80.3% of  $t_1$  participants agreed or strongly agreed about the event having a positive effect on their levels of outdoor recreation and 87.5% of  $t_2$  participants did as well. Social Desirability bias might help explain the high percentage of agreement (i.e., participants wanting to affirm the researchers' bias).

So, while participants did not exhibit a documented change in their outdoor recreation levels, they seemed to think that the event had a positive influence on these levels. What do the participants mean by the word "influence"? There are a variety of possible conclusions, such as participants gaining knowledge on outdoor recreation offerings or simply that participants may now know how to do more activities. Normally this type of generalization provided in question design is removed however, it is not yet understood what characteristics people would specifically associate with a positive influence.

How could participants feel that the FHOE had a positive influence on their level of outdoor recreation if they were not actually increasing the number of times recreating outdoors? One possible conclusion is the idea that participants were already cognizant of a majority of the activities at the FHOE and had previously decided, albeit subconsciously, to not become a regular participator in such activities. Schultz suggests that information alone is a motivator to change behavior, but only when a lack of information is a barrier to behavior

(2002). Furthermore, participants may feel that they have learned a greater variety of skills and activities pertaining to outdoor recreation, thus the FHOE positively influenced their level of outdoor recreation. The fact that the participants' knowledge base potentially makes them feel more familiar and in tune to outdoor recreation could be reason enough to reflect the positive influence attribute.

Also, the Theory of Planned Behavior could help to explain this discrepancy. The theory suggests that a variety of factors could influence behavior, such as attitudes, subjective norms, and perceived behavior control (Ajzen, 1991). Ajzen further explains that these three factors represent a person's intention to perform a given behavior. However, he is clear to explain that these factors only represent one's actual control over the behavior as other factors are uncontrollable (time, money, etc.) (1991). This has practical applications to the FHOE due to the participant's lack of nearby access to outdoor recreational activities which could ultimately impede a change in behavior (an increase outdoor recreation levels).

Bright also recognizes that "perceptions of other alternate behaviors available to people may interact to influence ultimate choices" (2003, p. 339). It is likely that there are other determining factors that have bearing on participants' decision-making processes other than the positive influence of the FHOE. The data does explain participants' barriers to outdoor recreation, but more information is needed to understand these perceptions of alternate behaviors.



## *Functional Outcomes*

Several survey questions addressed scenarios for the event to provide functional outcomes for the participants, such as: *The FHOE improved my skill in at least one activity or I learned useful information about the outdoors at the FHOE* ( $t_2$  Q6). The following items were significantly correlated with the idea that the FHOE had a positive influence on participants' level of outdoor recreation.

- Q6 A. *Learning a particular skill*
- Q6 B. *Enjoying the FHOE*
- Q6 E. *Learning useful information*
- Q6 G. *Improved skill in at least one activity*

The aforementioned items were positively correlated at the 99% confidence level, but were not significant over time, as evidenced by their respective Paired Samples T Tests (see tables 32, 34, 36, and 38). However, the idea that these factors did not change is not a failure of the event. This is further explained by the relatively high rankings for these questions on both surveys.  $t_1$  and  $t_2$ 's response averages for each factor correlated at the 99% confidence level are as follows:

- *The FHOE helped me learn a particular outdoor skill*:  $t_1 = 3.89$ ,  $t_2 = 3.75$
- *I enjoyed the FHOE*:  $t_1 = 4.63$ ,  $t_2 = 4.86$
- *I learned useful information at the FHOE*:  $t_1 = 4.2$ ,  $t_2 = 4.34$

- *The FHOE improved my skill in at least one activity:  $t_1 = 3.95$ ,  $t_2 = 3.9$*

All four factors had average scores around the agree range (4.0), which indicates that participants agreed that these factors were functional outcomes from attending the event.

Survey results indicated that the FHOE helped participants feel more connected to nature and the environment. But, this connection weakened over time as evidenced by a decrease in participants' scores from  $t_1$  to  $t_2$  (see Table 4 and Table 14). This indicates that the longer it has been since the event, participants were less confident that the FHOE helped them feel more connected to nature.

Given participants' level of enjoyment at the event, it would seem logical that people would feel more connected to nature and the environment as they are exiting the event. The event failed to produce an effective change in participants' outdoor recreation levels. Subsequently, it is possible that the feeling of connectedness to nature and the environment would dissipate as time progresses away from the event. This is congruent with Knapp and Poff's findings where children were less likely to perform environmentally responsible behaviors as time progressed away from an environmental interpretive program (2001).

### *Barriers to Outdoor Recreation*

The data suggests that while no change in outdoor recreation levels were observed, participants related positive outcomes from attending, such as enjoyment, learning skills, and feeling connected to the environment. Because these outcomes did not significantly increase

their outdoor recreation levels, what are the barriers to outdoor recreation? What are the opportunity costs for participants?

Three barriers were found to be negatively correlated to how often participants participated in nature-based outdoor recreation activities (Table 32). Those barriers are:

- *When I have free time, I like to stay at home*
- *Outdoor recreation opportunities are too far away*
- *Outdoor recreation requires too much effort*

The pattern suggests that participants put a premium on their free time and do not want to spend it away from home and/or traveling to destinations with desirable outdoor recreation opportunities. This is similar to findings from SCORP in which 63% of respondents were somewhat likely or very likely to use outdoor recreational facilities more often if their family members were able to walk, bike, ride a horse, or use other non-motorized transportation to get there (Indiana Statewide, 2012). This is further evidenced by Walker and Virden who identify distance to the recreation area as a strong constraint to outdoor recreation (2005). Due to this, a major component of the current SCORP is the Hoosiers on the Move, The Indiana State Trails, Greenways & Bikeways Plan, a plan designed to have all Hoosiers within 7.5 miles or fifteen minutes of a trail (Indiana Statewide, 2012).

## *Values*

As the previously mentioned barriers have been significantly correlated to outdoor recreation, a look at how participants might value outdoor recreation would provide greater detail into participants' constraints in increasing their levels of outdoor recreation.

Three specific value-type questions were found to be correlated with the barrier of choosing to stay home with their free time (Table 33) are as follows:

- Actively engaging with nature/outdoors increases my well-being: Negatively correlated
- Kids engaged in unstructured play outside is good: Negatively correlated
- Outdoor educational program for kids should be cut from school curriculums: Positively correlated

The data suggest that participants who choose to stay at home with their free time do not believe in the positive effects of engaging with the outdoors/nature. Along those same lines, they do not see unstructured play outdoors as a good activity for their children and furthermore, agree that outdoor education should be cut from school curriculum.

## *Management Implications*

The data is clear that the FHOE was a valuable event for participants in that they learned useful information about the outdoors, learned new outdoor skills, and improved their skill in other activities. When thinking about possible improvements or adjustments to the event,

directors should not lose sight of the positive outcomes that were met. The surveys also suggest that the participants view the event as a success and that their reason for attending was primarily as a fun activity for the family.

Moreover, recommendations can still be identified that could potentially affect participants' levels of outdoor recreation. Those recommendations are as follows:

- Increase education about the positive effects of engaging in the outdoors – For those who would rather use their free time staying at home, their largest value barrier was that they don't agree that engaging in nature can positively affect their well-being. This value can relate to most other barriers as people would need to observe the need for outdoor recreation in order to overcome other barriers. This is in line with Henderson and Bialeschki who see, "the articulation and documentation of the benefits of parks and trails in helping citizens become more physically healthy" as a point of emphasis for leisure, parks, and recreation research (2005, p. 359).
- Help Indiana residents connect to outdoor activities that are close to where they live – Participants perceive outdoor recreation opportunities as too far away and would prefer to stay at home in their free time. Event managers and vendors alike should provide additional information on local places to access their respective activities to help participants overcome access and geographical barriers.
- Add additional outdoor recreation events throughout the year – The data suggests that participants' feelings of connectedness to nature and the environment

dissipated over time. An increase in similar events would help participants keep the feeling of connectedness more consistently and would increase the likelihood of producing and increase in outdoor recreation participation. This is supported by 35% of Critical Participants stating that the FHOE could be improved by having the event on multiple weekends (Table 13).

### *Study Limitations*

When doing in-person surveys at live events, self-selection bias is a major concern. This study was intended to be carried out by a small three-person survey group, and because of this, surveys were distributed at one central location at the FHOE and participants we only selected on the basis of who was willing and able (while being 18 years of age or older). Random sampling at various places throughout the event should be done by a much larger survey team to help deal with both self-selection bias and non-probability sampling.

Secondly, the design of approaching people in the exit line provided a considerable time constraint. While this scenario did catch people who had to remain in the exit line, at various times the line would move so quickly that participants were rushed or unable to finish the survey. Due to this situation, the survey was shortened considerably and additional detailed questions concerning participants' outdoor recreation levels, values, and barriers were left out as well as questions going unanswered due to participants being rushed.

Lastly, the low number of Critical Participants was less than optimal ( $n = 73$ ), which would in turn help introduce non-response bias. While a response rate of 25.7% was moderately successful, this rate is only based off of the number of  $t_1$  participants who

submitted their contact information to participate in  $t_2$ . However, Groves does emphasize that non-response bias is only estimated by response rates and in fact, the two are not even moderately correlated (2006).

Comparison of $t_1$ and Critical Participants Sociodemographics								
	Gender	Date of Birth	Employment	Level of Education	Marital Status	Number of Children	Years in Your Community	Total Income
$t_1$	1.70	1974	2.14	4.57	1.98	2.19	15.14	5.07
CR	1.81	1970	1.83	4.66	2.12	2.52	18.20	5.05

**Table 34.** Comparison of  $t_1$  and Critical Participants' Sociodemographics

Looking further into response bias, Table 34 shows a comparison of sociodemographic characteristics from  $t_1$  and Critical Participants and shows that all categories are similar. T Tests were used to compare averages on all sociodemographic variables and marital status was the only category found to experience a significant change ( $p = 0.038$   $\alpha = .05$ ) (Table 35).

Paired Aamples Test: $t_1$ and Critical Participants' Sociodemographics								
	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	Difference				
				Lower	Upper			
Marital status	-.21053	.74969	.09930	-.40944	-.01161	-2.120	56	.038

**Table 35.** Compared Samples T Test of  $t_1$  and Critical Participants' Sociodemographics

Regardless, measures to help reduce non-response bias should be taken in the event of a restudy. For a complete table of the scoiodemographic T Test see Appendix J.

### *Suggestions for Future Research*

As with any reliable research, repeatability is vital. Research is lacking in this area, as outdoor recreation events, such as the FHOE, are a newer phenomenon. Further research must be done on these events to help determine their overall usefulness to participants, vendors, and outdoor recreation practitioners. The large amount of research being done on the positive effects of interacting with nature and the environment coupled with studies showing declining exercise time and health, would most likely increase demand for information type outdoor recreation events.

A restudy should develop additional questions specifically dealing with outdoor recreation levels and include a larger variety of outdoor recreation barriers and values that relate to outdoor recreation. In addition, interviews should be conducted with low-level outdoor recreationalists to gain more in-depth insight into their constraints to outdoor recreation and how events, such as the FHOE, could help.



## References

- Ajzen, I. (1991). The theory of planned behavior. *Organizational behavior and human decision processes*, 50(2), 179-211.
- Beckman, N., & Ingraham, P. (1966). Planning legislation. *Journal of the American Institute of Planners*, 32(5), 300-317. Retrieved from <http://dx.doi.org/10.1080/01944366608978213>
- Bright, A. D. (2003). A Within-Subjects/Multiple Behavior Alternative Application of the Theory of Reasoned Action: A Case Study of Preferences for Recreation Facility Development. *Leisure Sciences*, 25(4), 327. doi:10.1080/01490400390240455
- Brown, W. G., & Nawas, F. (1973). Impact of Aggregation on the Estimation of Outdoor Recreation Demand Functions. *American Journal of Agricultural Economics*, 55(2), 246.
- Burns, G. W. (1998) *Nature-Guided Therapy: Brief Integrative Strategies for Health and Well-Being*. Taylor and Francis.
- Burt, O., & Brewer, D. (1971). Estimation of net social benefits from outdoor Recreation. *Econometrica*, 39(5), 813-827. Retrieved from <http://www.jstor.org/stable/1909581?origin=JSTOR-pdf&>
- Common Sense Media (2011). Zero to Eight. Retrieved on March 2, 2015 from <http://www.commonsensemedia.org/research/zero-eight-childrens-media=use-america/>
- Cox, D. (2002) 'Key Scottish health issues', paper presented at the Health and Well-Being: Trees, Woods and Natural Spaces in Scotland Expert Consultation, Dumfries, 19th June.
- Crompton, J.L., and K.J. MacKay 1989. Users' Perceptions of the Relative Importance of Service Quality Dimensions in Selected Public Recreation Programs. *Leisure Sciences* 11: 367-375.
- Crompton, J. L., & McKay, S. L. (1997). Motives of visitors attending festival events. *Annals of Tourism Research*, 24(2), 425-439.
- Creswell, J. (2009). *Research design: Qualitative, quantitative, and mixed methods approaches*. (3rd ed., p. 163). Thousand Oaks: SAGE Publications.
- Dillman, D., Smyth, J., & Christian, L. (2007). *Internet, mail, and mixed-mode surveys: The tailored design method*. (3rd ed.). Hoboken: John Wiley & Sons.
- Dunlap, R. E., & Heffernan, R.B. (1975). "Outdoor Recreation and Environmental Concern: An Empirical Examination." *Rural Sociology*, 40, 18-30
- Gesler, W. M. (1992) 'Therapeutic landscapes: medical issues in light of the new cultural geography', *Social Science and Medicine* 34 (7), 735 - 746.
- Getz, D. (1991). *Festivals, Special Events and Tourism*. New York: Van Nostrand Reinhold.
- Gomes, Mary. "Breaking the Electronic Media Spell: An Ecopsychological Intervention." *Ecopsychology*. 4.2 (2012): 117-121. Print. <<http://online.liebertpub.com/doi/abs/10.1089/eco.2012.0033>>.
- Graefe, A. R., Kuss, F. R., & Vaske, J. J. (1990). *Visitor impact management: The planning framework*. Washington, DC: National parks and Conservation Association.

- Groves, R. M. (2006). Nonresponse rates and nonresponse bias in household surveys. *Public Opinion Quarterly*, 70(5), 646-675.
- Gum, R. L., & Martin, W. E. (1975). Problems and Solutions in Estimating the Demand for and Value of Rural Outdoor Recreation. *American Journal Of Agricultural Economics*, 57(4), 558.
- Henderson, K. A., & Bialeschki, M. D. (2005). Leisure and Active Lifestyles: Research Reflections. *Leisure Sciences*, 27(5), 355-365. doi:10.1080/01490400500225559
- Hofferth, S., & Curtin, S. (2001). Children at the millennium: Where have we come from, where are we going? 1997-2003. (pp. 1-7). New York: JAI.
- Hurley, K. M., Cross, M. B., & Hughes, S. O. (2011). A systematic review of responsive feeding and child obesity in high-income Countries1-3. *The Journal of Nutrition*, 141(3), 495-501. Retrieved from <http://search.proquest.com/docview/855819471?accountid=8483>
- Indiana Department of Natural Resources, Division of Outdoor Recreation (2012). *Indiana statewide outdoor recreation plan 2011-2015*. Retrieved from [www.in.gov/dnr/outdoor/files/or-2011-2015\\_SCORP.pdf](http://www.in.gov/dnr/outdoor/files/or-2011-2015_SCORP.pdf)
- James, P., Henderson, K. & Garst, B. (2008, 07). Camp directors' beliefs regarding nature-deficit disorder and camp - see more at: <http://www.acacamps.org/campmag/issues/0807/nature-deficit>
- Jensen, C., & Guthrie, S. (2006). *Outdoor recreation in america*. (6th ed.). Champaign: Human Kinetics.
- Kellert, S. (2005). in building for life: Designing and understanding the human-nature connection. Washington, D.C.: Island Press.
- Knapp, D., & Poff, R. (2001). A Qualitative Analysis of the Immediate and Short-term Impact of Environmental Interpretive Program. *Environmental Education Research*, 7(1), 55.
- Knetsch, J. (1963). Estimation of net social benefits from outdoor recreation. *Outdoor Recreation Demands and Benefits*, 39(4), 387-396. Retrieved from [http://sb6nw2tx4e.search.serialssolutions.com/?&url\\_ver=Z39.88-2004&url\\_ctx\\_fmt=info:ofi/fmt:kev:mtx:ct&xrft\\_val\\_fmt=info:ofi/fmt:kev:mtx:journal&rft.atitle=OUTDOOR RECREATION DEMANDS AND BENEFITS&rft.aufirst=JL&rft.aulast=KNETSCH&rft.date=1963&rft.epage=396&rft.genre=article&rft.issn=0023-7639&rft.issue=4&rft.jtitle=LAND ECONOMICS&rft.pages=387-396&rft.spage=387&rft.stitle=LAND ECON&rft.volume=39&rfr\\_id=info:sid/www.isinet.com:WoK:WOS&rft\\_id=info:doi/10.2307/3144843](http://sb6nw2tx4e.search.serialssolutions.com/?&url_ver=Z39.88-2004&url_ctx_fmt=info:ofi/fmt:kev:mtx:ct&xrft_val_fmt=info:ofi/fmt:kev:mtx:journal&rft.atitle=OUTDOOR RECREATION DEMANDS AND BENEFITS&rft.aufirst=JL&rft.aulast=KNETSCH&rft.date=1963&rft.epage=396&rft.genre=article&rft.issn=0023-7639&rft.issue=4&rft.jtitle=LAND ECONOMICS&rft.pages=387-396&rft.spage=387&rft.stitle=LAND ECON&rft.volume=39&rfr_id=info:sid/www.isinet.com:WoK:WOS&rft_id=info:doi/10.2307/3144843)
- Lee, J.Y. (2009). Investigating the Effect of Festival Visitors' Emotional Experiences on Satisfaction, Psychological Commitment, and Loyalty (Doctoral dissertation, Texas A&M University).
- Lockman, D., Gammage, E., & Blankenbaker, J. (2002). Outdoor exposition planning guide: a guide for the planning and management of a regional or statewide outdoor exposition. Turlock, CA: Weatherby Foundation International.

- Louv, R. (2005) *Last Child in the Woods :Saving our Children from Nature-Deficit Disorder* Chapel Hill, NC : Algonquin Books of Chapel Hill,
- Louv, R. "Leave no child inside The remedy for environmental despair is as close as the front door." *Sierra Club*. 07 2006: 52-55. Print.
- Louv, R. (2006). *Last child in the woods, saving our children from nature-deficit disorder*. Chapel Hill, NC: Algonquin Books.
- Louv, R. (2009, January 28). No More "Nature Deficit Disorder". "*Nature-Deficit Disorder*". Retrieved on March 2, 2015 from <http://www.psychologytoday.com/blog/people-in-nature/200901/no-more-nature-deficit-disorder>
- Maas, Jolanda, Robert Verheij, Peter Groenewegen, Sjerp Vries, and Peter Spreeuwenberg."Evidence Based Public Health Policy and Practice Green space, urbanity, and health: how strong is the relation?." *Journal of Epidemiol Community Health*. 60.7 (2006): 587-592. Print. <<http://jech.bmj.com/content/60/7/587.full>>.
- Maccoby, E. E., & Maccoby, N. (1954). The interview: A tool of social science. *Handbook of social psychology*, 1, 449-487.
- Mike , L. (2007, October 12). [Web log message]. Retrieved on March 2, 2015 from [http://playborhood.com/2007/10/american\\_6\\_12\\_year\\_old\\_childrens\\_outdoor\\_and\\_indoor\\_leisure\\_time\\_1997\\_to\\_20/](http://playborhood.com/2007/10/american_6_12_year_old_childrens_outdoor_and_indoor_leisure_time_1997_to_20/)
- Mintel (2010) *Dieting and Weight Control Foods*. UK November 2010. Mintel: London. Mohr, K., K. F. Backman, L. W. Gahan, and S. J. Backman (1993). Investigation of Festival Motivations and Event Satisfaction by Visitor Type. *Festival Management and Event Tourism*
- National park Service. (1997). VERP: The Visitor experience and Resource Protection (VERP) Framework. A handbook for planners and managers. Denver, CO: Denver Service Center.
- The Outdoor Foundation. (2008). Outdoor recreation participation report 2008. The OutdoorFoundation. This report is available online at: <http://www.outdoorfoundation.org/research.participation.2008.html>
- Pergams , O., & Zaradic , P. (2006). Is love of nature in the us becoming love of electronic media? 16-year downtrend in national park visits explained by watching movies, playing video games, internet use, and oil prices. *Journal of Environmental Management*, (80), 387-393, doi: <http://www.videophilia.org/uploads/JEM.pdf>
- Pinhey, T.K., & Grimes, M.D. (1979). "Outdoor Recreation and Environmental Concern: A Reexamination of the Dunlap-Heffernan Thesis." *Leisure Sciences*, 2, 1-11
- Roberts, D., & Foehr , U. (2008). Trends in media use. 18(1), 11-37. doi: [http://futureofchildren.org/futureofchildren/publications/docs/18\\_01\\_02.pdf](http://futureofchildren.org/futureofchildren/publications/docs/18_01_02.pdf)
- Schultz, P. W. (2002). Knowledge, information, and household recycling: Examining the knowledge-deficit model of behavior change. In T. Dietz & P. C. Stern (Eds.), *New tools for environmental protection: Education, information, and voluntary measures* (pp. 67–82). Washington, DC: National Academy Press.

- Scotland's Nature England. (2009). Childhood and nature: a survey on changing relationships with nature across generations. Scotland's Nature England. Retrieved April 6, 2014 from [http://www.naturalengland.org.uk/Images/Childhood and Nature Survey\\_tcm6-10515.pdf](http://www.naturalengland.org.uk/Images/Childhood and Nature Survey_tcm6-10515.pdf)
- Siehl, G. (2008). The policy path to the great outdoors a history of the outdoor recreation review commissions. Retrieved April 5, 2014 from [www.rff.org/Documents/RFF-DP-08-44.pdf](http://www.rff.org/Documents/RFF-DP-08-44.pdf)
- Singer, Dorothy, Singer, Jerome, D'Agostino, Heidi & DeLong, Raeka. 2009. Children's pastimes and play in 16 nations: Is free-play declining? *American Journal of Play*, Winter, 284-312.
- Stankey, G. H., Cole, D. N., Lucas, R. C., Peterson, M. E., Frissell, S. S., & Washburne, R. F. (1985). The Limits of Acceptable Change (LAC) system for wilderness planning (USDA Forest Service General Technical Report INT-176).
- Takano, T., Nakamura, K., & Watanabe, M. (2002). Urban residential environments and senior citizens' longevity in megacity areas: the importance of walkable green spaces. *J Epidemiol Community Health*, (56), 913-918. doi: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1756988/pdf/v056p00913.pdf>
- Ulrich, R. S. and Parsons, R. (1992) 'Influences of passive experiences with plants on individual well-being and health', in Relf, D. (ed.) *The Role of Horticulture in Human Well-being and Social Development*. Timber Press, Portland, Oregon pp. 93 - 105.
- Uysal, M. Gahan, I., & Martin, B. (1993). An examination of event motivations: A case study. *Festival Management & Event Tourism*, 1(1), 5-10.
- Van Liere, K.D., & Noe, F.P. (1981). "Outdoor Recreation and Environmental Attitudes: Further Examination of the Dunlap-Heffernan Thesis." *Rural Sociology*, 46, 505-513
- Warber, S., Bialko, M., Dehudy, A., & Irvine, K. (2012). Addressing nature deficit disorder: a quantitative survey study of multidimensional aspects of well-being among young adults at a wilderness camp. *BMC Complementary & Alternative Medicine*, doi: <http://www.biomedcentral.com/1472-6882/12/S1/P355>
- Warber, S., Marselle, M., Dehudy, A., & Dehudy, K. (2012). Addressing nature deficit disorder: a mixed methods study of social well-being among young adults attending a wilderness science camp. *BMC Complementary & Alternative Science*, doi: <http://www.biomedcentral.com/1472-6882/12/S1/P377>
- Walker, G. J. & Virden, R. J. (2005). Constraints on outdoor recreation. In E.L. Jackson (Ed.), *Constraints to Leisure* (pp. 201-219). State College, PA: Venture Publishing.
- Wells, N. (2000). At home with nature effects of "greenness" on children's cognitive functioning. *ENVIRONMENT AND BEHAVIOR*, doi: <http://www.gannett.cornell.edu/cms/pdf/upload/Wells-2000.pdf>
- Willow Marketing (2009). *Department of Natural Resources Hoosier Outdoor Expo Marketing Plan*. Indianapolis, Indiana

Wolfe, R. (1964). Perspective on outdoor recreation: A bibliographical survey. *Geographical Review*, 54(2), 203-238. Retrieved from <http://www.jstor.org/stable/213187>

World Health Organization. (1992). The ICD-10 classification of mental and behavioral disorders: Clinical descriptions and diagnostic guidelines. Geneva: World health Organization.

World Health Organization. (2000). obesity: preventing and managing the global epidemic. Retrieved on April 7, 2014 from [http://www.who.int/nutrition/publications/obesity/WHO\\_TRS\\_894/en/](http://www.who.int/nutrition/publications/obesity/WHO_TRS_894/en/)

## Appendix A

**Study Title** Ford Hoosier Outdoor Experience – Michael Cooper

### **Study Purpose and Rationale**

- This is the fourth year of the event. IDNR is interested in learning more about how the Hoosier Outdoor Experience is impacting participants and particularly if the event is actually increasing participant's level of outdoor activity. The proposed research will seek to understand and quantify the effect that the FHOE has on the participants through the use of a pre/post survey.

### **Inclusion/Exclusion Criteria**

- You must be at least 18 to participate in this survey
- Participants will be chosen randomly as long as they are willing to participate.

### **Participation Procedures and Duration**

- To better understand the effect that the Ford Hoosier Outdoor Experience (FHOE) has on its guests, this study is asking from participants to fill out the survey and return it. Please print all answers and follow the directions listed at the top of the survey. For those that are interested in doing the follow up survey, this will be done the following fall and will be mailed or emailed to the participant's requested address.

### **Data Confidentiality or Anonymity**

- All data collected from participants is completely confidential and will only be used in the context of summarizing findings for the entire study in which no individual's answers can be identified. If

### **Storage of Data**

- The original data will be collected by participants filling our hard copies of the survey at the event. These will then be collected and only viewed by myself (Michael Cooper) and Dr. Gruver. Surveys will be kept in a locked filing cabinet in Michael Cooper's office at Ball State University in the West Quad building. Data will be entered into an SPSS spreadsheet. Digital files will be stored on a password protected laptop in a locked office. Only myself (Michael Cooper) and Dr. Joshua Gruver will have access to the laptop. The paper surveys and digital files will be kept for two years.

### **Risks or Discomforts**

- There are no anticipated risks for participating in this study

### **Who to Contact Should You Experience Any Negative Effects from Participating in this Study**

- The Department of Natural Resources and Environmental Management  
West Quad, Room 110  
Ball State University Telephone: 765-285-5780  
Muncie, IN 47306 Email: nrem@bsu.edu

### **Benefits**

- This research will indirectly benefit participants in that it will help make the experience better in the future. It will also make them feel a greater sense of self-worth as IDNR and Ball State truly do value their opinion.

### **Compensation**

- There will be no compensation for participating in this study.

### **Voluntary Participation**

- Your participation in this research is completely voluntary and you can end your participation by not completing the survey. You may also decline to answer specific questions included in this survey. Please feel free to ask any questions of the investigator before or any time during the study.

**IRB Contact Information**

- “For questions about your rights as a research subject, please contact Director, Office of Research Integrity, Ball State University, Muncie, IN 47306, (765) 285-5070, irb@bsu.edu.”

**Study Title** Ford Hoosier Outdoor Experience – Michael Cooper

**Researcher Contact Information**

Principal Investigator:

Michael Cooper, Graduate Student  
Natural Resources & Environmental Mgmt.  
Ball State University  
Muncie, IN 47306  
Telephone: (765) 285-5786  
Email: mtcooper@bsu.edu

Faculty Supervisor:

Dr. Joshua Gruver Assoc. Professor  
Natural Resources & Environmental Mgmt.  
Ball State University  
Muncie, IN 47306  
Telephone: (765) 285-5789  
Email: jbgruver@bsu.edu

## Appendix B Ford Hoosier Outdoor Experience

**Objective:** to get feedback about the Ford Hoosier Outdoor Experience from visitors; to better understand the impact the event has on participants' levels of outdoor activity. All answers will be kept STRICTLY CONFIDENTIAL.

**Q1.** How many times have you attended in the past? \_\_\_\_\_

**Q2a.** How would you rate this year's Ford Hoosier Outdoor Experience compared to previous Experience(s)?

- Much Worse
- Worse
- About the Same
- Better
- Much Better
- First experience, so can't compare

**Q2b.** Referring to Q2a, is there anything specific that makes you feel this way? \_\_\_\_\_

**Q3.** To what extent do you agree or disagree with the following statements about your participation in the Ford Hoosier Outdoor Experience?

**1 = Strongly Disagree (SD) 2 = Disagree (D) 3 = Neither Disagree nor Agree (N) 4 = Agree (A) 5 = Strongly**

STATEMENT	AGREEMENT				
	SD	D	N	A	SA
<b>...please circle ONE NUMBER for each statement</b>					
A. The Ford Hoosier Outdoor Experience helped me learn a particular outdoor skill	1	2	3	4	5 NA
B. I enjoyed the Ford Hoosier Outdoor Experience	1	2	3	4	5 NA
C. My family enjoyed the Ford Hoosier Outdoor Experience	1	2	3	4	5 NA
D. The level of instruction for the Ford Hoosier Outdoor Experience activities is, in general, too basic for my needs	1	2	3	4	5 NA
E. The instructors at the Ford Hoosier Outdoor Experience are knowledgeable	1	2	3	4	5 NA
F. I would like to see more advanced instruction	1	2	3	4	5 NA
G. I learned useful information about the outdoors at the Ford Hoosier Outdoor Experience	1	2	3	4	5 NA
H. The Ford Hoosier Outdoor Experience will have a positive influence on my level of nature-based outdoor recreation	1	2	3	4	5 NA
I. The Ford Hoosier Outdoor Experience introduced me to outdoor skills I had never tried before	1	2	3	4	5 NA
J. The Ford Hoosier Outdoor Experience introduced my family to outdoor skills they had never tried before	1	2	3	4	5 NA
K. The Ford Hoosier Outdoor Experience improved my skill in at least one activity	1	2	3	4	5 NA
L. Learning about the outdoors is important to me.	1	2	3	4	5 NA
M. Having a skilled instructor teach particular outdoor skills is important to me	1	2	3	4	5 NA
N. The Ford Hoosier Outdoor Experience helps me feel more connected to nature and the environment	1	2	3	4	5 NA

**Q4a.** Which activities did you participate in at this year's FHOE?

**Q4b.** Which of these activities do you plan to do again in your own time?

**Q5.** Please list any activities where you felt the instruction was too advanced:

**Q6.** Please list any activities where you felt the instruction was too basic:

**Q7.** Please list activities that were not at the event that you would like to see in the future:

**PLEASE TURN OVER--MORE QUESTIONS ON BACK OF PAGE -->**



**Q8.** Using a scale of 1 - 5 please rate the following about the Ford Hoosier Outdoor Experience  
 1 = Very Bad (VB) 2 = Bad (B) 3 = Neither Good nor Bad (N) 4 = Good (G) 5 = Very Good (VG)

Please **CIRCLE** one number for each statement:

Topic	Rating				
	VB	B	N	G	VG
	...please circle <u>ONE</u> for each topic				
A. Parking	1	2	3	4	5
B. Trolley Service	1	2	3	4	5
C. Ford Hoosier Outdoor Experience Overall	1	2	3	4	5
D. Variety of Activities	1	2	3	4	5
E. Location of Event	1	2	3	4	5

**Q9.** Why did you attend the Ford Hoosier Outdoor Experience? Please check ALL that apply

- Wanted to visit Fort Harrison
- Fun activity for the family
- Learn more about a particular skill
- Introduce a child to a particular skill
- Other \_\_\_\_\_

**Q10.** Do you plan to attend the event next year?

- Definitely
- Probably
- Probably Not
- Definitely Not

**Q11.** How often do you engage in nature-based outdoor activities (e.g., hiking, hunting, boating, etc.) annually?

- 0
- 1 - 5 times per year
- 6 - 10 times per year
- 11 - 15 times per year
- 16 - 20 times per year
- more than 20 times per year

**Q12.** What outdoor, nature-based activities do you participate in most? \_\_\_\_\_

We'd like to ask you a few questions about yourself and your family. All information will be treated confidentially and never linked with your name.

**Q13.** What is your gender? \_\_\_\_\_

**Q14.** When were you born? 19\_\_\_\_

**Q15.** What is your current employment status?

- Full-time
- Part-time
- Retired
- Student
- Homemaker
- Non-employed

**Q16. What was the highest grade of school you completed? Please check ONLY ONE**

- Grade school
- Some high school
- Completed high school or GED
- Technical school beyond high school or Associates Degree
- Bachelors' Degree
- Graduate/Professional Degree

**Q17. What is your current marital status? Please check ONLY ONE**

- Never married
- Married/Living with partner
- Divorced/Separated
- Widowed

**Q18. How many children do you have? \_\_\_\_ children**

**Q19. How long have you lived in your present community? \_\_\_\_ number of years**

**Q20. What was the total income of your household (before taxes) last year?**

- Less than \$15,000     \$15,000 to \$24,999     \$25,000 to \$34,999     \$35,000 to \$49,999
- \$50,000 to \$74,999     \$75,000 to \$99,999     \$100,000 to \$149,999     \$150,000 or more

Do you have any further comments about the Ford Hoosier Outdoor Experience and/or the survey?

Thank you for filling out this survey--your responses are very important to us!

**Fill out the follow-up survey and be entered in a drawing to win a \$100 gift certificate for clothing, shoes or outdoor equipment at Rusted Moon! Read below for more information.**

If you would be willing to complete a follow-up survey please provide your contact information in the spaces below. Again, all of the information you provide us is completely confidential. Your name, address, and email will be erased from our database immediately after sending the follow up survey. Your responses to either survey will not be associated with your name or address and only used in the context of summarizing findings for the entire study.

I prefer to receive my follow-up survey by:

Email: provide email address here: \_\_\_\_\_

U.S Mail: please provide street address here ► ►

Name:
Address:
City/Town
State:
Zip
Phone Number:

Dear Ford Hoosier Outdoor Experience Attendee,

I am a student at Ball State University and I am writing to ask for your help in a research project being conducted by Ball State University regarding the 2013 Ford Hoosier Outdoor Experience. In the next few days you will receive a request to participate in answering some questions about ways to improve the event as well as your personal outdoor recreation habits.

I would really like to make this an enjoyable experience for you to participate in. The reason I am writing in advance is to let you know that you will be receiving a survey from me in a few days and I would greatly appreciate your participation. The success of this research depends upon the generosity of people like you.

It is my hope that you choose take a short 10-15 minutes of your time and help us out. More importantly, I hope that this survey provides you with an opportunity to be heard and that your contributions will make a lasting effect on the Ford Hoosier Outdoor Experience and the community.

Sincerely,

Michael Cooper

Ball State University

Natural Resources and Environmental Management Graduate Student

APPENDIX D



August 18, 2014

Dear Ford Hoosier Outdoor Experience Attendee,

I am a graduate student in the Natural Resources and Environmental Management department at Ball State University and I am writing to ask for your help in a research project I am conducting regarding the 2013 Ford Hoosier Outdoor Experience. Using the information that you provide in this survey we hope to better understand how the Ford Hoosier Outdoor Experience (FHOE) impacted ways you engage with outdoor recreational activities and to identify strategies to enhance your experience at FHOE.

The reason that you are being contacted is because you indicated in our initial exit survey at FHOE 2013 that you were willing to answer some additional questions in a follow-up survey. To date, there has been no attempt to identify and measure the impact the FHOE may have on participants and how they engage with the outdoors until now. The success and longevity of the FHOE depends on its relevance, and ultimately, if it has a positive impact on the quantity and quality of outdoor engagement among Hoosiers.

Your answers are completely confidential and will only be used in the context of summarizing findings for the entire study in which no individual's answers can be identified. Once your completed questionnaire has been returned, your name will be deleted from the mailing list and never connected to your answers in any way. Your participation in this research is completely voluntary and you may end your participation by not completing the survey. You may also decline to answer specific questions included in the survey. This survey should only take 5 to 10 minutes to complete. Please use the self-addressed stamped envelope to return the survey to Michael Cooper by September 16<sup>th</sup>. Once your completed survey has been received you will be included in a drawing in which the winner will receive a \$100 gift certificate to Rusted Moon as a thank you for participating.

By completing and returning the survey you are agreeing that you have read this letter and consent to participate in this research. For legal purposes, persons must be 18 years of age or older to participate. Please keep this letter for your records or future reference. If you have any questions about this research contact Michael Cooper (502-4681561) or Dr. Joshua Gruver (765-285-5789) or via email at mtcooper@bsu.edu and jbgruver@bsu.edu, respectively. If you have any questions about your rights as a research participant, contact Ball State's Office of Research Integrity at (765) 285-5052.

Thank you for taking the time to assist us. If you require additional information or have questions please contact me. I'd be happy to speak with you.

Sincerely,

Michael Cooper  
Principal Investigator  
Dept of Natural Resources and Envir. Mgmt  
mtcooper@bsu.edu  
502-468-1561

Dr. Joshua Gruver  
Assistant Professor  
Dept of Natural Resources and Envir. Mgmt  
jbgruver@bsu.edu  
765-285-5789

**APPENDIX E**

**Ford Hoosier Outdoor Experience Follow-up Survey**

**Objective:** to get feedback about the Ford Hoosier Outdoor Experience (FHOE) from visitors; to better understand the impact the event has on participants' levels of outdoor activity. All answers will be kept STRICTLY CONFIDENTIAL.

**Attention:** this survey is to be filled out by the **SAME** person that filled out the original survey at the **2013 FHOE**

**Q1.** With whom did you attend the 2013 FHOE?

- Members of my family
- Friends
- I Attended by myself
- Other \_\_\_\_\_

**Q2.** Did you enjoy the location of the 2013 FHOE?

- Yes
- No
- I do not remember the location

**Q3.** What was your primary reason for attending the 2013 FHOE? (check all that apply)

- To visit the park
- Fun activity for the family
- Learn more about a particular outdoor skill
- Introduce a child to a particular skill
- Other \_\_\_\_\_

**Q4.** Do you plan to attend the event this year?

- Definitely
- Probably
- Probably not
- Definitely not
- Not sure

**Q5.** How would you improve the FHOE? (please check all that apply)

- Have it on multiple weekends
- Include more activities
- Provide more info on doing activities on my own
- Other \_\_\_\_\_

**Q6.** To what extent do you agree or disagree with the following statements about your participation in the FHOE?

**1** = Strongly Disagree (SD)   **2** = Disagree (D)   **3** = Neither Disagree nor Agree (N)   **4** = Agree (A)   **5** = Strongly Agree (SA)

STATEMENT	AGREEMENT					NA
	SD	D	N	A	SA	
<b>...please circle ONE NUMBER for each statement</b>						
A. The Ford Hoosier Outdoor Experience helped me learn a particular outdoor skill	1	2	3	4	5	NA
B. I enjoyed the Ford Hoosier Outdoor Experience	1	2	3	4	5	NA
C. I would rather learn outdoor skills on my own rather than from an instructor	1	2	3	4	5	NA
D. My family enjoyed the Ford Hoosier Outdoor Experience	1	2	3	4	5	NA
E. I learned useful information about the outdoors at the Ford Hoosier Outdoor Experience	1	2	3	4	5	NA
F. The Ford Hoosier Outdoor Experience had a positive influence on my level of nature-based outdoor recreation	1	2	3	4	5	NA
G. The Ford Hoosier Outdoor Experience improved my skill in at least one activity	1	2	3	4	5	NA
F. I felt less confident about trying new outdoor skills after the Ford Hoosier Outdoor Experience	1	2	3	4	5	NA
H. The Ford Hoosier Outdoor Experience helped me feel more connected to nature and the environment	1	2	3	4	5	NA

Please continue to the next page

**Q7a.** In column 1 please list the activities that you participated in at the 2013 FHOE in column 2 please indicate if you have participated in this activity since the event, and in column 3 tell us how many times you have done this activity since the 2013 FHOE.

Column 1	Column 2	Column 3
Please list below the activities you participated in at the 2013 FHOE:	Have you participated in this activity SINCE the 2013 FHOE?	Please circle the number of times you have participated in this activity SINCE the 2013 FHOE:
1:	Yes No	1 to 3 4 to 5 6 or more
2:	Yes No	1 to 3 4 to 5 6 or more
3:	Yes No	1 to 3 4 to 5 6 or more
4:	Yes No	1 to 3 4 to 5 6 or more
5:	Yes No	1 to 3 4 to 5 6 or more
6:	Yes No	1 to 3 4 to 5 6 or more
7:	Yes No	1 to 3 4 to 5 6 or more
8:	Yes No	1 to 3 4 to 5 6 or more
9:	Yes No	1 to 3 4 to 5 6 or more
10:	Yes No	1 to 3 4 to 5 6 or more

**Q7b.** Generally, what are some barriers that kept you from participating in some of the activities from the 2013 FHOE (that you indicated in Q7a above)? (please check all that apply) \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**Q8.** How often do you engage in nature-based outdoor activities (e.g., hiking, hunting, boating, etc.) annually?

- Never
- 1 - 5 times per year
- 6 - 10 times per year
- 11 - 15 times per year
- 16 - 20 times per year
- more than 20 times per year

**Q9.** What outdoor, nature-based activities do you participate in most? \_\_\_\_\_  
 \_\_\_\_\_

**Q10.** The amount of time I now spend outside doing activities that were NOT presented at the 2013 FHOE

- Increased
- Decreased
- Remained about the same

**Q11.** To what extent do you agree or disagree with the following statements about recreating outdoors

1 = Strongly Disagree (SD) 2 = Disagree (D) 3 = Neither Disagree nor Agree (N) 4 = Agree (A) 5 = Strongly Agree (SA)

STATEMENT	AGREEMENT				
	SD	D	N	A	SA
<b>...please circle ONE NUMBER for each statement</b>					
A. Family commitments leave little time for outdoor recreation	1	2	3	4	5 NA
B. When I have free time, I like to stay at home	1	2	3	4	5 NA
C. I lack the skills required to participate in the activities that interest me	1	2	3	4	5 NA
D. Travel costs (lodging, food, and gas) make outdoor recreation too expensive	1	2	3	4	5 NA
E. I don't know where to participate in the outdoor recreation activities that interest me	1	2	3	4	5 NA
F. Outdoor recreation opportunities are too far away	1	2	3	4	5 NA
G. Outdoor recreation requires too much effort	1	2	3	4	5 NA
H. I see outdoor recreation as a way to spend time with my family	1	2	3	4	5 NA
I. Childcare responsibilities prevent me from outdoor recreation	1	2	3	4	5 NA
J. The cost of equipment makes outdoor recreation too expensive	1	2	3	4	5 NA
K. I don't feel confident enough to participate in the outdoor activities that interest me on my own	1	2	3	4	5 NA
L. Disability-related access prevents me from participating in outdoor activities as much as I would like	1	2	3	4	5 NA

**Q12.** To what extent do you agree or disagree with the following statements about your outdoor recreation experience?

1 = Strongly Disagree (SD) 2 = Disagree (D) 3 = Neither Disagree nor Agree (N) 4 = Agree (A) 5 = Strongly Agree (SA)

STATEMENT	AGREEMENT				
	SD	D	N	A	SA
<b>...please circle ONE NUMBER for each statement</b>					
A. Actively engaging with nature/outdoors helps me spend quality time with my kids	1	2	3	4	5 NA
B. Kids engaged in unstructured play outside is good	1	2	3	4	5 NA
C. I would like to get myself or my kids more involved in structured outdoor activities (e.g. hunting, mountain biking, hiking etc.)	1	2	3	4	5 NA
D. Actively engaging with nature/outdoors increases my well being	1	2	3	4	5 NA
E. Outdoor educational programs for kids should be cut from school curriculums	1	2	3	4	5 NA
F. It is my responsibility as a parent to make sure that my kids spend time in nature/outdoors	1	2	3	4	5 NA

Do you have any further comments about the FHOE, outdoor recreation, and/or the survey?

**Thank you** for filling out this survey--your responses are very important to us!

For participating in this follow-up survey, your name has been entered in a drawing to win a \$100 gift certificate to Rusted Moon. Please indicate the address that the certificate should be mailed to if selected.

Name:	
Address:	
City:	
State:	
Zip:	

## **AAPENDIX F**

*September 3rd, 2014*

Two weeks ago a questionnaire was mailed to you because you indicated in our initial exit survey at the 2013 Ford Hoosier Outdoor Experience that you would were willing to answer some additional questions in a follow-up survey.

If you have already completed and returned the questionnaire, please accept our sincere thanks, if not, please do so right away. We are especially grateful for your help with this important study.

If you did not receive a questionnaire, or if it was misplaced, please call me at 502-468-1561 and I will get another one for you today.

Sincerely,

Michael Cooper, Ball State University Graduate Student



## Appendix G

t <sub>2</sub> Q6 Correlations										
		The FHOE helped me learn a particular outdoor skill	I enjoyed the FHOE	I would rather learn outdoor skills on my own rather than from an instructor	My family enjoyed the FHOE	I learned useful information about the outdoors at the FHOE	The FHOE had a positive influence on my level of nature-based outdoor recreation	The FHOE improved my skill in at least one activity	I felt less confident about trying new outdoor skills after the FHOE	The FHOE helped me feel more connected to nature and the environment
The FHOE helped me learn a particular outdoor skill	Pearson Correlation	1	.389**	.221	-.187	.500**	.356**	.685**	.272*	-.161
	Sig. (2-tailed)		.001	.064	.120	.000	.002	.000	.023	.180
	N	71	71	71	70	71	71	71	70	71
I enjoyed the FHOE	Pearson Correlation	.389**	1	.113	.211	.586**	.482**	.268*	-.038	.063
	Sig. (2-tailed)	.001		.346	.078	.000	.000	.023	.750	.599
	N	71	72	72	71	72	72	72	71	72
I would rather learn outdoor skills on my own rather than from an instructor	Pearson Correlation	.221	.113	1	-.755**	.297*	.005	.112	.657**	-.637**
	Sig. (2-tailed)	.064	.346		.000	.011	.969	.348	.000	.000
	N	71	72	72	71	72	72	72	71	72
My family enjoyed the FHOE	Pearson Correlation	-.187	.211	-.755**	1	-.134	.204	-.146	-.713**	.722**
	Sig. (2-tailed)	.120	.078	.000		.265	.088	.226	.000	.000
	N	70	71	71	71	71	71	71	70	71
I learned useful information about the outdoors at the FHOE	Pearson Correlation	.500**	.586**	.297*	-.134	1	.531**	.380**	.276*	-.114
	Sig. (2-tailed)	.000	.000	.011	.265		.000	.001	.020	.339
	N	71	72	72	71	72	72	72	71	72
The FHOE had a positive influence on my level of nature-based outdoor recreation	Pearson Correlation	.356**	.482**	.005	.204	.531**	1	.358**	-.076	.294*
	Sig. (2-tailed)	.002	.000	.969	.088	.000		.002	.531	.012
	N	71	72	72	71	72	72	72	71	72
The FHOE improved my skill in at least one activity	Pearson Correlation	.685**	.268*	.112	-.146	.380**	.358**	1	.184	-.098
	Sig. (2-tailed)	.000	.023	.348	.226	.001	.002		.125	.414
	N	71	72	72	71	72	72	72	71	72
I felt less confident about trying new outdoor skills after the FHOE	Pearson Correlation	.272*	-.038	.657**	-.713**	.276*	-.076	.184	1	-.681**
	Sig. (2-tailed)	.023	.750	.000	.000	.020	.531	.125		.000
	N	70	71	71	70	71	71	71	71	71
The FHOE helped me feel more connected to nature and the environment	Pearson Correlation	-.161	.063	-.637**	.722**	-.114	.294*	-.098	-.681**	1
	Sig. (2-tailed)	.180	.599	.000	.000	.339	.012	.414	.000	
	N	71	72	72	71	72	72	72	71	72

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).

Appendix H

t <sub>2</sub> Q11 Correlations														
		How often do you engage in nature-based outdoor activities	Family commitments leave little time for outdoor recreation	When I have free time, I like to stay at home	I lack the skills required to participate in the activities that interest me	Travel costs (lodging, food, and gas) make outdoor recreation too expensive	I don't know where to participate in the outdoor recreation activities that interest me	Outdoor recreation opportunities are too far away	Outdoor recreation requires too much effort	I see outdoor recreation as a way to spend time with my family	Childcare responsibilities prevent me from outdoor recreation	The cost of equipment makes outdoor recreation too expensive	I don't feel confident enough to participate in the outdoor activities that interest me on my own	Disability-related access prevents me from participating in outdoor activities as much as I would like
Outdoor recreation requires too much effort	Pearson Correlation	-.385**	.086	.167	.415**	.282*	.352**	.488**	1	-.182	.258*	.444**	.396**	-.040
	Sig. (2-tailed)	.002	.482	.169	.000	.019	.003	.000		.134	.035	.000	.001	.749
	N	64	69	69	69	69	69	69	69	69	67	69	69	65
I see outdoor recreation as a way to spend time with my family	Pearson Correlation	.127	-.023	-.071	-.063	-.250*	-.031	-.107	-.182	1	-.079	-.136	.045	.071
	Sig. (2-tailed)	.319	.851	.563	.610	.038	.800	.380	.134		.526	.265	.712	.571
	N	64	69	69	69	69	69	69	69	69	67	69	69	65
Childcare responsibilities prevent me from outdoor recreation	Pearson Correlation	-.016	.306*	.072	.125	.208	.243*	.391**	.258*	-.079	1	.162	.233	-.003
	Sig. (2-tailed)	.899	.012	.562	.315	.091	.048	.001	.035	.526		.191	.058	.979
	N	62	67	67	67	67	67	67	67	67	67	67	67	65
The cost of equipment makes outdoor recreation too	Pearson Correlation	-.189	.182	.002	.379**	.638**	.502**	.471**	.444**	-.136	.162	1	.267*	.178
	Sig. (2-tailed)	.135	.133	.990	.001	.000	.000	.000	.000	.265	.191		.026	.156
	N	64	69	69	69	69	69	69	69	69	67	69	69	65
I don't feel confident enough to participate in the outdoor	Pearson Correlation	-.194	.028	.064	.678**	.319**	.570**	.333**	.396**	.045	.233	.267*	1	.102
	Sig. (2-tailed)	.124	.819	.602	.000	.008	.000	.005	.001	.712	.058	.026		.420
	N	64	69	69	69	69	69	69	69	69	67	69	69	65
Disability-related access prevents me from participating	Pearson Correlation	-.092	.135	-.050	.053	.282*	.203	.013	-.040	.071	-.003	.178	.102	1
	Sig. (2-tailed)	.483	.285	.695	.677	.023	.104	.916	.749	.571	.979	.156	.420	
	N	60	65	65	65	65	65	65	65	65	65	65	65	65

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).

Appendix I

Correlation of free time barrier and t2 Q12								
		When I have free time, I like to stay at home	Actively engaging with nature/outdoors helps me spend quality time with my kids	Kids engaged in unstructured play outside is good	I would like to get myself or my kids more involved in structured outdoor activities	Actively engaging with nature/outdoors increases my well being	Outdoor educational programs for kids should be cut from school curriculum	It is my responsibility as a parent to make sure that my kids spend time in nature/outdoors
When I have free time, I like to stay at home	Pearson Correlation	1	-.064	-.248*	-.020	-.399**	.347**	-.084
	Sig. (2-tailed)		.601	.040	.872	.001	.003	.490
	N	69	69	69	69	68	69	69

\*. Correlation is significant at the 0.05 level (2-tailed).

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Appendix J

**Paired Samples T Tests of  $t_1$  and Critical Participants' Sociodemographics**

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the				
				Lower	Upper			
Gender	-.058	.608	.084	-.227	.111	-.685	51	.497
Age	3.62745	14.52165	2.03344	-.45683	7.71173	1.784	50	.081
Employment Status	.24528	2.03721	.27983	-.31624	.80681	.877	52	.385
Education	-.26316	1.49435	.19793	-.65966	.13335	-1.330	56	.189
Marital Status	-.21053	.74969	.09930	-.40944	-.01161	-2.120	56	.038
Number of Children	-.43103	2.42148	.31796	-1.06773	.20566	-1.356	57	.181
Number of Years in Your Community	-4.65455	18.95239	2.55554	-9.77810	.46900	-1.821	54	.074
Total Household Income	-.156	2.522	.376	-.913	.602	-.414	44	.681