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Acknowledgement

As the Editors of the Kentucky SHAPE Journal, we would like to show our appreciation to the following guest-reviewers for their assistance in reviewing this current issue.

Dr. Matthew Sabin, Eastern Kentucky University; Dr. Paula Upright, Western Kentucky University; Dr. Craig Morehead, Indiana State University, Dr. Tricia Jordan, Western Kentucky University; Dr. Eric Knackmuhs, Western Kentucky University; and Dr. Allie McCreary, Western Kentucky University.

Sincerely,

Gina Blunt Gonzalez, Kentucky SHAPE Journal Co-Editor

Dr. Stacey Forsythe, Kentucky SHAPE Journal Co-Editor

Steve Chen, Kentucky SHAPE Journal Managing Editor

A Message from the Kentucky SHAPE President

Greetings Kentucky SHAPE friends,

Greetings from your 2020-2021 president. 2020 has been a year of change and challenges. 2020 has also made it abundantly clear how important our field is to quality and quantity of life. I have never been prouder to be a part of such an amazing organization that is leading the state in the navigation of a world pandemic. We have continued the work and provided support to professionals in all areas of education and research as we have done since our inception in 1909. During the annual convention in 2019, the membership voted to officially change our name to Kentucky SHAPE to align with our parent/national organization SHAPE America, which was formerly AAHPERD, (American Alliance of Health, Physical Education, Recreation, and Dance). AAHPERD changed its name in December 2013, since then individual states across the country have continued in this trend of renaming and rebranding.

One of our goals as a state association was to make sure that we included all aspects of our history and honoring those that we serve. We wanted to make sure that we are treasuring our past and continue to shape our future. I am proud to present our new logo and brand which strategically includes our past yet shapes our future: The **Red** circle represents health, the **Yellow** represents physical education, the **blue** represents recreation and the **green** represents dance. Our tagline “teaching students to THRIVE for life” will help guide our future work and advance our mission as we work to advocate for quality health, physical education, recreation, dance, and exercise science.

Finally, I would like to give a special thank you to Dr. Steve Chen, Stacy Forsythe, and Dr. Gina Blunt-Gonzalez for serving as our Journal co-editors, their time and commitment to this publication is a valuable asset to all KAHPERD members and beyond. Also, thank you to our writers for your professional contributions to this edition.

I am hopeful that we will soon be able to come together professionally to grow KYSHAPE. Best wishes to all and stay well.

Respectfully Submitted

Robin A. Richardson 2020-2021 President



Kentucky SHAPE Journal Submission Guideline

SUBMISSION OF A PAPER

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

Articles are accepted via an electronic attachment (must be in Microsoft Word format, doc or docx) through e-mail to the editor before the deadline dates. Submissions should be sent to one of the co-editors below based on the topic (nature) and discipline of the study:

- For an article related to health and physical education, health promotion, exercise science and exercise physiology, please email the submission to Gina Gonzalez:
g.gonzalez@moreheadstate.edu
- For an article related to recreation and sport management/administration, sport sociology, and sport coaching, please email the submission to Stacey Forsythe:
stacey.forsythe@wku.edu

Deadlines:

Spring issue—March 1

Fall issue—September 1

Estimated publishing time: Spring issue—Mid May & Fall issue—Late November

AIMS AND SCOPE

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

FORMAT AND STYLE

When preparing manuscripts for publication in the *Kentucky SHAPE Journal*, authors should follow the guidelines set forth in the *Publication Manual of the American Psychological Association*, Seventh Edition, 2019. Manuscripts should not be submitted for publication elsewhere at the same time being reviewed by *Kentucky SHAPE Journal*. Authors are advised to proof the typing, and check references for accuracy. Articles should include an abstract of approximately 150 words including the rationale for the study, methods used, key findings and

conclusions. Manuscripts should not exceed 20 double-spaced pages (not including references, tables, and figures).

The manuscript must be typed double-spaced, including the abstracts and references; please number each line. Tables, charts, pictures, diagrams, drawings and figures should be in black and white, placed on separate pages at the end of the manuscript. They must be submitted photo-ready and reproduced to fit into a standard print column of 3.5 inches. Only one copy of each illustration is required, and captions and proper citations should be typed on the bottom of the table and diagrams; please clearly mark where the tables/figures belong in the text. Jargon should be reduced to a minimum, with technical language and acronyms clearly defined. The accuracy of any citations is the responsibility of the author(s).

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

CONTENT

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

Research Manuscripts

Research articles should be well-grounded conceptually and theoretically, and be methodologically sound. Qualitative and quantitative pieces of research are equally appropriate. Formatting suggestion: Introduction, Literature Review, Methodology, Results, & Discussion, Conclusion, and Implication.

Book Reviews

Reviews of books and/or reports are welcome (around 1000-2000 words). Information concerning the book/report must be sent to the editor. Interviews (it would be nice to discuss with the editor beforehand) and best practice/strategy papers of 1,500-3,000 words should be objective and informative rather than promotional and should follow the following format: Objective/Background/Discussion and Practical Implication.

Research Abstracts

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

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

Case Studies

The purpose of using case studies in learning environments is to stimulate critical thinking. Such thinking skills as problem-solving, decision-making, creative thinking, visualizing, knowing how to learn, and reasoning should be stimulated as your case is discussed in learning environments.

The guidelines found below provide authors guidance in writing case studies for publication in the *KAHPERD Journal*:

1. Use narrative form when writing your case(s). Consider telling a brief story about a controversial or problematic issue or incident in the field of discipline selected from the list of suggested subject areas, competencies, and educational levels. The story could, for example, illustrate principles or theories, describe events, and/or address problems or situations related to the topic(s) you choose. You may include data to be analyzed or illustrated. Include a key character with a problem or dilemma to solve. Within the case, the key character may or may not attempt to solve the issue within the case.

For Example:

Suggested Subject Area	Competencies	Focus	Educational Level
Alcohol sponsorship and sales at collegiate venues	Diversity, ethics, decision making, social responsibility	Sport Management	Undergraduate, Graduate, or both
Class management	Leadership, strategic planning, communication	PE	Undergraduate, Graduate, or both
Design of fitness programs	Scientific training, First Aid training, sport psychology	Exercise science	Undergraduate, Graduate, or both
Tourism economic impact study	Economy, analytic skills, event planning	Recreation	Undergraduate, Graduate, or both
Developing a weight watching program	Nutrition, exercise knowledge, motivation....	Health, and health promotion	Undergraduate, Graduate, or both
Preparing a dance gala	Strategic planning, event management, dance performance	Dance	Undergraduate, Graduate, or both

2. The case can be based on reality or fictional scenario. It can also evolve from one's own or others' actual experience. It can be deeply personal and reflective, yet it should be written objectively. The case is intended to simulate real life; therefore, the case does not have to be unrealistically neat. Rather, the issue can be messy and complex.
3. Case authors should provide questions and solution ideas. Often, when writing and discussing case(s), it is advised to allow readers to discuss analyses and compromise, make their own interpretations, and draw their own inferences regarding solutions. Although solutions may not always extensively included, case authors are encouraged to cover detailed solutions that helps educators discuss the cases in a more informed and insightful way with students.
4. To provide an optimal learning opportunity through the case(s), four elements should be included in the case study submission:
 - a. Abstract and learning objectives: a summary of case and its purpose, learning outcomes and applications (75-150 words)
 - i. Fill in the following boxes

Suggested Subject Area	Competencies	Focus	Educational Level

- b. Introduction of case: presentation of issues, challenges, problems, and various thoughts
- c. Teaching notes: addressing discussion questions, guidelines for discussions, and pros and cons of different solutions
- d. References

SUBMISSIONS AND REVIEW PROTOCOL

Submission of a paper to the publication implies agreement of the author(s) that copyright rests with *Kentucky SHAPE Journal* when the paper is published. *Kentucky SHAPE Journal* will not accept any submissions that are under review with other publications. All manuscripts submitted will be peer-reviewed by 2 to 3 professionals/experts. Authors will normally receive a decision regarding publication within six to eight weeks. Rejected manuscripts will not be returned.

(Peer Reviewed Article)**Economic Impact of Paddling on the Kentucky River near Fort Boonesborough State Park**

James N. Maples, Eastern Kentucky University

Michael J. Bradley, Arkansas Tech University

Natasha Hacker, Eastern Kentucky University

Abstract

The Kentucky River has long represented an important part of Kentucky history, and it now is home to a growing paddling community. This study examined the economic impact of paddlers visiting Pools 9 and 10, and their expenditures in Clark, Fayette, and Madison Counties. Economic impact analysis incorporates visitor spending data (via survey) and traces these funds as they move throughout the local economy. This includes monies that are redistributed in local wages, collected as taxes, and spent to restock supplies. This study found visitor paddlers generated an estimated \$96,441 in local job wages in 2019. Results indicated paddlers have a strong interest in the natural features of the region as well as interests in other kinds of outdoor recreation (such as hiking) while visiting the area.

Keywords: Economic Analysis, Nature Tourism, Economic Development, Recreation, Kentucky River, and Paddling

Introduction

Paddling represents a growing source of economic stimulus in the outdoor recreation industry (HRWC, 2016; ICFM, 2012; Pollock, Chase, Ginger, & Kolodinsky, 2007). Paddling includes many forms of human-powered watercraft use including canoes, kayaks, stand up paddleboards (SUP), and whitewater rafts. The previously mentioned studies found visiting paddler expenditures support local jobs and generate income for local businesses and employees. Recent work found paddlers are generally well-educated with relatively high incomes and a notable percentage are business owners (Maples, Sharp, Clark, Gerlaugh, & Gillespie, 2017 2017). Paddlers found ways to engage with natural environments while minimizing paddling impacts on the environment, making this a relatively sustainable and predictable form of economic impact for local communities (Thomas & Thomas, 2000).

The Kentucky River offers great opportunities for kayaking, canoeing, SUP use, and a small thriving paddling community (Ky.gov, nd). The Kentucky River was an important part of daily survival in the Commonwealth's early history (O'Dell, 2017; Johnson & Parrish, 1999). Today, paddling is a common activity on the Kentucky River Pools 9 and 10, located near Fort Boonesborough State Park (Enoch, nd). The area also now hosts an annual paddling festival, which celebrates the region's natural features. However, until now, no studies have examined the economic impact of paddling in this area nor the implications of its future growth.

Therefore, the researchers examined the economic impact of visitor paddlers visiting Pools 9 and 10 of the Kentucky River. The researchers found paddlers' financial injections creates job income within the study area and estimated this could increase to nearly a quarter million per year by the end of the decade. The researchers also provided specific suggestions to the local communities as they consider paddling as a long-term source of economic activity for Kentucky River communities around Pools 9 and 10.

Literature Review

The Kentucky River forms in Beattyville, Kentucky from three separate branches: the North Fork, Middle Fork, and South Fork. From Beattyville, it flows northwest through the Daniel Boone National Forest, alongside Boonesborough and through the Kentucky River Palisades, before meandering south of Lexington and north of Frankfort on its journey to the Ohio River at Carrollton, Kentucky. The 260-mile river covers a great swath of the Cumberland Mountains and Bluegrass Region and has a strong tie to the Commonwealth's history along the way (Johnson & Parrish, 1999). Today, eleven Kentucky cities and over 700,000 residents draw their drinking water from the Kentucky River, making this river a vital part of region's existence (Kentucky River, 2020).

The study specifically examined the recreational activities in Pools 9 and 10 along the Kentucky River in Clark and Madison Counties. Both pools include a mixture of historic sites and natural features accessible to paddlers (Figure 1). This area includes popular paddling areas such as Howard's Creek, Boone Creek, Jouett Creek, Owsley Creek, Two Mile Creek, Four Mile Creek, and the Red River (Enoch, nd). The area also includes Fort Boonesborough State Park, the Civil War Fort Nature Trail, John Holder Walking Trail, and Lower Howard's Creek Nature Preserve. This area hosts a thriving paddling community and is home to The Explore Kentucky Initiative's Bluegrass River Run, an annual paddling festival. The area is included as part of the Blue Water Trails system, which includes over 30 locations across the Commonwealth (Ky.gov, n.d.).

Figure 1. Counties in the Kentucky River Watershed

Subbasins of the Kentucky River Basin



Source: Bluegrass Greensource (<https://bggreensource.org/working-together-improve-water-quality-rivers-streams/>)

Previous studies examined the economic impact of paddling and boating water trails over the last decade. The 740 mile Northern Forest Canoe Trail generates an estimated \$12 million annually while supporting 280 jobs based on the expenditures of 90,000 paddlers (Pollock et al., 2007). In 2016, the Huron River and Huron River National Water Trail, with annual visitation of 122,981, generated \$53 million annually in Southeastern Michigan (HRWC, 2016). In 2012, the 480-mile Pennsylvania Water Trail generated \$731,000 in economic impact based on the expenditures of 3,530 paddlers (ICFM, 2012). Overall, research also promotes creating water trails as a useful form of economic impact (Warren, 2015).

Further studies examined paddling in specific locations. Whisman and associates (1996) found that paddling visitation on West Virginia's Gaulley, New, and Cheat Rivers generated \$22 million in job income in the region based on visitation of over 467,000 paddlers. A 2001 study of the Wild and Scenic segments of the Chattooga River reported paddlers generated \$2.7 million in economic activity (Moore & Siderelis, 2003). A Vermont study by Michael Crane (2005) found that each day of recreational water releases on the West River supported an estimated \$148,000 for the regional economy. More recently, a 2016 Colorado study reported paddlers on the Colorado River generated a record-setting \$179 million based on an 8% increase in paddling days compared to 2015 (CROA, 2016).

The purpose of this study was to estimate the economic impact of paddling of the Kentucky River in Pools 9 and 10. This area includes Kentucky River, Lower Howard's Creek, Boone Creek, Jouett Creek, Owsley Creek, Two Mile Creek, Four Mile Creek, and Red River, each of

which are included in the analysis. Given growth in the outdoor recreation sector, researchers examined future increases in visitation in Pools 9 and 10. Additionally, researchers examined visitor demographics, river use patterns, and other outdoor recreation patterns to provide a clearer understanding of the paddlers in this region. The collected information should be able to boost local jobs to improve the service quality of paddling business, lodging accommodation, and food service. The community can also gain more recognition as an ideal recreational attraction for paddlers and other visitors.

Method

This study explored the economic impact of paddling on the Kentucky River focusing in on Pools 9 and 10. For this study, Clark, Fayette, and Madison counties in Kentucky have been identified as the study area. The study area encapsulates the site of the activity or event being studied and where related expenditures are most likely to occur. This study area specifically encompasses the waterways in a 25-mile radius of Fort Boonesborough and nearby travel corridors where persons are most likely to spend funds as result of paddling in the area.

There are no existing estimates of paddling use in this study area. For the present study, visitation is estimated at 4,500 visits per year as of 2019. This visitation count was estimated through parking lot counts, researcher observations, and triangulated with local canoe rental ownership. This includes the option for one person to visit multiple times and assumes the primary purpose is to paddle in the study area. Visitation estimates are based on conversations with local paddling rental gear businesses, survey data, observations and car counts at parking lots and slips, and conversations with local paddling experts. Approximately 80% of survey respondents were nonlocals, therefore, for this study, the researchers estimated 3,600 paddlers to be visitors (nonlocal paddlers) and thus included in the economic analysis.

Data Collection

The researchers collected data for this study via online and in-person surveys in 2019. It is important to note this study is exploratory in nature. The researchers surveyed participants of two major paddling events via email after the events took place. This was an effort to capture a paddling special event user base. Additionally, researchers surveyed every paddler encountered onsite from early spring to late fall in 2019. Due to the mixed methodology, the refusal rate cannot be specific, and this study should be viewed as a convenience sample. The surveys measured variables across the following categories: expenditures, river use patterns, other recreation patterns, and demographics. Expenditure categories examine the respondents' expenditures on their current trip to the study area. The survey measured data on trip spending in lodging, food, travel, and retail purchases using established economic impact measures (White, 2017). These expenditure patterns are measured within the study area and outside the study area but still in Kentucky, which is discussed further below. As part of estimating expenditures, the survey included questions on group sizes. River use patterns examined what watercrafts (kayaks, canoes, and stand up paddleboards or SUPs) the respondent used in the study area, which rivers and creeks the respondent visited on their trip, and which physical locations the respondent visited on their trip. The other recreation patterns measured used a list of common United States

Forest Service activities and asked the respondent to indicate which (if any) activities the respondent also engaged in while visiting the area to paddle. Finally, demographic variables included sex, education, and annual personal income. The survey was delivered in parking lots, river access points, and online. An online version of the survey was sent via emailed link to all participants in the Bluegrass River Run (6-mile kayak/canoe event held each year May). In all, 196 persons participated in the survey. The researchers suggest treating this as a convenience sample because no other studies or data collection efforts have yet estimated the population of paddlers in this study area.

Analysis

The researchers cleaned the expenditures data to ensure a conservative economic impact estimate. Data cleaning removes atypical (often disproportionately high) expenditures that may overstate the overall pattern. First, 75 respondents were excluded because they completed less than 10% of the survey (which includes answering no economic impact questions). Notably, these cases were all from the online portion of the study. Next, three respondents (each approximately staying 30 days) were excluded due to stays greater than three deviations above the initial mean stay. Prior to the revision, the mean stay was 3.0 nights. After revisions, the mean stay was 1.7 nights. One respondent, reporting expenditures for a group of eight, was excluded as their group size could distort expenditure data.

Economic impact best practices for this type of study require focusing on the expenditures of persons living outside the study area (Clark, Fayette, and Madison Counties). In the dataset, attendees were sorted into *locals* (participants living in study area zip codes) and *visitors* (participants living outside study area zip codes). Note that visitor expenditures are used to estimate the economic impact described later in this report. Local expenditures, *while important*, are not indicative of economic impact as their funds are already located within the local economy and are redirected because of the activity being studied. Local expenditures are reported in this analysis for informational purposes but are excluded from the economic impact estimates. In all, 34 respondents were excluded from economic impact modeling as they self-identified as residents (see next paragraph for more details) based on their home zip code. No cases were excluded for not including a zip code.

The researchers took the appropriate methods to create conservative mean expenditures for visitors based on their self-reported expenditures. Prior to estimating means, all retail non-food expenditures above \$500 were recoded as missing as a precaution against overestimation. In this study, two cases outside the study area were recoded as missing data as a result: one in recreational retail (\$1,200) and the other in general retail (\$10,000). As retail expenditures may also be used outside the area where they are purchased, only 1/5th of the value of these retail non-food purchases (which included paddling purchases and general retail purchases) were attributed to economic impact in the actual modeling. However, as paddling rentals are used 100% in the study area, these expenditures are modeled at the full value. Next, individual respondent expenditures were adjusted for group size by dividing the respondent's reported expenditures by their reported group size (which includes the respondent). As a precautionary effort to reduce overestimation, respondent expenditures reported higher than the third standard deviation of their category mean were marked as missing data. This technique further addresses

overestimating economic impact and provides reliable, conservative means for analysis (Crompton, 2020). The result is separate expenditures stating average (or typical) expenditures activity *inside* the study area and activity *outside* the study area *but still in Kentucky*. While both are reported, only expenditures inside the study are modeled in the economic impact analysis.

Conservative visitation estimates and mean expenditures (having now accounted for group sizes and points of influence) are built within the 2019 version of IMPLAN, an industry-leading economic impact calculation system, to explore how visitor expenditures shape the study area economy. IMPLAN uses input-output modeling to establish economic impact across three measures: output, value added, and labor income. Local purchasing percentages are set at 100% which is appropriate for this kind of study and commodities, such as gasoline, are modeled back to their production sources for improved accuracy. The resulting analysis shows how visitor paddler expenditures impact the study area economy at three stages (Crompton, 2010). Direct effect is the economic result created by the money spent as a result of visitors being present in the study area. This direct effect can generate further change in the local economy via indirect and induced effects. Indirect effect is economic activity created when local businesses purchase goods and services from other local industries as a result of the direct effect. Finally, induced effect is the estimated expenditures by local households and employees because of the initial direct impact. The economic impact measures in Table Five are also divided across three categories. Labor income impact is measured by the estimated labor income created by the economic activity in the region. Labor income impact is a conservative estimate of economic impact and is the approach highlighted in this report. Value added indicates the true economic wealth added to the local economy after subtracting the cost of inputs needed to conduct everyday business. Value added includes expenditures in profit, employment compensation, and taxes. Finally, output is value added plus total revenues and sales from economic activity (Crompton, 2006).

Results

The analysis included all respondents (resident and visitors) in the study, including respondents who may have been dropped as explained in the methodology section. In all, 51% of the sample identified as being female. Although not included in the table, most of the sample identified as being white. Most of the respondents held college degrees, with 33% holding a four-year degree and 37% holding a graduate degree. Correspondingly, personal annual incomes are also most concentrated in the \$50-74K (28%) and greater than \$99K (28%) categories. not summarized in the table, the mean participant age in the sample was 48 (Table One).

Table One. Sample Demographics

	N	Percent within Variable
Sex		
Female	59	51.3
Male	56	48.7
Education Summary		
Less than BA/BS or equivalent degree	34	28.8
Has BA/BS or equivalent degree	40	33.9
Greater than BA/BS or equivalent degree	44	37.3
Personal Annual Income Summary		
\$0-\$19,999	1	1.0
\$20,000-\$29,000	5	5.2
\$30,000-\$49,999	22	22.7
\$50,000-\$74,999	28	28.9
\$75,000-\$99,999	13	13.4
Greater than \$99,999	28	28.9
Do you own your own business?		
Yes, I do.	23	20.4
No, I do not.	90	79.6

The survey allowed respondents to select how they utilize the region while visiting the study area. Around 31% of respondents reported engaging in canoe use in the study area, while 84% reported using kayaks. Only 13% utilized SUPs in the study area. The bulk of respondents reported using the Red River (35%), Boone Creek (22%), and/or Howard's Creek (12%) during their trip. Fort Boonesborough was a frequent destination for paddlers, as was the Lower Howard's Creek Nature Preserve (Table Two).

Table Two. Paddler Use Patterns in the Study Area

Use Pattern*	N	Mean	Std. Dev
Uses Canoes in study area	152	.31	.46
Uses Kayaks in study area	152	.84	.37
Uses Stand-up Paddleboard in study area	152	.13	.33
Visited Howard's Creek	126	.12	.32
Visited Boone Creek	126	.22	.41
Visited Red River	126	.35	.39
Visited Fort Boonesborough State Park	126	.46	.50
Visited Fort Boonesborough Campground	126	.17	.38
Visited Lower Howard's Creek Nature Preserve	126	.13	.34
*Areas with less than 10% visitation included Jouett Creek, Owsley Creek, Two Mile Creek, Four Mile Creek, Civil War Fort Nature Trail and John Holder Walking Trail			

Table Three shows other activities in which paddlers engage in the study area during a typical paddling season. The most popular activity was hiking/walking, in which 59% of the sample participated. Viewing natural features (35%), cookouts (30%), and camping (28% developed site, 23% undeveloped site) were also popular. Several other types of outdoor recreation also had frequent use, including backpacking, mountain biking, cycling, and climbing.

Table Three. Other Activities Engaged in while Paddling in the Study Area

Activity*	N	Percent
Hikes/walk	126	59%
Viewing natural features	126	35%
Cookouts/eating outdoors	126	30%
Camping (developed site)	126	28%
Camping (primitive/undeveloped site)	126	23%
Relaxing on the lake	126	21%
Visiting historic sites	126	21%
Driving for pleasure	126	19%
Fishing	126	17%
Viewing wildlife	126	14%
Studying nature	126	13%
Backpacking	126	12%
Cycling	126	12%
Mountain biking	126	10%
Climbing	126	10%
*Activities engaged by less than 10% include gathering forest products, visiting local wineries, hunting, water skiing, motorized trail activity, OHV/ATV use, horseback riding, and motorized trail activities		

Table Four shows mean expenditures for visitors and residents because of visiting the study area to engage in paddling. In all, visitors spent an estimated \$46 per visit on local food, retail, and gasoline expenditures. Visitors staying overnight add an estimated \$12 when camping/RVing and \$84 when staying at a hotel, motel, or cabin. Visitor expenditures add an estimated \$28 per visit, with overnight visitors adding \$9 in camping/RVing expenditures or \$37 in hotel/motel expenditures. Although not treated as true economic impact, residents do make important expenditures in the study area as a result of paddling. In all, residents contribute an average of \$58 into the local economy because of their participation in paddling. Table Two includes IMPLAN categories used when modelling visitor expenditures inside the study area.

Table Four. Mean Expenditures by Category

Category (IMPLAN Study Area Category)	Visitors Inside Study Area	Visitors Outside Study area but in Kentucky	Residents Inside Study Area
Lodging - Hotel/Motels/Cabins* (499)	\$84.37	\$37.75	NA
Lodging - Camping/RVs* (500)	\$12.36	\$9.77	NA
Food - Full Service (501)	\$4.95	\$6.20	\$17.95
Food - Limited Service (502)	\$9.42	\$.95	\$5.46
Food – Groceries (400)	\$3.80	\$8.44	\$14.42
Food - Gas Stations (402)	\$1.92	\$.74	\$2.22
Gasoline (156)	\$12.58	\$11.29	\$14.78
Retail - Paddling Gear Purchases** (404)	\$1.45	NA	\$1.35
Retail - Other Retail** (405)	\$1.92	NA	\$1.89
Paddling Gear Rentals (404)	\$10.00	NA	NA

*Lodging –Motel expenditures applied to 10% of total participants in modelling. Camping expenditures applied to 10% of total participants in modeling. Due to low n, differences in seasonal lodging costs, and potential differences within lodging categories, lodging estimates are not adjusted for expenditures outside three deviations in this study.

** As these purchases could be used elsewhere, only 1/5 of the value (.29 in paddling retail and .38 on other retail) are modeled.

Table Five shows the economic impact of visitor paddlers visiting the study area to engage in paddling. Based on the data collected, the research team estimated visitors (persons *not* living in Clark, Fayette, or Madison Counties) annually spend an estimated \$200,566 in the study area as a result of participating in paddling. This estimate comes from visitor mean expenditures (see Table Three) and visitor visitation figures (3,600 annual visits from persons living outside the study area, 10% of which stayed in hotels/motels and 10% camped/used RVs). Focusing on labor income (the most conservative measure of economic impact of the three listed), paddling in the study area generated an estimated \$96,441 in labor income for employees in the study area. Labor income was largely located in full-service restaurants, general retail purchases, lodging, and recreation gear purchases. Although not included in the table, visitor expenditures also supported an estimated \$6,773 in state/local taxes and another \$4,700 in Federal taxes. Notably, these returns effectively cost nothing beyond keeping the river accessible.

Table Five also shows projected growth in visitor paddling visitation through 2029. The growth of outdoor recreation, which includes paddling, continues throughout the Commonwealth and nation. Recent paddling events (such as the Bluegrass River Run) have increased attention on this area, presenting the likelihood of increase in visitation to the area. For discussion sake, if annual visitation could increase ten percent each year, labor income alone from the paddling tourism could increase to nearly a quarter million by 2029. Again, this impact effectively costs nothing, but could be fomented through increased visibility to the study area, advertising in the paddling community, and ensuring the area remains open for paddling use.

Table Five. Economic Impact Summary of Visitor Participation in Paddling in the Study Area

Impact Type	Labor Income	Value Added	Output
Direct, 2019	\$61,943	\$90,254	\$151,910
Indirect, 2019	\$16,928	\$29,546	\$51,439
Induced, 2019	\$17,569	\$30,689	\$52,801
Total Effect in 2019	\$96,441	\$150,489	\$256,150
Total Effect in 2022 assuming 10% annual visitation growth rate	\$130,496	\$203,456	\$343,477
Total Effect in 2029 assuming 10% annual visitation growth rate	\$242,127	\$377,280	\$634,711

Discussion, Conclusions, and Future Research

This study highlights several valuable discussion points regarding paddling activities in the study area. First, this study demonstrated that paddling visitation to the area studied has a notable economic impact on the region without presently requiring annual investments. As long as paddlers continue to have safe access to the Kentucky River in this area, it is expected that this community will continue to utilize this area of the river. To ensure this is the case, efforts should be taken locally and at the state level to ensure that paddling locations on the Blue Water Trail system be protected from activities which could limit access, discourage paddler use, or reduce visitation.

Second, the findings of this study support further exploration of paddlers' interests in natural features and other forms of outdoor recreation and how these might be utilized to increase paddling visitation. In Table Three, the bulk of the popular activities listed include some element of interacting with natural features found in this region. Limiting development at these natural features and promoting things like nature trails and conservation sites could help attract paddlers. Likewise, other outdoor recreation forms (such as hiking) show potential value in finding multi-use areas. Recent work has indicated that multi-use areas may find a way to bridge different kinds of outdoor recreation communities while also supporting ongoing visitation (Sharp, Bradley, & Maples, in press). As such, trails should be created that support things like mountain biking or hiking activities. This would foster a multi-front outdoor recreation opportunity, which could also create additional economic activity through non-paddling visitors.

Third, as the popularity of outdoor recreation increases across the nation, this region could see future economic benefits by supporting paddling through maintaining access, advertising, and small business programs (Winter, Selin, Cervený, & Bricker, 2019). Maintaining access is key to ongoing economic activity, as any particular aspect that either damages the Kentucky River, makes paddling there less desirable (e.g. unsafe or unhealthy), or altogether stops paddling in the area will curtail expenditures, job support, and taxes created by paddling visitors. By supporting paddling access to the area, community organizations can also predictably advertise local resources and natural features to the paddling community. Supporting ongoing annual paddling festivals can help attract new visitors over time. Creating suitable parking areas can help encourage paddling use while also directing their use to the desired areas. Unified local branding can also help market paddling in this area. Local organizations should also consider programs

that might encourage new businesses related to paddling to locate here and/or actively support existing paddling businesses. This could include everything from tax opportunities to media/advertising support.

Fourth, while not specifically examined in this study, local expenditures warrant consideration. Resident expenditures on paddling are best described as redirected funds. This means that, while the resident chose to spend funds on paddling, these funds are already located in the economy and cannot be treated as new funds being introduced into the economy. However, residents nonetheless remain an important part of the local economy. Recent work finds that outdoor recreation users have strong ties to the areas where they choose to recreate (Rickly, 2017). These attachments make them more inclined to relocate and live in these areas. When this occurs, they purchase homes, pay taxes, and establish regular economic expenditure patterns in the area. Moreover, outdoor recreation participants often have high rates of business ownership, meaning that if they were to leave, they could take their businesses with them.

This study does have certain limitations common to economic impact studies. First, visitation patterns and mean expenditures can vary from year to year due to issues like weather or unexpected closures (such as the 2020 Covid-related state park closures). Second, this study relies on respondents to represent their expenditure patterns. Users can forget expenditures and inadvertently misstate expenditures in surveys. However, the methodological approach used in this study limits overestimation. Third, expenditure and use patterns used in this study are not necessarily representative of paddlers in other areas. Fourth, the researchers assume respondents' primary purpose of their trip to the study area is to participate in paddling. This does not exclude those engaging in other activities while there but posits that participating in paddling (in any form) is the primary purpose for visiting the region.

This study supports the need for additional research on paddling in this region and beyond. This includes generating estimates of economic impact at additional areas along the Kentucky River. Marketing and economic development researchers could also create clear guidelines for growing paddling areas in a sustainable fashion.

References

- Crane, M. (2005). *The economic impacts of whitewater boating on the West River: Jamaica, Vermont*. <https://www.americanwhitewater.org/content/Document/view/documentid/705>
- Colorado River Outfitters Association (CROA). (2016). *Commercial river use in the State of Colorado: 1988-2016*. <https://www.americanwhitewater.org/content/Document/view/documentid/1705>
- Crompton, J.L. (2006), "Economic impact studies: instruments for political shenanigans?", *Journal of Travel Research*, Vol. 45 No. 1, pp. 67-82.
- Crompton, J.L. (2010), *Measuring the Economic Impact of Park and Recreation Services*, National Recreation and Park Association, Ashburn, VA.
- Enoch, H. (n.d.). Kentucky River blue water trail guide: Clark County. Self-published.
- Huron River Watershed Council (HRWC). (2016). *A summary of the economic impact of the Huron River*. <https://www.hrwc.org/wp-content/uploads/2017/10/Summary-Huron-River-Economic-Impact-web.pdf>
- ICF Macro, INC (ICFM). (2012). *Pennsylvania recreational water trails economic impact study: A four-trail case study*. <https://pecpa.org/wp-content/uploads/Water-Trails-Economic-Impact-Study.pdf>
- Kentucky river (n.d.) In Wikipedia. Retrieved August 18, 2020, from https://en.wikipedia.org/wiki/Kentucky_River
- KY.gov. (ND). *Blue water trails*. <https://fw.ky.gov/Education/Pages/Blue-Water-Trails.aspx>
- Maples, J. N., Sharp, R.L., Clark, B., Gerlaugh, K. & Gillespie, B. (2017). Climbing out of poverty: The economic impact of rock climbing in Eastern Kentucky's Red River Gorge. *Journal of Appalachian Studies* 23(1): 53-71.
- Moore, R. L. & Siderelis, C. (2003). *Use and economic importance of the wild and scenic Chattooga River*. <https://www.americanwhitewater.org/content/Document/view/documentid/271>
- O'Dell, G. A. (2017). Springs and the settlement of pioneer Kentucky. In Brian D. Lee, Daniel. I Carey, & Alice Jones (Eds). *Water in Kentucky: Natural history, communities, and conservation*. Lexington, Kentucky: The University Press of Kentucky.
- Pollock, N., Chase, L., Ginger, C. & Kolodinsky, J. (2007). *The Northern Forest Canoe Trail: Economic impacts and implications for sustainable community development*. Burlington, VT: University of Vermont Tourism Data Center. https://www.uvm.edu/sites/default/files/Rubenstein-School-of-Environment-and-Natural-Resources/NFCT_Final_Report.pdf
- Power, T. M. (1996). *Lost Landscapes and Failed Economies: The search for a value of place*. Island Press: Washington, D.C.
- Rickly, J. M. (2017). I'm a Red River local: Rock climbing mobilities and community hospitalities. *Tourist Studies* 17(1), 54-74.
- Sharp, R. L., Bradley, M. J. & and Maples, J. N. (in press). Who has the right-of-way? Equity and economics of off-highway vehicle use in Eastern Kentucky. *Journal of Appalachian Studies*.
- Thomas, G. & Thomas, J. (2000). Moving water paddling as critical outdoor education. *Journal of Outdoor and Environmental Education* 5(47054).

- Whisman, S. A., Hollenhorst, S. J. & Jones, C. D. (1996). *A summary of economic impacts of commercial whitewater rafting in West Virginia*.
<https://www.americanwhitewater.org/content/Document/view/documentid/293>
- Warren, N. (2015). An economic argument for water trails. *River Management Society*.
<https://rms.memberclicks.net/assets/Chapters/Midwest/economicargumentforwatertrails%203.pdf>
- White, E. M. (2017). *Spending patterns of outdoor recreation visitors to national forests*.
https://www.fs.fed.us/pnw/pubs/pnw_gtr961.pdf
- Winter, P. L., Selin, S., Cervený, L., & Bricker, K. (2019). Outdoor recreation, nature-based tourism, and sustainability. *Sustainability* 12 (81). Retrieved August 18, 2020 from:
<https://www.mdpi.com/2071-1050/12/1/81>

(Peer Reviewed Article)**Transformational Leadership in Club Sports***Shelby Hutchens, University of Arkansas**Sarah Stokowski, Clemson University**Kara Lasater, University of Arkansas**Steve Dittmore, University of Arkansas***Abstract**

Increased spending in Campus Recreation and decreases in higher education funding have created a need for Campus Recreation programs to promote their ability to develop students into successful leaders, but little is known regarding how such student development is fostered (Forrester, 2014; Mitchell et al., 2019). Club Sport programs are perceived to provide the greatest benefits among all Campus Recreation offerings and contribute to the development of leadership characteristics (Dugan et al., 2015). Transformational Leadership (TFL) is one of the most acclaimed leadership theories associated with organizational success (Wang et al., 2011) and the development of organization leaders (Gassman et al., 2014). The purpose of this study is to determine whether Club Sports Presidents are perceived to exhibit Transformational Leadership characteristics. Results indicated that most Club Sport members perceived Club Sports Presidents to exhibit characteristics of Transformational Leadership. Findings suggest that Club Sports programs have a unique and significant impact on the TFL skill development of those who participate.

Introduction

Campus Recreation offers “services, programs, equipment, facilities, and staff that provide recreation opportunities for the entire campus community” (NIRSA, 2018, para. 1). Further, Campus Recreation offers numerous activities including intramural and club sports, cardio, weight training, wellness programs, aquatics, and even First Aid and Cardiopulmonary Resuscitation (CPR) classes (Forrester, 2014). More than 60% of students indicate that Campus Recreation and its programs were important factors for choosing their ideal learning institution and remaining enrolled at the institution (Forrester, 2014). Students who engage in Campus Recreation programs exhibit better time management skills, interpersonal skills, and especially leadership skills when compared to students involved in other campus programming (Forrester, 2014; Warner & Dixon, 2013).

Campus Recreation and its programs also extend the mission of higher education beyond the classroom by developing leadership skills that contribute to the occupational success of its participants (McDowell et al., 2016). Dugan et al. (2015) suggested that Club Sports programs play a unique role in the development of leadership skills to an estimated two million student-athletes nationwide (Lifschutz, 2012). However, the type of leadership fostered within Club Sports has not yet been investigated (Peachey et al., 2015; Mitchell et al., 2019). To better

understand the nature of Club Sport student leadership, this study investigated the leadership characteristics of Club Sports Presidents.

Literature Review

Characteristics of Club Sports

A Club Sport is defined as a group of students that is voluntarily organized to further their common interest in an activity through participation and competition (Lifschutz, 2012). Club Sports can range from more traditional sports (e.g., lacrosse, soccer, rugby, volleyball) to more niche sports (e.g., bass fishing, ultimate frisbee, quidditch, ballroom dance, rodeo). The foundation of Club Sports programs is often clubs not governed by the National Collegiate Athletic Association (NCAA) such as Bass Fishing, Ultimate Frisbee, and Rugby (Dugan et al., 2015). Such niche clubs like these stand out due to their uniqueness and ability to attract specific populations that otherwise might not associate with Campus Recreation programs (Dugan et al., 2015).

Club Sports are unique from Intramural Sports and other Campus Recreation programs in that they practice regularly, host games, and compete in national competitions (Lifschutz, 2012). Intramural sports are more recreation-oriented, and intramural teams do not interact year-round as Club Sports do (Lifschutz, 2012). Club Sports often serve as the competitive median between intramural sports and varsity sports (Lifschutz, 2012). The recurrence of practice and year-round involvement allows for relationships to be established among club sports members, thus filling the need for the camaraderie of former high school athletes and increasing their sense of belonging to the university (Reynolds, 2016). In addition to the emphasis on continuing sport participation, Club Sports offer students a unique opportunity to develop skills beneficial to their lives after college.

Each Club operates as a small business. They have their budget, plan travel, and fundraise to support their travel and equipment expenses. The clubs elect a group of officers usually a President, Vice-President, Treasurer, and Secretary every academic year. This group of officers bears the burden for planning travel, meeting with national governing bodies of their sport, fundraising, and maintaining a positive relationship with Campus Recreation administration (Dugan et al., 2015; Flosdorf et al., 2016; Lifschutz, 2012).

Club Sport officers assume a significant amount of responsibility when they take their positions within the club. Officers must balance academic and social responsibilities, and (often) part-time jobs, and as a result are often at risk for high levels of stress (Bryant & Clement, 2015). Each clubs' officers interact on a weekly or even daily basis with Campus Recreation administration and are the faces of each club. Club Sport officers receive credit when a club does well and takes the blame when the club performs poorly. Thus, serving in a leadership role within club sports is often a beneficial learning experience for club officers, allowing for students to develop leadership skills within Campus Recreation (Dugan et al., 2015; Flosdorf et al., 2016).

Outcomes of Club Sport Participation

Assessments of Club Sports have demonstrated that students who participate in Club Sports are subjected to experiential learning, which enhances what is taught in the classroom and thereby furthers the mission of higher education (Dugan et al., 2015; Flosdorf et al., 2016; Weaver et al., 2014). The most commonly identified outcomes of Club Sport participation are leadership, communication, conflict resolution, and time management (Lifschutz, 2012; Weaver et al., 2017). Student leadership is often identified as the biggest area of growth within Club Sports officers (Dugan et al., 2015; Hardin, 2015). However, we do not know what leadership skills are developed through participation in club sports, but there is evidence to suggest that the volunteer nature of the clubs may necessitate the use of Transformational Leadership (TFL) (Posner, 2015).

Transformational Leadership (TFL)

Every organization regardless of industry establishes goals that orient group members towards certain tasks and responsibilities. It is the organization's leader's responsibility to establish a strategy for achieving such goals (Odumeru & Ogbonna, 2013). Different types of organizations lend themselves to certain leadership strategies. Organizations with the ability to provide extrinsic incentives (e.g., pay bonuses) usually find transactional leadership to be effective (Odumeru & Ogbonna, 2013) while those that cannot (e.g., Club Sports) usually find TFL to be beneficial (Posner, 2015).

The differences in the abilities of organizations to incentivize group members have a significant impact on the reasons that individuals join. The lack of extrinsic incentives offered by organizations like charities and Club Sports suggests that members join because the organization satisfies an intrinsic need (e.g. competence, relatedness, purpose) (Smith et al., 2017). TFL uniquely appeals to the intrinsic needs of group members through its emphasis on the importance of a leader who encourages others, provides support and recognition, gets people to look beyond self-interest, and inspires people to reach for the improbable (Bass, 1985). Transformational leaders build trust-based relationships with their members, creating a unifying culture that allows leaders to mobilize their organization in the direction they see fit (Bass, 1985). To further delineate TFL, Bass (1985) identified seven competencies that characterize the specific behaviors of transformational leaders.

The first component of TFL is Vision (Bass, 1985). Transformational leaders should conceptualize and deliver a vision for the organization that is motivating to the members of the club and delivers that message clearly and effectively (Bass, 1985). The second component is Member Development. It emphasizes that leaders should attempt to help members better themselves through organizational activities (Bass, 1985). The third component of TFL is Supportive Leadership, which builds upon the focus on development by noting that leaders should encourage development by exhibiting verbal and nonverbal support for group members (Bass, 1985). The fourth component is Empowerment. Empowerment refers to the importance of giving group members a say in the on-goings of the organization (Carless et al., 2000). Providing subordinates with a voice demonstrates that the leader cares about their perspective and values their input, which contributes to the establishment of trust between leader and follower (Carless

et al., 2000). The fifth component is Innovative Thinking, which notes that effective leaders often must use unconventional strategies to achieve their vision (Bass, 1985; Carless et al., 2000). Such non-conventional strategies should be encouraged by group leaders, and mistakes should be treated as a learning opportunity (Carless et al., 2000). The sixth component is described as Leading by Example which provides subordinates with a model to follow, and by acting in the way that a leader wants all club members to act can generate the outcomes the leader strives for (Carless et al., 2000). Finally, the seventh component is described as Charismatic Leadership – a unique ability of a leader to draw others to them and inspire the heightened pursuit of organizational goals (Bass, 1985; Carless et al., 2000).

TFL is one of the most popular and empirically supported leadership theories in the current organizational psychology literature (Wang et al., 2011). TFL has unique outcomes and has proven to be more effective than other leadership styles in various settings (Peachey et al., 2015). In business, it has been associated with direct and indirect effects on improving corporate social responsibility (Robertson, 2018), team goal orientation (Chi & Huang, 2014), problem solving-communication skills (Lehmann-Willenbrock et al., 2015), and organizational performance (Boiral et al., 2015; Wang et al., 2011; Xenikou & Simosi, 2006). TFL has also been assessed in Campus Recreation administration (Weese, 1995), but has not been rigorously studied within Club Sports specifically.

Student leadership positions like those found in Club Sports often support the development of TFL characteristics (Gassman et al., 2014; Posner, 2015; Smith et al., 2013; Wang et al., 2011). Club Sports are known to contribute to the leadership development of club officers, but the specific skills developed remained unstudied until now (Dugan et al., 2015; Florsdorf et al., 2016). The purpose of this study is to determine if Club Sports Presidents exhibit Transformational Leadership characteristics. The authors proposed two specific research questions.

RQ1: To what degree is TFL exhibited by Club Sports Presidents?

RQ2: Does experience in a Club Sports leadership position mediate the degree of TFL exhibited?

Methodology

Sampling

A convenience sample was collected by retrieving all emails of Club Sport members from a Southeastern Conference institution that was home to 27 clubs. A Club Sport member was operationally defined as an individual who a) completed a Campus Recreation liability waiver and b) paid dues to his or her club. There were a total of 475 Club Sport members that have completed a waiver and paid dues (27 Presidents, 448 club members).

An electronic survey was sent out via email. Responses were collected during the spring semester. Club members received reminder emails weekly for one month to encourage participation.

Instrumentation

The Global Transformational Leadership Survey (GTL) is a quick and effective seven-item, five-point Likert scale peer assessment of the seven TFL characteristics as described by Carless et al. (2000) (see Appendix A). It has been used in business, sport, and other fields while demonstrating acceptable validity and reliability (Cronbach's alpha (α) = .93) (Carless et al., 2000; Overstreet et al., 2013). Factor loadings and confirmatory factor analysis of the GTL indicate that each of the seven items strongly correlates with their associated TFL characteristic (Overstreet et al., 2013). Club members utilized the GTL to evaluate the TFL characteristics of their club's president. This unique method of assessment grants us greater insight into more than just how club presidents view themselves, as we would see with self-assessments and thus more usefully assesses the degree to which each president exhibits TFL behaviors.

The GTL was prefaced by a short survey of demographic information that includes each club members age, gender, year classification, number of years in Club Sports, whether or not they are an officer and if so which position and for how long, and what club each member primarily belongs to. The independent variables in question here are simply the number of semesters that a Club President has served in their role.

Data Collection & Analysis

GTL scores for each Club President were assessed via the peer-ratings of the GTL. Descriptive statistics for the samples GTL score and each item were evaluated to determine the degree to which club presidents exhibited TFL characteristics (Table 2). To determine whether the length of leadership tenure impacts TFL development, the number of semesters Presidents served in their role was added to the number of semesters they had held other positions within their club (0-11+ semesters each). Each Club President was then placed in a "Longer Leadership Tenure" (≥ 6 Semesters) and "Shorter Leadership Tenure" (≤ 5 Semesters) group via mean-split procedure. An Independent Sample T-test was then used to compare GTL scores with Leadership Tenure Length.

Results

The survey was sent to 475 members of a Club Sports program. There were 176 responses including 27 Club Presidents and 149 club members (N=176, 37.05% response rate). See Table 1 for demographic characteristics. Twenty-seven 2017-2018 Club Presidents completed the 11-item demographic survey. Of the 27 Club Presidents, 21 held leadership positions in their club before becoming president, and 18 were involved in other organizations on campus. About 5.4% of Club Presidents held leadership roles in organizations outside of Club Sports. Each President had served as President for their club an average of 2.63 semesters. Club Presidents represented 21 different degree programs. Almost half (47.8%) of club members were involved in other student organizations as well. There were on average 5.52 responses per club.

Table 1. Demographic Characteristics

	Club Presidents (n=27)	Club Members (n=149)
Female	9	60

Male	18	89
Average Age	20.96 (SD=.98)	20.78 (SD=5.70)
Freshman	0	38 (25.50%)
Sophomore	2 (7.41%)	41 (27.52%)
Junior	12 (44.44%)	35 (23.49%)
Senior	12 (44.44%)	32 (21.48%)
Graduate Student	1 (3.70%)	3 (2.01%)
Semesters in Club Sports	6.19 (SD=1.59)	3.42 (SD=1.96)

GTL Scores

The GTL results were analyzed base on 149 completed the survey (33.2% response rate). The average GTL Score for club Presidents was 31.13 (SD=5.80) with a median score of 34. Most responses (76.51%) were between 29 and 35, and nearly half (47.65%) of respondents gave their Club President a perfect score of 35. Table 2 displayed the average, high, medians, modes, and low score of GTL scores. The small interquartile range (IQR=6), high median (34), and high mode (35) of GTL Scores suggest high consensus on the rating of leadership qualities amongst club members. Leading by Example (5.17, SD=.92) is the most highly rated quality that Club Presidents exhibit as perceived by club members while Innovative Thinking was the lowest (M=4.22, SD = 1.04).

Table 2 GTL Results

	Items							GTL
	Vision	Member Develop.	Supportive Leadership	Empowerment	Innovative Thinking	Leading by Example	Charisma	
Min	1.00	1.00	1.00	1.00	1.00	1.00	1.00	7.00
Max	5.00	5.00	5.00	5.00	5.00	5.00	5.00	35.00
Median	5.00	5.00	5.00	5.00	5.00	5.00	5.00	34.00
Inter Quartile Range (IQR)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	6.00
Mode	5.00	5.00	5.00	5.00	5.00	5.00	5.00	35.00
Average	4.36	4.66	4.55	4.44	4.22	5.17	4.46	31.13
SD	1.01	0.80	0.87	0.98	1.04	0.92	0.97	5.80

The Impact of Leadership Tenure on Leadership Qualities

Interestingly, there was no significant difference in GTL Scores between Club Presidents who have been involved in Club Sports for 6 or more semesters and those who have not ($t(25) = -$

.586, $p=.563$). The Long Tenure ($n=15$) group had a lower average score (30.83, $SD = 3.42$) than the Short Tenure ($n=12$) group ($M=31.50$, $SD=2.30$).

Discussion

The purpose of this research within the understudied world of Club Sports programs was to determine the degree to which Club Sports Presidents exhibit TFL characteristics. The high degree of consensus ($Mdn = 34$, $Mode = 35$, $IQR = 6$) amongst club members with regard to the TFL characteristics of their Club Presidents demonstrates that Club Sports Presidents are perceived to exude TFL behaviors and characteristics which supports the findings of Hardin (2015), Weese (1995), Dugan et al. (2015), and Lower et al. (2013) among others. Like Hardin (2015), the high degree of consensus exhibited by the mode (35) and small interquartile range (6) amongst club members about the behaviors of their club presidents provides more evidence for the notion that Campus Recreation promotes the development of student leadership, and more specifically as Weese (1995) found, campus recreation may lend itself to the usage of TFL. More specifically, these findings support the notion that Club Sports programs may have a unique ability to create and develop leadership skills (Dugan et al., 2015) – thereby also providing support for the notion that club sports may be unique in that way as many other campus recreation programs do not emphasize holistic development like Club Sports programs do (Lower et al., 2013). The high degree of consensus amongst club members also suggests that most members feel that their intrinsic needs are being met, as TFL is designed to (Bass, 1985; Posner, 2015). By meeting the intrinsic needs of their members, club presidents can increase organizational commitment (Smith et al., 2017), group goal orientation (Chi & Huang, 2014), and ultimately group performance (Boiral et al., 2015; Wang et al., 2011).

Contrary to the work of Gassman et al. (2014), there was no statistical difference identified between those who had a long tenure of leadership and those who did not. There are two notable explanations for this lack of significance. One possible explanation is that officers experience burnout throughout their tenure as Club President. As Presidents matriculate while remaining in a leadership role, they may place less emphasis on important TFL behaviors than they once did. Another explanation could be that many club members join Club Sports because participation in Club Sports satisfies the intrinsic needs of that member (Smith et al., 2017). Thus, the nature of the organization itself and group membership may naturally require a high level of TFL behaviors from Club Presidents (Dwyer et al., 2013; Odumeru & Ogbonna, 2013; Parker et al., 2010; Rosch, 2014).

Members' motivation and leadership development

Individuals join organizations of all types (i.e. non-profits, charities, corporations, educational institutions, club sports) because they satisfy a motivational need for an individual (Salary, 2019). Generally, there are two types of motivational needs: intrinsic and extrinsic (Deci & Ryan, 2000). Intrinsic needs motivate pursuits are challenging, interesting, or personally rewarding to an individual. People engage with intrinsically motivated activities because they enjoy them – not because of a promised reward. Extrinsic needs motivate instrumental behavior that promises external rewards, such as payment for services performed (Deci et al., 2017; Deci

& Ryan, 2000). Volunteer-membership based organizations inherently meet the intrinsic needs of those who join (Smith et al., 2017). Alternatively, places of employment can provide external incentives like payment for hours worked, and motivations for joining such organizations often include a description of such extrinsic needs (Deci et al., 2017).

Club Sports specialize in meeting the intrinsic needs of college students including personal enjoyment, affiliation, personal achievement, and fitness (Houselog, 2014; Smith, 2008). TFL specializes in facilitating the satisfaction of such intrinsic needs (Bass, 1990). Thus, the sole emphasis on intrinsic need fulfillment for those who join organizations including club presidents and club members naturally facilitates high levels of TFL. TFL skills may be fostered by the environment itself, hence the lack of difference between Club Presidents who have served in a leadership role for a long period of time, and those who have not (Bass, 1990; Smith et al., 2017).

Practical Implications and Conclusions

Budget allocations to Campus Recreation and its programs have decreased in recent years, which has forced Campus Recreation professionals to seek ways to prove their value on campus (Mitchell et al., 2019). This study provides Campus Recreation professionals with the type of empirical support they need by illuminating the leadership practices and skills developed within Club Sports programs. TFL and its associated behaviors are in high demand in the workplace, which makes the experiential learning that occurs within Club Sports incredibly valuable to students in their lives after college (Greenbank, 2015; Posner, 2015; Smith et al., 2013; Wang et al., 2011). Such experiential learning and development are central to the mission of higher education and by allocating funding to Campus Recreation and Club Sports programs, institutions of higher education can provide greater opportunities for students to grow and apply didactic lessons outside the classroom (Dugan et al., 2015).

Secondarily, this study like Reynolds (2016), provides more theoretical evidence that Club Sports positively contributes to the retention of students. As noted earlier, TFL specializes in meeting the intrinsic needs of group members. Intrinsic need fulfillment and organizational commitment are positively correlated (Smith et al., 2017). Organizational commitment is inversely correlated with intent to leave, and positively correlated with retention, thus, the presence of TFL within Club Sports may be one of many reasons that students who participate in Campus Recreation programs typically have a higher retention rate than the rest of the student body (Forrester, 2014; Reynolds, 2016). Campus Recreation professionals should also consider the potential of burnout with regard to the additional stress and responsibilities placed upon Club Presidents (Bryant & Clement, 2015; Flosdorf et al., 2016). Student development workshops that include an emphasis on time management, delegation, and mental health may also prove beneficial in terms of club officer performance and wellbeing.

Limitations & Delimitations

This study, though reasonably robust in sample size, was limited to Club Sports teams at one institution. The values that the Club Sports program promotes are likely to be the ones that show

themselves in data such as TFL characteristics. By gathering data from more than one institution, the data may be more generalizable, and more significant differences may be observed.

To reduce the bias that may occur during in-person evaluations as observed by Treischl and Wolbring (2017), the GTL was delivered via email. Research on college students and surveys suggests that emailed surveys have a lower response rate than in-person assessment. Future studies may consider other surveying methods, though the response rate within this study was not necessarily a limiting factor (37.05% response rate).

Finally, the GTL is a Likert Scale type instrument and is thereby subject to some limitations. While mean scores are usually weak for Likert scales, the seven-item GTL creates a greater possible dispersion that is statistically stronger than most Likert scale surveys (Carless et al., 2000). The lack of a control group for comparison renders the mean scores less informative than they would otherwise be. To counter this potential limitation, other measures of central tendency were included to provide readers with a more holistic understanding of the perceptions regarding TFL behaviors of Club Presidents. By including the median, mode, and IQR, the degree of consensus amongst club members is more tangible, further supporting the claim that club presidents were perceived to exhibit TFL characteristics.

Future Research

This study is only a starting point regarding the organizational psychology and leadership of Club Sports programs but does begin to paint a picture of the type of leaders that Club Sports programs develop. To better identify the unique nature of Club Sports leadership, future studies should include a) multiple Club Sports programs from different universities and b) other Registered Student Organizations (RSOs) and student groups. In light of the somewhat surprising results of the second research question, future studies should compare the leadership styles present in Club Sports with organizations on campus that offer extrinsic incentives for membership. To address burnout and its impact on leadership change, longitudinal studies should be implemented to track changes in TFL behaviors of Club Presidents over time, as stress and burnout are common amongst student leaders (Bryant & Clement, 2015; Florsdorf et al., 2016). Additionally, future research should integrate measures of other leadership theories to determine if TFL is the most prevalent leadership style within Club Sports. Observational studies could be insightful and illuminate exactly how Club Presidents exhibit TFL characteristics. Administering self-assessments of TFL to Club Presidents in addition to the peer assessment could provide researchers with an idea of the degree to which student leaders are cognizant of their leadership behaviors. The findings of such a study may speak more to the nature of leadership within Club Sports. The degree to which TFL predicts organizational commitment, group goal orientation, and group performance within Club Sports should be more specifically investigated as well to more solidly support the value of Campus Recreation in higher education.

Conclusions

This study provides empirical support for the value of Club Sports programs as Campus Recreation professionals seek new ways to prove their value on college campuses nationwide. Considering an estimated two million students participate in Club Sports nationally (Weaver et

al., 2017), the present study assists in understanding the leadership skills that can potentially be gained through Club Sport participation. In this study, a large majority of club sport members perceived their Club President to exhibit TFL characteristics which are known to be extremely beneficial and highly desirable in a variety of industries (Greenbank, 2015). Club Sports programs may be a unique setting in which students can develop TFL leadership characteristics that serve students long after graduation (Chan & Mak, 2014; Posner, 2015). Armed with the empirical support provided by this study, Club Sports programs, and Campus Recreation professionals can more confidently make the case that they do significantly contribute to the mission of higher education through the provision of experiential learning and leadership development opportunities for college students (Jackson, 2018; Smith et al., 2013; Wang et al., 2011).



References

- Bass, B. M. (1985). *Leadership and performance beyond expectations*. New York: Free Press.
- Bass, B. M. (1990). From transactional to transformational leadership: Learning to share the vision. *Organizational Dynamics*, 18(3), 19-31.
- Boiral, O., Talbot, D., & Paille, P. (2015). Leading by example: A model of organizational citizenship behavior for the environment. *Business Strategy and the Environment*, 24, 532-550.
- Bryant, L. A., & Clement, D., (2015). Coping strategies of female peer leaders participating in college club sports. *Recreational Sports Journal*, 39(1), 16-26. doi:10.1123/rsj.2013-0032
- Carless, S. A., Wearing, A. J., & Mann, L. (2000). A short measure of transformational leadership. *Journal of Business and Psychology*, 14(3), 389-405. doi:10.1023/A:1022991115523
- Chan, S., & Mak, W. M. (2014). Transformational Leadership, pride in being a follower of the leader, and organizational commitment. *Leadership & Organization Development Journal*, 35(8), 674-690. doi:10.1108/LODJ-12-09-0076
- Chi, N. W., & Huang, J. C. (2014). Mechanisms linking transformational leadership and team performance: The mediating roles of team goal orientation and group affective tone. *Group & Organization Management*, 39(3), 300-325.
- Deci, E. L., Olafsen, A. H., & Ryan, R. M. (2017). Self-determination theory in work organizations: The state of a science. *Annual Review of Organizational Psychology and Organizational Behavior*, 4(1), 19-43. doi:10.1146/annurev-orgpsych-032516-113108
- Deci, E. & Ryan, R. (2000). The "What" and "Why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, 11, 227-268.
- Dugan, J. P., Turman, N. T., Torrez, M. A., & School of Education, Loyola University Chicago. (2015). When recreation is more than just sport: Advancing the leadership development of students in intramurals and club sports. *Recreational Sports Journal*, 39(1), 37-48. doi:10.1123/rsj.2015-0008
- Dwyer, P. C., Bono, J. E., Snyder, M., Nov, O., & Berson, Y. (2013). Sources of volunteer motivation: Transformational leadership and personal motives influence volunteer outcomes: Sources of volunteer motivation. *Nonprofit Management and Leadership*, 24(2), 181-205. doi:10.1002/nml.21084
- Flosdorf, M. L., Carr, B. H., Carr, J. W., & Pate, J. R. (2016). An exploration of the sport club president's experience. *Recreational Sports Journal*, 40(2), 106-119.
- Forrester, S. (2014). *The benefits of Campus Recreation*. Corvallis, OR: NIRSA.
- Gassman, J., Reed, D., & Widner, A. (2014). Student association activities contribute to leadership development of students in nonprofit management and leadership. *The Journal of Nonprofit Education and Leadership*, 4(2) Retrieved from <http://0-search.proquest.com.library.uark.edu/docview/1730202527?accountid=8361>
- Hardin, S. E. (2015). Leadership Assessment in Campus Recreation and Athletics. *New Directions For Student Leadership*, (147), 99-108.
- Houselog, R. T, (2014). Understanding motivating factors for college students' involvement in club sports. *Graduate Research Papers*. 40.
- Lehmann-Willenbrock, N., Meinecke, A. L., Rowold, J., & Kauffeld, S. (2015). How transformational leadership works during team interactions: A behavioral process analysis. *The Leadership Quarterly*, 26(6), 1017-1033. doi:10.1016/j.leaqua.2015.07.003

- Lifschutz, L. (2012). Club sports: Maximizing positive outcomes and minimizing risks. *Recreational Sports Journal*, 36(2), 104-112.
- Lower, L. M., Turner, B. A., & Petersen, J. C. (2013). A comparative analysis of perceived benefits of participation between recreational sport programs. *Recreational Sports Journal*, 37(1), 66-83.
- McDowell, J., Deterding, R., Elmore, T., Morford, E., & Morris, E. (2016). Title IX and Campus Recreation: Guidelines to increase gender equity in club and intramural sport programs. *Recreational Sports Journal*, 40(2), 133-151. doi:10.1123/rsj.2016-0012
- Mitchell, M., Leachman, M., & Saenz, M. (2019). State higher education funding cuts have pushed costs to students, worsened inequality. *Center on Budget and Policy Priorities, Washington, DC*.
- NIRSA. (2018). *What is Collegiate Recreation?* [Infographic]. Retrieved December 12, 2017, from <https://nirsa.net/nirsa/#learn-more-2>
- Odumeru, J. A., & Ogbonna, I. G. (2013). Transformational vs. transactional leadership theories: Evidence in literature. *International review of management and business research*, 2(2), 355.
- Overstreet, R. E., Hanna, J. B., Byrd, T. A., Cegielski, C. G., & Hazen, B. T. (2013). Leadership style and organizational innovativeness drive motor carriers toward sustained performance. *The International Journal of Logistics Management*, 24(2), 247-270. doi: 10.1108/IJLM-12-2012-0141
- Parker, S. K., Bindl, U. K., & Strauss, K. (2010). Making things happen: A model of proactive motivation. *Journal of Management*, 36(4), 827-856. <https://doi.org/10.1177/0149206310363732>
- Posner, B. Z. (2015). An investigation into the leadership practices of volunteer leaders. *Leadership & Organization Development Journal*, 36(7), 885-898. doi:10.1108/LODJ-03-2014-0061
- Reynolds, K. (2016). *A Relationship Study Comparing Satisfaction, Participation, and Commitment to Intramural and Club Sports with Students' Intention to Return to Campus* [Master's thesis, Winthrop University]. *Graduate Theses*. 22.
- Robertson, J. L. (2018). The nature, measurement and nomological network of environmentally specific transformational leadership. *Journal of Business Ethics*, 151(4), 961-975. doi:10.1007/s10551-017-3569-4
- Rosch, D. M. (2014). Predicting student leadership in agricultural professional preparation organizations. *NACTA Journal*, 58(1), 7-10. Retrieved from <http://0-search.proquest.com.library.uark.edu/docview/1508544507?accountid=8361>
- Salary, T. K. (2019). *The role of transformational and transactional leaders on the intrinsic and extrinsic motivation among employees in Atlanta: A phenomenological study*. (Order No. 13809563). [Doctoral Dissertation, Northcentral University]. ProQuest Dissertations & Theses Global.
- Smith, M., Arthur, C., Hardy, J., Callow, N., & Williams, D. (2013). Transformational Leadership and task cohesion in sport: The mediating role of intrateam communication. *Psychology of Sport and Exercise*, 14(2), 249-257. doi:10.1016/j.psychsport.2012.10.002
- Treischl, E., & Wolbring, T. (2017). The causal effect of survey mode on students' evaluations of teaching: Empirical evidence from three field experiments. *Research in Higher Education*, 58(8), 904-921. doi:10.1007/s11162-017-9452-4

- Wang, G., Oh, I. S., Courtright, S. H., & Colbert, A. E. (2011). Transformational leadership and performance across criteria and levels: A meta-analytic review of 25 years of research. *Group & organization management*, 36(2), 223-270.
- Warner, S., & Dixon, M. A. (2013). Sports and community on campus: Constructing a sports experience that matters. *Journal of College Student Development*, 54(3), 283-298. doi:10.1353/csd.2013.0044
- Weaver, A. G., Forte, D. J., & McFadden, C. W. (2017). Perceptions of higher education administrators regarding the role of club sports in the recruitment and retention of male students. *Recreational Sports Journal*, 41(1), 42-54
- Weese, W.J. (1995). Leadership and organizational culture: An investigation of Big Ten and Mid-American Conference campus recreation administrations. *Journal of Sport Management*, 9, 119-134.
- Xenikou, A., & Simosi, M. (2006). Organizational culture and transformational leadership as predictors of business unit performance. *Journal of Managerial Psychology*, 21(6), 566-579.

Appendix A. Global Transformational Leadership Survey

1. Age _____
2. Gender _____
3. To which racial or ethnic group(s) do you most identify?
 - American Indian/Alaskan Native
 - Asian
 - Black, Non-Hispanic
 - Hispanic/Latino
 - White, Non-Hispanic
 - Native Hawaiian/Pacific Islander
 - Two or More Races
 - Other
4. Are you a first generation college student?
Yes No
5. Classification:
Freshman Sophomore Junior Senior Graduate Student
6. What Club Sport are you primarily a member of?

7. How many SEMESTERS have you participated in Club Sports with this club?
0 1 2 3 4 5 6 7 8 9 10 11+
8. Are you an Officer for your Club?
Yes No
- 8a. If yes, what position do you currently hold?
Secretary Treasurer Vice-President President Other
9. How many SEMESTERS have you been a Club Sport Officer?
0 1 2 3 4 5 6 7 8 9 10 11+
10. Are you involved in any other student organization (RSO/Greek Life) on campus?
Yes No
- 10a. If yes, please state and describe the organizations you are a member of.
11. Do you or have you held any leadership roles in other organizations such as RSOs or Greek Life on campus?
Yes No
- 11a. If yes, please state and describe the positions and organizations you have/do hold.

Please indicate to what extent you feel your 2017-2018 Club President exhibits the following characteristics:

(1 = not at all like my club's President, 5 = very much like my club's President)

1. Communicates a clear and positive vision of the future
1 2 3 4 5
2. Treats club members as individuals, supports and encourages their development
1 2 3 4 5
3. Gives encouragement and recognition to club members
1 2 3 4 5

4. Fosters trust, involvement and cooperation among club members

1 2 3 4 5

5. Encourages thinking about problems in new ways and questions assumptions

1 2 3 4 5

6. Is clear about his/her values and practices what he/she preaches

1 2 3 4 5

7. Instills pride and respect in others and inspires me by being highly competent

1 2 3 4 5



Appendix B. Club President Survey

For 2017-2018 Club Presidents only:

1. Age: _____
2. Gender: _____
3. To which racial or ethnic group(s) do you most identify?
 - American Indian/Alaskan Native
 - Asian
 - Black, Non-Hispanic
 - Hispanic/Latino
 - White, Non-Hispanic
 - Native Hawaiian/Pacific Islander
 - Two or More Races
 - Other
4. First generation college student?
Y/N
5. What is your major?
6. Club for which you serve as President: _____
7. How many SEMESTERS (Fall & Spring only) have you participated in Club Sports?
0 1 2 3 4 5 6 7 8 9 10 11+
8. How many SEMESTERS (Fall & Spring only) have you been president of your club?
0 1 2 3 4 5 6 7 8 9 10 11+
9. Have you held other leadership positions within your club prior to becoming President?
Yes No
- 9a. If yes, how many SEMESTERS (Fall & Spring only) have you been a club sport officer (other than President)?
0 1 2 3 4 5 6 7 8 9 10 11+
- 9b. Please state and describe your roles within these positions.
10. Are you involved in any other student organizations such as RSO's or Greek Life on campus?
Yes No
- 10a. If yes, please state those you are a member.
11. Do you or have you held any leadership roles in other organizations such as RSOs or Greek Life on campus?
Yes No
- 11a. If yes, please describe the roles and organizations that you do or have held leadership positions in.

(Peer Reviewed Article)**Measuring the Levels of Athletic Identity and Identity Foreclosure of National Association of Intercollegiate Athletics (NAIA) Student-Athletes**

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Abstract

During a person's college years they are beginning to form identities and develop a sense of self. One of the most salient identities that college student-athletes identify with is their athletic identity. Numerous research studies have been conducted on the saliency of a student-athlete's athletic identity, however the vast majority of those research studies examined student-athletes participating at the NCAA (National Collegiate Athletic Association) Division I level. This study was designed to extend the previous investigation of athletic identity and identity foreclosure among college students by focusing on athletes participating at the NAIA (National Association of Intercollegiate Athletics) level.

By utilizing previously developed scales: Athletic Identity Measurement Scale (AIMS) and the Extended Objective Measure of Ego-Identity Status (EOM-IS), this study assessed a sample of male and female college student-athletes' AIMS and EOM-IS levels in order to investigate their levels of athletic identity and identity foreclosure. Further, this study looks to determine if there is a significant variance in AIMS and EOM-IS levels based on selected independent variables: grade classification, sport, scholarship and non-scholarship athletes, revenue generating and non-revenue generating sports. Participants in this study were student-athletes at a NAIA institution.

Key Words: athletic identity, identity foreclosure, student-athletes, National Association of Intercollegiate Athletics (NAIA), and student affairs.

Introduction

An individual's transition from high school to college is a very important time in that person's life. The formation of one's identity starts in childhood and progresses as that child grows through adolescence into adulthood. Identity formation has been defined as the development of an individual's distinct personality, which is regarded as a persisting entity in a stage of life by which a person is recognized or known (Erikson, 1968). This process of formulating an identity is a universal process and it defines individuals to others and themselves. Components of one's identity include a sense of continuity, a sense of uniqueness from others, and a sense of affiliation to a larger group or society. While the identity development process occurs throughout life, research suggests that substantial strides in one's identity occur during the college years (Torres, Jones, & Renn, 2019). During college, students begin developing a stronger sense of who they are due to their evolving identity. Progressive developmental trends in identity status are greater in the college years than in adolescence (Waterman, 1993).

Student-athletes are one of the subpopulations of college students that have garnered a lot of attention in identity development. Empirical research has been conducted on the correlation between college student identity formation and participation in intercollegiate athletics (Brewer & Petitpas 2017). Griffith and Johnson (2002) have suggested that participation in athletics while in college can provide a student with valuable life skills and psychological benefits that help facilitate identity development. Competing in intercollegiate athletics can teach self-discipline, teamwork, confidence, leadership, social, and interpersonal skills (Aries & Richards, 1999, Brewer, Van Raalte, & Linder, 2012). Team members often shared common traits that made the overall college experience less stressful; knowing that other athletes had experienced similar hardships and yet succeeded (Weight & Huml, 2016). On the contrary, some view college athletics to be detrimental to an individual's identity development. The student-athletes' attention might be drawn away from academics, as well as other social aspects of the college experience (Parham, 1993). Research conducted by Parham (1993) suggested that intercollegiate athletic participation might be negatively associated with such outcomes as involvement and satisfaction with the overall college experience, career maturity, and clarity in educational and occupational plans, and principled moral judgment (Pascarella et al., 1999). Whether positive or negative, research has suggested that athletics play a very important role in the identity formation process.

Marcia (2009) theorized that individuals have four identity stages or statuses that they go through in their process of identity development. Identity Diffusion, Identity Foreclosure, Identity Moratorium, and Identity Achievement. The core idea surrounding his theory was that one's sense of identity is determined primarily by the choices and commitments made regarding personal and social traits. Marcia suggested that a well-developed identity gives an individual a sense of one's strengths, weaknesses, and individual uniqueness. A person with a less well-developed identity does not have a well-articulated sense of self (Marcia, 2009). When discussing the topic of identity formation, it is important to also examine the concept of identity foreclosure. Markus and Nurius (1986) posited that a person's identity was formed over a lifespan, and that identity foreclosure typically occurs during adolescence (Markus & Nurius, 1986).

The process of identity foreclosure happens when individuals prematurely make a firm commitment to an occupation or ideology (Brewer & Petitpas, 2017). People who are foreclosed have not allowed for exploration of their internal needs and values. Intercollegiate student-athletes are primarily focused on their athletic pursuits, thus they often shut down any possibilities to explore their other internal needs and values. Murphy and Petitpas (1996) noted that many authors have suggested that the physical and psychological demands of collegiate athletics, coupled with the restrictiveness of the athletic system, may isolate athletes from mainstream college activities, restrict their opportunities for exploratory behavior, and promote identity foreclosure (Chartrand & Lent, 1987; Nelson, 1983; Petitpas & Champagne, 1988). Overall, athletic identity is often one of most dominant identities and this level of identity foreclosure increases with the level of sports participation.

Brewer and Petitpas (2017) found that student athletes who participated the NCAA Division I level have higher levels of identity foreclosure and higher levels of athletic identity than those that participate at non NCAA Division I institutions. Huml (2018) examined whether athletic identity is different for college athletes across the three NCAA divisions. The findings of Huml's study

demonstrated that there was a difference among the levels of athletic identity found in students athletes based on their NCAA division affiliation; student athletes who participated at the NCAA Division III level had lower athletic identity scores in comparison with student athletes who participated at the NCAA Division I and II level (Huml, 2018).

The current body of literature that focuses specifically on athletic identity, as opposed to other emerging identities formulated during adolescences, focuses mostly on elite athletes playing at NCAA Division I institutions. Little empirical research has been conducted exploring the athletic identity of student-athletes competing at institutions governed by the National Association of Intercollegiate Athletics (NAIA). Due to the lack of research conducted on student-athletes at these types of institutions, this research study attempted to fill an important void in the literature by investigating this unique group of athletes. The purpose of the study is to explore if students participating in athletics at NAIA level institutions display similarly high levels of athletic identity as elite athletes of the NCAA.

This study investigated three primary questions: 1. How do the levels of athletic identity and identity foreclosure for student-athletes at NCAA Division I institutions compare to similar to student-athletes at NAIA institutions? 2. Is there a correlation between athletic identity and identity foreclosure among athletes at a NAIA institution? 3. What are the differences in athletic identity and identity foreclosure based on specific variables such as a NAIA student athlete's year in school, sport played, type of sport played and if they are on scholarship?

Method

Participants

The sample of participants for this research study is considered a targeted sample because of the geographic location of the institution as well as the researchers' relationship to the institutions that allowed for access to the participants. All potential participants are student-athletes who participate in intercollegiate athletics at a university. There were 153 male student-athletes and 140 female student-athletes enrolled at the time of the study. This combines for a total of 293 student-athletes. Of the 153 male athletes 34 participate in baseball, 23 in basketball, 11 in cross-country, 8 in golf, 21 in lacrosse, 32 in soccer, 14 in swimming, 10 in tennis. Of the 140 female athletes 16 participate in basketball, 11 in cross-country, 5 in golf, 18 in lacrosse, 23 in soccer, 17 in softball, 16 in swimming, 13 in tennis, and 21 in volleyball.

Research Site

The research site was a four-year, multi-denominational institution. They are a member of the National Association of Intercollegiate Athletics (NAIA) Division II in basketball, Division I in all other sports (NAIA, 2015). The school competes within an intercollegiate athletic conference located in the midwest. In women's lacrosse, the university competes in the National Women's Lacrosse League (NWLL) and the men are seeking acceptance into the Men's Collegiate Lacrosse Association (MCLA).

Participant Recruitment

Participants were recruited through the support of the institute's Director of Athletics and approved by the Internal Review Board. Student-athletes were sent an email requesting their participation in a research study. The email came from the Director of Athletics and it contained a link taking the participant first to an informed consent page, and if consent is given, to the proposed measurement scales. Students had 4 weeks to complete the survey and reminder emails were sent out each week by the Director of Athletics to complete the survey. If participants had questions regarding the research study, they were provided the primary investigator's contact information so that their questions or concerns can be addressed accordingly.

Instrumentation

This research study utilized two instruments: The Athletic Identity Measurement Scale (AIMS) and The Extended Objective Measure of Ego-Identity Status (EOM-EIS). Additional items were included to obtain respondents' demographic data in a single survey administration. AIMS is a 10-item instrument that was designed to measure a person's level of athletic identity. The EOM-EIS is a 64-item instrument that was designed to measure the four areas of identity development, which are moratorium, diffusion, foreclosure, and achievement.

Athletic Identity Measurement Scale

AIMS is a standardized, psychometrically sound measure that tests Athletic Identity (AI). Brewer, Van Raalte, and Linder (1993) developed the AIMS as a measurement tool reflecting both the strength and the exclusivity of athletic identity. Since the early development of the AIMS, researchers have been examining its validity to improve the measurement tool (Brewer & Cornelius, 2001; Hale et al., 1999; Martin, Eklund, & Mushett, 1997). The AIMS was originally written as an 11-item Likert scale instrument, though preliminary analysis of the items led to one of the questions being removed from the instrument, as it showed little variance across respondents (Brewer et al., 1993). The 10-item scale encompasses social, cognitive, and affective elements of athletic identity (see Table 1). The items evaluate the self-reported thoughts and feelings from athletes' daily experiences.

Table 1. Athletic Identity Measurement Scale

Item
1. I consider myself an athlete.
2. I have many goals related to sport.
3. Most of my friends are athletes.
4. Sport is the most important part of my life.
5. I spend more time thinking about sport than anything else.
6. I need to participate in sport to feel good about myself.
7. Other people see me mainly as an athlete.
8. I feel bad about myself when I do poorly in sport.
9. Sport is the only important thing in my life.
10. I would be very depressed if I were injured and could not compete in sport.

Extended Objective Measure of Ego-Identity Status (EOM-EIS)

Adams, Shea, and Fitch (1979) developed the EOM-EIS to be used for classification purposes or a general measure of individuality or self-differentiation ranging from a diffused to an achieved-identity individual state by created the Objective Measure of Ego-Identity Status (OM-EIS). The OM-EIS was originally comprised of 24 items with six items reflecting each of the four identity stages (Diffusion, Foreclosure, Moratorium, Identity Achievement) with responses made on a 6-point Likert type scale ranging from strongly agree to strongly disagree (Adams, 1998).

The scale was updated to the Revised Extended Objective Measure of Ego Identity Status (EOM-EIS), which is a 64 item self-report scale measuring ego identity status in the ideological domains of occupation, politics, religion, and philosophical lifestyle as well as in the interpersonal domains of friendship, dating, sex roles and recreation. In each of the eight domains two questions, reflect each of Marcia's (1966) identity statuses (i.e., achievement, moratorium, foreclosure, and diffusion). Participants were asked to indicate how much they agree or disagree with each statement using a 6-point Likert scale. A score for each ideological identity status or interpersonal identity status is obtained by summing the scores for the answer to that status' questions in each of the four relevant areas. The EOM-EIS is limited in that it measures identity statues without providing information on why a person has received that score. Each of the four-part sections of EOM-EIS can be utilized as their own instrument to measure their specific aspect of identity. This study focuses on collegiate student athletes and the primary identity development that occurs during those years is identity foreclosure (Marcia, 2009). Therefore only the 16 identify foreclosure items were used in this study (see Table 2).

Table 2. Revised Extended Objective Measure of Ego Identity Status

Item
1. My ideas about men's and women's roles are identical to my parents'. What has worked for them will obviously work for me.
2. I might have thought about a lot of different jobs, but there's never really any question since my parents said what they wanted.
3. My parents know what's best for me in terms of how to choose my friends.
4. I guess I'm pretty much like my folks when it comes to politics. I follow what they do in terms of voting and such.
5. My ideas about men's and women's roles come right from my parents and family. I haven't seen any need to look further.
6. My own views on a desirable lifestyle were taught to me by my parents and I don't see any need to question what they taught me.
7. I only pick friends my parents would approve of.
8. I've always liked doing the same recreational activities my parents do and haven't ever seriously considered anything else.
9. I only go out with the type of people my parents expect me to date.
10. My parents decided a long time ago what I should go into for employment and I'm following through on their plans.
11. My parents' views on life are good enough for me, I don't need anything else.

12. I attend the same church my family has always attended. I've never really questioned why.
13. I've never really questioned my religion. If it's right for my parents, it must be right for me.
14. All my recreational preferences I got from my parents and I haven't really tried anything else.
15. I date only people my parents would approve of.
16. My folks have always had their own political and moral beliefs about issues like abortion and mercy killing and I've always gone along accepting what they have.

Demographic Data

Demographic data was collected from respondents (see Table 3). Students were asked to identify their gender, race, ethnicity, date of birth, sport, year in school, and scholarship status. The items used for race and ethnicity were chosen based on the US Department of Education's policy guidelines for data collection ("Policy Questions", 2008).

Table 3. Demographic Questions

Question	Response Option
1. Gender	Male Female
2. Ethnicity	Hispanic or Latino Not Hispanic or Latino
3. Race (please select all that apply)	White Black or African American Asian American Indian or Alaskan Native Native Hawaiian or Pacific Islander
4. Date of birth	__/__/__
5. What is your current academic classification?	Freshman Sophomore Junior Senior
6. What sport do you participate in (select all that apply)?	Baseball Basketball Cross Country Golf Lacrosse Soccer Swimming Tennis Softball Volleyball

7. Do you receive a scholarship for athletics?	No
	Yes, partial scholarship
	Yes, full scholarship

Results

Data was collected using the Athletic Identity Measurement scale (AIMS) and the Extended Objective Measure of Ego-Identity Status (EOM-EIS). The sample's descriptive statistics were reported including the means and the standard deviations of the respondent scores on the AIMS and EOM-EIS (see Table 4). Athletic Identity scores were analyzed as the predictor variable for Identity Foreclosure by using a bivariate correlation. Demographic data was entered into the analysis as control variables to see what impact they had on the results. The data was broken down by the self-reported demographic information and a report of the descriptive statistics of these varying subgroups was provided. The subgroups for this study are the student-athletes year in school, sport played, if the sport played is a revenue generating sport on non-revenue generating sport, and if that student-athlete receives an athletic scholarship or not. The results of the study were similar to the results of previous research studies on athletic identity and identity foreclosure among intercollegiate athletes (Brewer, Van Raalte, & Linder, 2012).

Sample

The study collected responses from 112 total respondents with 95 of those respondents completing the entire survey. The response rate for this survey was roughly 40%. The 17 incomplete surveys did not contain enough data for analysis and therefore were discarded. The descriptive statistics for this sample are reported in Table 4.

Table 4. Sample Descriptive of AIMS and EOM-EIS Scores

<i>Variables</i>	<i>n</i>	<i>%</i>	<i>AIMS_M</i>	<i>AIMS_SD</i>	<i>EMS_M</i>	<i>EMS_SD</i>
Gender						
Male	45	40.2	28.73	9.91	55.95	13.94
Female	50	44.6	32.30	10.69	60.52	14.54
Race						
White	68	60.7	30.96	9.25	57.31	13.57
Black	21	18.8	30.10	14.46	58.79	15.28
Asian	2	1.8	30.00	4.24	66.50	17.68
Other	4	3.6	28.00	10.92	70.25	20.68
Ethnicity						
Non-Hispanic	90	80.4	30.89	10.42	58.37	14.40
Hispanic	4	3.6	24.75	10.34	59.50	15.80
Classification						
Freshman	12	10.7	34.42	8.99	62.08	11.17
Sophomore	38	33.9	31.29	12.20	58.31	13.82
Junior	33	29.5	29.91	8.98	59.50	15.96
Senior	12	10.7	26.67	8.75	51.82	14.32

Sport						
Baseball	9	8.0	29.44	8.37	62.63	11.15
Basketball	13	11.6	24.92	11.36	55.92	10.47
Cross Country	9	8.0	26.88	7.18	51.50	18.88
Golf	3	2.7	33.33	10.69	58.33	3.22
Lacrosse	13	11.6	29.92	13.56	56.09	20.18
Soccer	9	8.0	36.67	9.01	61.50	14.29
Swimming	11	9.8	36.18	12.38	54.91	12.70
Tennis	2	1.8	25.50	2.12	46.00	4.24
Softball	12	10.7	28.50	8.62	63.08	15.08
Volleyball	12	10.7	33.33	8.15	64.17	13.72
Scholarship						
No	25	22.3	30.32	11.94	51.96	15.00
Yes	70	62.5	30.74	9.93	60.94	13.40

Note. $N = 112$

Preliminary Analysis

The first analysis that was conducted through SPSS was a bivariate correlation analysis to determine if there was a relationship between the Athletic Identity Measurement Scale (AIMS) scores and the Extended Objective Measure of Ego-Identity Status, (EOM-EIS) scores (Table 3). The results of the analysis indicated there was a high positive relationship between AIMS scores and EOM-EIS scores, $r(87) = .52, p < .001$. This correlation would suggest that as a respondent's AIMS score increased, their EOM-EIS score would likely increase as well, and vice versa.

Secondary Analysis

Using the categories established in the primary analysis, the relationship between athletic identity and class designation was examined. Given that a relationship was found to exist between AIMS and EOM scores, analyses proceeded. A one-way ANOVA was conducted to address the research question, *What are the levels of Athletic Identity and Identity Foreclosure for our sample?* The results of the between groups one-way ANOVA examining AIMS scores by class designation indicated there was no statistically significant difference in AIMS scores across the four class designations, $F(3, 90) = 1.21, p = .309$ (Table 4).

The next secondary analysis that was conducted examined the relational impact of athletic identity and sport. A one-way ANOVA was conducted and the results of the between groups one-way ANOVA examining AIMS scores by sport designation indicated there was no statistically significant difference in AIMS scores across the ten sport designations, $F(9, 82) = 1.52, p = .156$ (Table 4).

Following the analysis of the relational impact of athletic identity and sport, an analysis was conducted on the relational impact of identity foreclosure and class designation examined. A one-way ANOVA was conducted and the results of the between groups one-way ANOVA examining

EOM-EIS scores by class designation indicated there was no statistically significant difference in EOM-EIS scores across the four class designations, $F(3, 85) = 1.10, p = .356$. The Levene's test was not statistically significant ($p = .925$), indicating the assumption of homogeneity of variance was not violated.

The final one-way ANOVA was conducted to examine the relational impact of identity foreclosure and sport. The results of the between groups one-way ANOVA examining EOM-EIS scores by sport designation indicated there was no statistically significant difference in EOM-EIS scores across the ten sport designations, $F(9, 77) = 0.96, p = .47$. The Levene's test was not statistically significant ($p = .120$), indicating the assumption of homogeneity of variance was not violated.

During the process of analyzing the data, *t*-tests were conducted to determine if there was a significant difference between the AIMS score compared to gender and the AIMS score compared to scholarship status. The initial *t*-test of AIMS scores examined differences by gender. The results as shown in Table 4 indicated that there was not a statistically significant difference in the scores of males ($M = 28.72, SD = 9.91$) and the scores of females ($M = 32.30, SD = 10.69$), $t(92) = -1.67, p = .098$. The Levene's test was not statistically significant ($p = .862$) indicating the assumption of homogeneity of variance was not violated. The second *t*-test of AIMS scores examined differences by scholarship status. The results shown in Table 4 indicated that there was not a statistically significant difference in the scores of students without scholarships ($M = 30.32, SD = 11.94$) and the scores of students with scholarships ($M = 30.74, SD = 9.93$), $t(92) = -.171, p = .864$.

The initial *t*-test of EOM-EIS scores examined differences by gender. The results indicated that there was not a statistically significant difference in the scores of males ($M = 55.95, SD = 13.94$) and the scores of females ($M = 60.52, SD = 14.53$), $t(87) = -1.51, p = .136$. The Levene's test was not statistically significant ($p = .899$), indicating the assumption of homogeneity of variance was not violated. The second *t*-test of EOM-EIS scores examined differences by scholarship status. The results indicated that there was a statistically significant difference in the scores of students without scholarships ($M = 51.96, SD = 15.00$) and the scores of students with scholarships ($M = 60.94, SD = 13.40$), $t(87) = -2.75, p < .01$. The Levene's test was not statistically significant ($p = .450$) indicating the assumption of homogeneity of variance was not violated.

Discussion and Conclusions

Since AIMS is a 10-item instrument that uses a 7-point Likert Scale, scores can range from 10-70. The mean score for this sample was a 30.62, which indicated a moderate score on this instrument. The student-athletes for this sample participate at the National Association of Intercollegiate Athletics (NAIA) level. A student-athlete's level of athletic identity increases as the level in which they participate increase (Good et al., 2012). In accordance with the research conducted by Good et al. (1993), student-athletes who compete at the NCAA Division I level display the highest levels of athletic identity when compared to non NCAA Division I athletes.

The results from this study are in contradiction to the results reported by Brewer and Petipas's (2017) previous research on athletic identity and identity foreclosure. The scores for males and females in this current study were very similar, with female scores being just slightly higher than

the male scores. Although the scores for females were slightly higher than the scores for males, they were found not to have a statistically significant difference among them. This means that no conclusions can be made based on gender. The sports in which the female respondents for this study participated in could be a factor. Most of the female respondents participated in Softball, Volleyball, and Basketball, which are three of the winningest programs at the institution used for this study. Mills and Christensen (2006) conducted research on the relationship between athletic identity and the level of sport participation and they found that athletes who competed at NCAA Division I institutions as well as athletes who achieved success in athletics displayed higher levels of athletic identity. Therefore, it could be that the female student-athletes in this study were more successful in terms of winning percentage than the female student-athletes in previous research resulting in their higher levels of athletic identity.

Another reason for this sample having a moderate score on the AIMS could be due to the sample coming from an institution that is a religiously affiliated institution of higher learning. Religious identity is often one of the most salient identities (Holland et al., 2001). This would allow someone to theorize that a student-athlete at a religious affiliated institution would identify with their religious identity more than other aspects of their identity such as their athletic identity. The students who participated in this study would also be exposed to the intersectionality of religion and education through university sanctioned chapel services, prayer meetings, and bible study sessions, which in return can lead to students having a higher religious identity. In accordance with the research of Barber, Hunt, Stone, and Eccles (2005), students who participate in social activities beyond their academic pursuits are more likely to work through issues of personal and social identity. Due to the potential for competing identities, studying athletes at a non-religious NAIA institution would be beneficial in future research on the topic.

To measure the levels of identity foreclosure for this sample, the Extended Objective Measure of Ego Identity Status (EOM-EIS) was utilized. The mean score on the EOM-EIS was 58.41 and when you break that down by gender, the mean score for females was 60.52 and the mean score for males was 55.95. The mean EOM-EIS score for this sample was a 58.41, which is considered an above moderate score indicating that the sample displays above moderate levels of identity foreclosure (Klasen, 2016).

The research on identity foreclosure is consistent with the findings from this study; the student-athletes tend to have moderate levels of foreclosure. The time and devotion that participating in collegiate sports involves, limits the free time student-athletes must explore other aspects of their identity (Huml 2018).

Brewer and Petipas (2017) found that there is a correlation between athletic identity and identity foreclosure. However, the research focused on student-athletes competing at highly competitive NCAA Division I institutions. Researchers such as Katherine Whipple (2009) have investigated the relationship between athletic identity, identity foreclosure and career maturity at NCAA Division III level. Whipple's research study found that among the NCAA Division III athletes studied, only a moderate relationship exists between the two independent variables identity foreclosure and athletic identity, and the dependent variable career maturity. Although the relationships found Whipple's study were in alignment with previous research among NCAA Division I student-athletes, the

relationships among Whipple's sample of NCAA Division III student-athletes were much weaker. The data suggested that NCAA Division III student-athletes may negotiate their identity hierarchies differently than student-athletes competing at the NCAA Division I level. This points to the need for more research studies to include NAIA student athletes when examining identity.

Studies have examined the mean differences for grade classification and both studies found that regarding athletic identity, identity foreclosure and year in school, there are no significant differences (Oregon, 2010, Whipple, 2009). These findings contradict prior research conducted by Adler and Adler (1991), who found the athletic role in NCAA Division I collegiate student-athletes, became stronger and more exclusive with age. The study noted that the majority of participants entered college with high pre-existing levels of athletic identity. Additionally, the findings in this research study supports that academic class does not affect your level of athletic identity or identity foreclosure.

When examining the other selected variables of this research study (sport, revenue vs. non-revenue generating, and scholarship vs. non-scholarship) a one-way ANOVA test found there to be no statistically significant difference in AIMS and EOM-EIS scores across the selected variables. These findings are not congruent with the research of Oregon (2010), Miller and Kerr (2003), and Adler and Adler (1991). Oregon (2010) found there was statistical significance based on the type of sport played and whether that sport was revenue generating or non-revenue generating. In terms of scholarship versus non-scholarship student-athletes, a direct comparison cannot be made because the participants in Oregon's research study were NCAA Division I, student-athletes and almost all received some form of athletic scholarship.

Implications

One of the main implications of this research study is that it supports a correlation between athletic identity and identity foreclosure for student-athletes who compete at the NAIA level. Researchers such as Brewer (1993) had suggested that there is a correlation between a person's athletic identity and their levels of identity foreclosure; however, most of the studies conducted by Brewer and his colleagues examined student athletes at NCAA Division I institutions. It is not hard to believe that student-athletes at the NCAA Division I level strongly identify with their athletic role, thus causing them to not explore other facets of their identity. This research study is implying that the same can be said among student-athletes who complete at the NAIA level. The knowledge of the athletic identity levels of student-athletes could be very useful for NAIA institutions because they could then use that information to better develop academic advising, career counseling and other student service programs to meet the needs of their student-athletes.

Going beyond career counseling, a knowledge of athletic identity and identity foreclosure can be useful to student affairs practitioners because they often rely on the psychology behind identity development to develop academic advising, career counseling and retention programs (Torres, Jones, & Renn 2009). If students are displaying high levels of athletic identity and high levels of identity foreclosure that can be considered when students are choosing academic majors and selecting potential vocations. This research study offers student affairs practitioners information on the variables and factors that contribute to the levels of athletic identity and identity foreclosure of

student-athletes by providing peer-reviewed research on the topic. This information can then be utilized by student affairs practitioners to develop a baseline knowledge of the factors contributing to high levels of athletic identity and identity foreclosure and then institutions of higher learning can develop programs that are more equipped to meet the needs of their student-athletes.

Another important implication of this research study is that it expands the literature surrounding athletic identity and identity foreclosure to include student-athletes who do not compete at the NCAA Division I level. There are roughly 350 NCAA Division I, 300 NCAA Division II, 450 NCAA Division III, and 260 NAIA institutions in the United States (NCAA, 2020). However, most of the athletic research is conducted on the 350 NCAA Division I institutions, leaving out over 1000 other institutions. Considering most student-athletes do not participate at the NCAA Division I level, athletic research and the literature surrounding it should be more encompassing of non-NCAA Division I institutions. This research study aids in that process by conducting a study on student-athletes at a NAIA institution and broadening the literature in the field of athlete research, specifically at NAIA institutions who are religiously affiliated.

Limitations

Although actions were taken to reduce potential limitations, this study's results should be viewed in the context of a targeted sample research design. Most notably, the sample consisted of current male and female student-athletes at a select NAIA institution in the Mid-West region of the United States. The sample for this research study was a targeted sample and therefore may cause limitations in applying these findings to student-athletes who come from other parts of the country as well as different levels of competition. This sample is less representative of the actual NAIA and NCAA population of student-athletes in terms of racial, ethnic, and revenue to non-revenue comparisons. Finally, this sample reflected a greater number of sophomores and juniors, with a smaller portion of freshman and seniors being represented in this research study.

The collection procedures also created potential limitations. Respondents were sent an email with a link to the survey that came from the research site's Athletic Director. If students do not regularly check their school email account, they may not have been aware of the survey. Due to the time constraints of the academic calendar, the survey was sent out at the end of the spring semester and students may have been overwhelmed with preparing for final examinations and not have been able to respond to the survey. Another limitation to the timing of when the survey was distributed is that most of the institution's athletic teams were out of season. This could limit the research study in that student-athletes who are not in season may not feel obligated to participate in a research study that was being emailed to them from their athletic director. Additionally, the timing of the study may affect student responses. A student who completed this survey during their competitive season may be more likely to have increased identification with the athletic role compared to students who are out of season during that particular time.

Recommendations for Future Research

Despite the aforementioned limitations, this study has added to literature discussing athletic identity and identity foreclosure among NAIA student-athletes. Because this study was conducted at a

single institution, similar research studies should be conducted at wide variety of institutions in order to increase the number of participants with different levels of playing experiences and demographic backgrounds. Future research should consider doing in-depth qualitative studies focusing on identity foreclosure among the college athlete (Miller & Kerr, 2003). Research investigating athletic identity and identity foreclosure may benefit from longitudinal, qualitative analyses that may better specify the relationships among athletic identity and identity foreclosure among student-athletes. Researchers should also consider examining the reliability and validity of AIMS and the EOM-EIS instrument to access if they truly measure what they are designed to measure. Along those lines, researchers should also examine what are the additional ways in which athletic identity and identity foreclosure can be measured. Additional research should consider a larger sample size to potentially increase discovery of significant relationships between the variables given in this study. Testing the validity and reliability of each of the EOM-EIS subscales would give greater specificity to the research about identity by giving specific, stand-alone tools for measurement.



References

- Adams, G. R., Shea, J., & Fitch, S. A. (1979). Toward the development of an objective assessment of ego-identity status. *Journal of Youth and Adolescence*, 8(2), 223-237.
- Adler, P. A., & Adler, P. (1987). Role Conflict and Identity Salience: College Athletics and Academic Role. *Social Science Journal*, 27(4), 443-455.
- Aries, E., & Richards, S. (1999). The Division III student athlete: Academic performance, campus involvement, and growth. *The Journal of College Student Development*, 3, 211-217.
- Barber, B. L., Stone, M. R., Hunt, J. E., & Eccles, J. S. (2005). Benefits of activity participation: The roles of identity affirmation and peer group norm sharing. *Organized activities as contexts of development: Extracurricular activities, after-school and community programs*, 185-210.
- Brewer, B. W., & Cornelius, A. E. (2001). Norms and factorial invariance of the Athletic Identity Measurement Scale (AIMS). *Academic Athletic Journal*, 16, 103-113.
- Brewer, B. W., & Petitpas, A. J. (2017). Athletic identity foreclosure. *Current opinion in psychology*, 16, 118-122.
- Brewer, B., Van Raalte, J., & Linder, D. (2012). Athletic Identity Measurement Scale. *PsycTESTS Dataset*.
- Brewer, B. W., Van Raalte, J. L., & Linder, D. E. (1993). Athletic identity: Hercules' muscles or Achilles heel? *International Journal of Sport Psychology*, 24, 237-254.
- Chartrand, J. M., & Lent, R. W. (1987). Sports counseling: Enhancing the development of the student-athlete. *Journal of Counseling and Development*, 66, 164-167.
- Colleges and University by Religious Affiliation (2019). Retrieved from <http://campusconrner.com/religious-affiliations.html>
- Erikson, E. H. (1968). *Identity: Youth and Crisis*. New York: Norton.
- Good, A., Brewer, B., Petitpas, A., Van Raalte, J., & Mahar, M. (1993). Identity foreclosure, athletic identity, and college sport participation. *The Academic Athletic Journal*, 8, 1-12.
- Griffith, K. A., & Johnson, K. A. (2002). Athletic identity and life roles of Division I and Division III collegiate athletes. *Journal of Undergraduate Research*, 5, 225-231.
- Hale, B. D., James, B., & Stambulova, N. A. T. A. L. I. A. (1999). Determining the dimensionality of athletic identity: a "Herculean" cross-cultural undertaking. *International Journal of Sport Psychology*, 30(1), 83-100.
- Holland, D., Lachicotte W., Skinner D., & Cain, C. (2001). *Identity and agency in cultural worlds*. Cambridge, Massachusetts: Harvard University Press.
- Huml, M. R. (2018). A factor structure examination of athletic identity related to NCAA divisional differences. *Journal of College Student Development*, 59(3), 376-381.
- Klasen, S. A. (2016). An examination of the athletic identity, identity foreclosure, and career maturity of Division I collegiate student-athletes in nonrevenue-producing sports.
- Lamont-Mills, A., & Christensen, S. A. (2006). Athletic identity and its relationship to sport participation levels. *Journal of Science and Medicine in Sport*, 9(6), 472-478.
- Marcia, J. (2009). Life Transitions and Stress in the Context of Psychosocial Development. *Handbook of Stressful Transitions Across the Lifespan*, 19-34.
- Marcia, J. E. (1966). Development and validation of ego-identity status. *Journal of Personality and Social Psychology*, 3, 551-558.
- Marcia, J. (1966). The ego identity status approach to ego identity. *Ego Identity*, 3-21.

- Markus, H., & Nurius, P. (1986). Possible selves. *American psychologist*, 41(9), 954.
- Martin, J. J., Mushett, C. A., & Eklund, R. C. (1994). Factor structure of the athletic identity measurement scale with adolescent swimmers with disabilities. *Brazilian International Journal of Adapted Physical Education Research*, 1, 87-99.
- Murphy, G. M., Petitpas, A. J., & Brewer, B. W. (1996). Identity foreclosure, athletic identity, and career maturity in intercollegiate athletes. *Sport Psychologist*, 10, 239-246.
- NAIA (2015). *2015-2016 NAIA football participating schools*. Retrieved from http://naia.org/ViewArticle.dbml?DB_OEM_ID=27900&ATCLID=205323224
- NAIA Honors (2019). Retrieved from <http://www.naiahonors.com/hall-of-fame>
- NCAA (2020). Our three divisions. Retrieved from <http://www.ncaa.org/about/resources/media-center/ncaa-101/our-three-divisions>
- Oregon, E. M., (2010). An Examination of Athletic Identity and Identity Foreclosure among Male Collegiate Student-Athletes. Graduate Theses and Dissertations.
- Parham, W. D. (1993). The Intercollegiate Athlete A 1990s Profile. *The counseling psychologist*, 21(3), 411-429.
- Pascarella, E.T., Truckenmiller, R., Nora, A., Terenzini, P.T., Edison, M. & Hagedorn, L.S., (1999). Cognitive impacts of intercollegiate athletic participation. *The Journal of Higher Education*, 70, 1-26.
- Policy Questions on the Department of Education's 2007 Guidance on Collecting, Maintaining and Reporting Data by Race and Ethnicity. (Ed. October 2008). Retrieved from <http://www2.ed.gov/policy/rschstat/guid/raceethnicity/questions.html>
- Torres, V., Jones, S. R., & Renn, K. A. (2009). Identity development theories in student affairs: Origins, current status, and new approaches. *Journal of College Student Development*, 50(6), 577-596.
- Waterman, A. S. (1993). Developmental perspectives on identity formation: From adolescence to adulthood. In J. E. Marcia, A. S. Waterman, D. R. Matteson, S. L. Archer, & J. L. Orlofsky (Eds.), *Ego identity: A handbook for psychosocial research* (pp. 42-68). New York: Springer-Verlag.
- Weight, E. A., & Huml, M. R. (2016). Education Through Athletics. *Journal of Intercollegiate Sport*, 9(2), 352-378.
- Whipple, K. R. (2009). Athletic identity, identity foreclosure, and career maturity: An investigation of intercollegiate athletes. Graduate Theses and Dissertations. Paper 10492.
- Who We Are (2019) Retrieved from <http://www.ncaa.org/about/who-we-are>

(Peer Reviewed Article)**Safety Concerns in Football: A Systemic Review on the Protocol of Return to Play after Concussion***Alexis Smith, Morehead State University**Steve Shih-Chia Chen, Morehead State University**Gina Gonzalez, Morehead State University**Beau Braden, Bellarmine University***Abstract**

The purpose of this article was two-fold: (1) to address and highlight the standards of concussion management protocol provided by the NATA, CDC and major sports governing bodies, and (2) to examine how concussion protocols of different levels of athletic programs and organizations adhere to the proposed guidelines and standards. According to the literature, an ideal concussion management plan must cover elements such as: concussion education, responsibility and information about student athletes' self-reporting signs and symptoms, policy and rules on restricting activities of athletes who are diagnosed with a concussion, requirements and procedures for diagnosis of a concussion and clearance before returning to play (RTP), baseline testing for athletes, return to learn guidelines, and a stepwise RTP progression. The results of our analysis revealed that most of the programs had complied with the NATA concussion treatment protocol and standards, particularly on the element of the stepwise progression RTP protocol. Implications and practical suggestions are discussed to help improve existing protocols to better serve injured athletes and protect all athletes from further exposure to sport related concussions (SRC).

Introduction

American football is one of the most popular and prominent sports in the United States (Sage, Eitzen, & Beal, 2019). Boys begin playing football at a young age and many aspire to play at the collegiate and professional levels. Football leagues for kids around the country remain popular with variations such as flag football, youth football, interscholastic football, and/or pop warner leagues (Kahler, 2016). Despite being the most popular high school sport in the country, the number of kids participating in football at the community and youth level has seen a gradual decrease in recent years (Sage et al., 2019). The discovery of chronic traumatic encephalopathy (CTE), a progressive degenerative disease caused by suffering repeated concussions and traumatic brain injuries, has resulted in serious concern about players' safety in the sport of football (Reiter, 2015; Sage et al, 2019). Due to the high speed actions, size of the players, and full-contact nature of the sport, football carries a substantial risk of injury. Undoubtedly, head injuries, specifically concussions, have been a growing concern surrounding the game of football and have become an important discussion in the sports world (Kluger, 2011, Gregory, 2014). The autopsy findings of Dr. Bennet Omalu on deceased professional football players, had generated public attention about the impact of concussions associated with playing football (Gregory, 2020; Reiter, 2015). Head injuries can have long-lasting impacts on athletes for years down the road, ultimately affecting quality of life. Concussion have been linked to early onset dementia, chronic traumatic encephalopathy (CTE), personality changes, mood swings, and even suicides (Mayo Clinic, 2019; Taylor, 2015).

Head Injuries in Football

It is estimated that 1.6 to 3.8 million concussions occur in sports and recreational activities annually (Daneshvar, Nowinski, McKee, & Cantu, 2011). Between 2001 and 2009, emergency room visits for brain injuries increased up to 62% (Daneshvar et al., 2011; Datalys Center, 2009; Kerr, Simon, Grooms, Roos, Cohen, & Dompier, 2007). Among females ages 10-19, the most common causes for concussion-related head injuries were soccer, basketball and bicycling (Daneshvar et al., 2011). Football was the most common cause of concussions for all male athletes for all ages (Gessel, Fields, Collins, Dick, & Comstock, 2007; Datalys Center 2009). More than a half million concussions in the U.S. were sustained by children who played tackle football (Datalys Center, 2009). It was estimated that concussions accounted for nearly 15% of sports related injuries in high school athletics. Since 1997, at least 50 high school or younger football players in more than 20 states have died due to poor concussion management after experiencing serious head injuries on the field (Kerr et al, 2007).

At the collegiate level, the rate of football-related head injuries might seem less severe; nevertheless, the risk is still high and alarming (Inside Higher Ed, 2012). The overall injury rate in the National Collegiate Athletic Association (NCAA) football was 8.1 injuries per 1,000 athlete exposures, and concussions alone accounted for 7.4% of all injuries (NCAA, 2009). Players are seven times more likely to get hurt during a game than in practice (NCAA, 2009). From 2004-2009, there were no fatalities from direct catastrophic injuries; however, 11 deaths were caused by the complication of sustaining repeated head trauma (Datalys Center, 2009).

Many sports carry the risk of concussions and other head injuries. However, football is potentially the most dangerous sport when it comes to concussions, due to its highest rates of concussions and brain injuries among collegiate sports (Datalys Center, 2009; Kerr et al, 2007). For these reasons, the goals of this review are to: (1) discuss and highlight the standards of concussion management protocol provided by the NATA, CDC and major sports governing bodies, and (2) examine how concussion protocols for different levels of athletic programs and organizations (n = 10) adhere to the proposed guidelines and standards.

The NATA Management of Sport Concussion Position Statement

To understand how to manage concussions, one must know the definition of concussions, pathology of their occurrence, and procedures for treating the concussions (AANS, n.d.; Baugh, Kroshus, Stamm, Daneshvar, Pepin, & Meehan, 2016; McCrory et al, 2012). Concussion, or mild traumatic brain injury, is described as a traumatic brain injury (TBI) that is induced by a force that's transmitted to the head from a direct or an indirect impact, resulting in rapid acceleration and then deceleration of the brain (Broglia et al, 2014; CDC, 2019). The sudden change in cerebral velocity elicits neuronal shearing, which causes changes in ionic balance and metabolism (Broglia et al., 2014). Signs of a concussion may include memory problems, confusion, dizziness, headache, double vision, nausea or vomiting, sensitivity to light or noise and many other issues (AANS, n.d.; Asken, Snyder, Clugston, Gaynor, Sullan, & Bauer, 2017; Ontario Neurotrauma Foundation, 2018).

Athletic Trainers (ATs) are licensed medical professionals who receive both clinical and comprehensive educational instruction in concussion management. ATs are usually the frontline personnel who respond to identify and evaluate injured athletes (Broglia et al., 2014; Notebaert & Guskiewicz, 2005). Therefore, ATs play a huge role in concussion management and the return to play (RTP) process. It is recommended that ATs should be present at all levels of play and work closely alongside a physician to develop and implement a concussion management protocol (Broglia et al 2014; McCrory et al, 2012).

Most ATs rely on clinical examination or symptom checklists to evaluate athletes with concussion, and decide whether to return an athlete to play (Notebaert & Guskiewicz, 2005). Additional methods for making a return-to-play decision also include the use of the return-to-play guidelines. The National Athletic Trainer's Association's (NATA's) Management of Sport Concussion position statement, which advocated using symptom and procedure checklists to determine student-athletes' condition for return to play, was perceived as the best practice guidelines for managing sports related concussions (Alla, Sullivan, McCrory, & Hale, 2011; Broglia et al., 2014; McCrory et al, 2012; Notebaert & Guskiewicz, 2005). During the early introductory stage of the Concussion position statement, only 3% of certified athletic trainers surveyed used a multifaceted objective assessment battery (Notebaert & Guskiewicz, 2005). A more recent study indicated that over 60% of ATs working in small or mid-size athletic programs at the NCAA Division II and III level, adopted multifaceted objective tests to track concussion symptoms at different stages (Buckley & Kelly, 2015). In addition, over 80% of schools reported using a graded exercise protocol before return to play (Buckley & Kelly, 2015).

In addition to standard guidelines for testing and monitoring student-athletes' baseline and recovery, this statement also provided athletic trainers, healthcare professionals, and administrators information, such as concussion education, basic strategies for injuries prevention, and proper documentation for legal concerns (Alla et al., 2011). Following is a brief introduction and description of each of the major components covered in the NATA's concussion management statement.

Concussion Education

Prior to each football season, the sports medicine staff, coaches, and the administrators should review the current institutional concussion protocol and policies/procedures established under the guidelines of NATA. In general, the protocol should cover injury definition, signs and symptoms, and concussion management procedures (Broglia et al., 2014).). Data has shown that athletes have limited knowledge in regard to concussion symptoms and non-reporting of concussion symptom rates were astonishingly high (Broglia et al 2014; Wallace, Covassin, Nogle, Gould, & Kovan, 2017).

Athletes who are not aware of the signs and symptoms of a concussion would likely continue to play and aggravate brain injuries. As part of an effective education program, the concussion protocol as well as prevention, recognition and referral, returning to play, physical and cognitive restrictions, and consequences of improper concussion management, should be communicated and made readily available to coaches, athletes, parents, administrators, and other appropriate healthcare

professionals. When properly implemented, these educational programs have shown to be effective (Alla et al., 2011; Broglio et al, 2014).

Baseline Testing, Evaluation, and Diagnosis

The NATA strongly recommends choosing a concussion-assessment model covering objective baseline and post-injury testing (Broglio et al., 2014). When selecting a concussion management protocol and evaluation, all members of the sports medicine team should be involved and obtain approval from the athletic administrators (Broglio et al 2014). Most appropriate concussion protocols and assessment tools should be easily utilized in both the clinical setting and on the field. Once the testing protocol has been chosen, each athlete will be examined in an appropriate environment that is designed to amplify test performance. Tests should be able to be easily reproduced in the post-injury setting (Broglio et al., 2014; Ontario Neurotrauma Foundation, 2018).

Ideally, all athletes, especially adolescents whose brains are still developing, should go through an annual pre-season baseline testing procedure. The purpose of baseline testing is to obtain a representation of the athlete's brain function at an uninjured state, with the intention of assisting the clinician if a TBI is incurred. Baseline testing covers clinical history, medication, physical and neurologic evaluations, measures of motor control, neurocognitive function, and pre-injured self-reported symptoms (Erdal, 2012; Randolph, 2011). At minimum, athletes who are at a high risk of concussion based on their sport, should be screened. Since baseline data from group testing has not been available and well-identified, individual baseline testing becomes more critical and necessary. If an athlete has a past concussion history or has a condition(s) such as attention-deficit hyperactivity disorder (ADHD), the individual would be more susceptible to aggravate the concussive impact (Broglio et al., 2014). To ensure baseline data is accurately obtained, athletes should not undergo any baseline testing, if they are injured, ill, or physically and/or mentally fatigued (Erdal, 2012).

Players suspected to have sustained a concussion during competition or practice, or are exhibiting any concussion-like symptoms, should be removed from activity immediately. Once removed from the activity, their mental status should be regularly monitored and checked (Broglio et al., 2014; Ontario Neurotrauma Foundation, 2018). Most of the time, patients are sent home with post-injury instructions, but if there is a significant decline in mental status, this could reflect severe trauma and warrant transport to a medical facility. Diagnosis of a concussion would then be made through a clinical evaluation by a trained medical professional. Additional assessments with several useful tools are often used to assist the clinicians for monitoring the recovery progress. If a concussion diagnosis is made, the participant should not be allowed to return to physical activity until they are cleared by a physician (Broglio et al., 2014; Wallace et al., 2017).

Objective baseline and post-injury information collected during different stages are important because they increase the sensitivity and utility of various tests (Broglio et al 2014; Randolph, 2011). Once a concussion diagnosis has been made, the patient should undergo daily check-ins to monitor the course of recovery. The emphasis of post-injury management covers the cessation of symptoms, restoration of motor control, and return of neurocognitive function to the pre-injury levels (Broglio et al., 2014). It is essential to instruct the athletes and coaches about post-injury

recovery protocol. During the acute phases of recovery, the athlete should avoid all physical activity and limit cognitive activity, so that concussion symptoms are not worsened. However, evidence has shown that support for active recovery is growing and deserves consideration (Leddy, Wilber, & Willer, 2018).). Table 1 lists many assessment tools and their function for monitoring athletes' recovery in post-injury management. These tools are used in a recovery protocol as well as the pretesting and baseline testing. However, none of them can be used alone as a solo diagnostic tool or a standard tool for determining the athletes' concussion. Some of these tools are often used for post-injury testing to collect meaningful data for comparisons. When the patient reports zero symptoms, then their objective assessments should be repeated and compared with their baseline testing results (Asken et al., 2017; Broglio et al., 2014).

Table 1. Key elements of various diagnostic tests (Baugh et al., 2015; Broglio et al., 2014; Erdal, 2012; Mack et al., 2019; Randolph, 2011)

Test	Function
Self-Report Symptom Assessment	A test with great sensitivity that uses symptom checklists or scales to assess symptom duration or severity.
Measurement of motor control	Documenting changes in gait, postural control, and hand movement.
ImPACT	A neuropsychological testing used for baseline testing.
Balance Error Scoring System (BESS)	A sensitive and economical evaluation on overall postural control (balance). The test is highly portable and can be administered with minimum training.
Standardized Assessment of Concussion (SAC)	A five-minute screening test on mental status used at the sideline. It assesses orientation, immediate memory, concentration, and delayed recall. The test's sensitivity declines after twenty-four hours. It should be used in combination with a motor-control evaluation and symptom assessment.
Ocular test (Vestibular ocular motion screening, VOMS)	The VOMS is a screening tool developed to detect signs and symptoms of a concussion. It examines the systems responsible for integrating balance, vision, and movement.

Self-reporting of symptoms is a highly recommended procedure of concussion management, because the collected data at the baseline and post injuries stage are the primary measures used to proceed to the next stage of the recovery (Broglio et al., 2014). The decision-making process for return to play should not start until the patient no longer reports concussion-related symptoms, has a normal clinical examination, and achieves at or above pre-injury levels on neurocognitive function and motor control (Asken et al., 2017; Broglio et al 2014). During the entire recovery process, the ATs should closely communicate with the physician and ensure the athletes' recovery is progressing normally (Broglio et al., 2014).

Return To Play (RTP) and Other Considerations

Because everyone reacts to a concussion differently, there is no definite time that guarantees a full recovery. Athletes should not progress to the RTP stage until they are symptom free and able to perform at or above their pre-injury levels of functioning on all objective concussion assessments

(Broglia et al., 2014). There should be a minimum of 24 hours between each of the seven progression steps of the RTP protocol (see Table 2) (Broglia et al., 2014). At any stage of the RTP protocol, if the participant complains of symptoms or shows a decline in their testing/assessment performance, the participant should stop their tasks and activities immediately. Subsequent attempts should be given at a minimum of twenty-four hours later (Asken et al., 2017; Broglia et al., 2014).

Table 2. Seven steps of the RTP protocol

Step 1	No activity
Step 2	Light exercise. No greater than 70% age predicted max heart rate
Step 3	Sport specific activities w/ no contact
Step 4	Non-contact training involving others and resistance training
Step 5	Unrestricted training
Step 6	Return to play

Cognitive rest is just as important as physical rest. Cognitive rest refers to limiting academic and cognitive stressors (i.e., reading, writing, mathematics, and computer analytic work) in daily activities (Broglia et al 2014). The goal of cognitive rest is to keep the brain from engaging in stressful mental tasks that may aggravate concussive symptoms. Cognitive dysfunctions such as slow processing speed and reaction time were documented on a number of concussed individuals (Williamson, Norte, Broshek, Hart, & Resch, 2018). These dysfunctions hindered student-athletes' performance in school and prolonged the recovery process (Williamson et al., 2018). Students recovered from the concussion have reported difficulty with learning and dealing with anxiety in school. Therefore, in addition to focus on RTP, research also continues to explore on the return to learn (RTL) practices as well. The existing RTL protocol addresses academic accommodations such as a temporary adjustment to an individual's learning environment and education plans (Williamson et al., 2018). In collegiate athletics, the ATs also monitor the RTL protocol of the patients. The stepwise progression includes: (1) remain at home or in a residence hall, if the student-athlete can't tolerate light cognitive activity, (2) allow student-athletes to return to the classroom once they are able to tolerate cognitive activity without exhibiting concussion symptoms, and (3) allow a gradual increment of cognitive and learning activities as student-athletes return to the baseline level of their cognitive function (NCAA Sports Science Institute, 2017).

General Contents of Studied Concussion Management Protocols

As the governing body of all high school state athletic federations, the National Federation of State High School Federation (2015) had created an updated clear concussion management standards and guidelines for member schools to utilize. These guidelines were set forth to be administered and implemented by the member schools. Its stepwise RTP protocol specifically followed the "Consensus Statement on Concussion in Sport" given by the Center for Disease Control and Prevention (CDC, 2015).

In 2010 the NCAA put forth the "Inter-association Consensus: Diagnosis and Management of Sport-Related Concussion Guidelines" to all affiliated institutions, and requested that each submitted its concussion safety protocol to the committee by May 1 of each year (Baugh et al 2016). The protocol should include: (a) policies and procedures that meet the requirements of the constitution,

(b) procedures for pre-participation baseline testing of each student athlete, (c) procedure for reducing exposure to head injuries, (d) procedures for education about concussion including a policy that addresses RTL, and (e) procedures that ensure proper and appropriate concussion management. The guidelines were made available to all student-athletes who have suffered a concussion. Each school's athletic director was required to sign the certificate of compliance and ensured to implement best treatment for any injured athletes. A five-step (stepwise progression) RTP protocol was adopted. The injured student-athlete should only be progressed to this protocol when he/she returned to baseline levels of symptoms, cognitive function, and balance. At any step of RTP, if the student-athlete for whatever reason becomes symptomatic or experiences a decline in clinical/cognitive measures, the team physician should be notified and request the student-athlete to return to the previous step (level) of activity.

A general outline of the NCAA's RTP protocol was highlighted in Table 3. The NCAA is not the only organization that has crafted the protocol for returning to play. The National Football League (NFL) and numerous high school athletic associations also have similar guidelines for their athletes to follow.

Table 3. NCAA's five-step RTP protocol

Step 1	Light aerobic exercise: Activities can include walking, swimming, or riding a stationary bike. No resistance training and if asymptomatic with this, then can continue with the next step.
Step 2	Sport specific activity without head impact: Patients can continue onto next step, if remains asymptomatic.
Step 3	Non-contact sport drills and resumption of progressive resistance training: If patients are asymptomatic after finishing Step 3, they can continue onto next step.
Step 4	Unrestricted training: If patients are asymptomatic after finishing Step 4, then they can continue onto the last step.
Step 5	Return to competition/play. Medical clearance will be determined by the team physician/physician designee, or ATs (in consultation with the team physician).

Analyses of the Concussion & RTP Protocol of Selected Athletic Programs/Organizations

Second-impact syndrome, a second blow to the head of a concussed player exhibiting symptoms, is the primary concern of returning that player back to play too quickly (Broglia et al., 2014; Sport Concussion Center, n.d.). Media has raised the concerns of concussed players who returned to play too soon and resulted more severe brain trauma or even deaths (Taylor, 2015; Wertheim, 2014). The authors conducted a systematic review by examining the concussion management and return to play (RTP) protocol of 10 athletic programs and organizations. The goals of this analysis were to examine: (1) how these teams' and organizations' concussion management protocol adhere to the guidelines recommend by the NATA (or CDC), and (2) what practices were implemented by these teams and organizations to minimize the impact of concussion.

The Observed Sample and Examined Procedures

Ten organizations whose concussion management protocols under this systematic review included four high school state federations, five NCAA affiliated members (three Division-I, one Division-II and one Division-III institutions), and one professional league (NFL). These organizations were chosen in a convenience fashion and were selected based on following: (1) their locations were geographically close to the research team's affiliated institution, (2) the authors had a unique tie or relationship with the selected organization (i.e., having a fellow athletic trainers working there or has worked with the organization before), (3) these organizations represented each level of play (including high schools, major collegiate and small collegiate programs, and professional organizations).

Each member of the research team was assigned to summarize the concussion management protocol of selected organizations. All used Google.com with the following key words to locate the protocol documents: (1) name of the organization, (2) athletics, (3) concussion management protocol, and (4) return to play. When the summaries were completed, all authors would individually go over all ten protocols and review each other's summaries for accuracy based on the protocols posted online. It was noted that each online protocol contained the most updated current information provided by the institutions or organizations during the period of analysis. Each of the observed collegiate institutions and high schools affiliated with the observed state federations had at least one athletic trainer confirm the program's maximum effort in concussion management protocol compliance.

A summary table covering the available contents in six specific areas of management protocol were created based on a consensus agreement among all members of the research team (please refer to Table 4). The detailed descriptions of all ten protocols were shown in Appendix A. Four high school organizations in this study sample had adopted CDC's recommendations as primary guidelines. The following summary table (Table 4) displayed how each organization's protocol complied with the six content-areas of the gold standard set by the NATA.

Table 4. Illustration of various organizations' compliance to the NATA position statement

Organization	Concussion Education	Responsibility to Report Signs/Symptoms	Physician Clearance	Baseline Testing	RTL Considerations	Adoption of a Stepwise RTP Protocol
HS1	✓	✓	✓		✓	✓
HS2	✓	✓	✓			✓
HS3	✓	✓	✓		✓	✓
HS4	✓	✓	✓	✓	✓	✓
U1	✓	✓	✓	✓	✓	✓
U2			✓	✓		✓
U3	✓	✓	✓	✓	✓	✓
U4	✓	✓	✓	✓	✓	✓

U5	✓	✓	✓	✓	✓	✓
NFL	✓	✓	✓	✓	N/A	✓

HS= High School; U = College/University; NFL = National Football League

**Note: All organizations have a stepwise progressive protocol for RTP; however, the strenuous level and depth of the stepwise program may vary.*

Discussion and Conclusions

There were both similarities and differences in all the concussion protocols among ten observed organizations. All of them generally followed the guidelines set by the NATA, CDC, and their primary governing bodies closely; however, some of the protocols were simpler and vaguer than the others in certain sections. Differences in the RTP protocols were found with duration ranging from four, five, or seven days long. Ideally, it was recommended all concussion protocols should include all six listed elements: (1) concussion education, (2) responsibility for the diagnosed student athletes to report their concussion signs and symptoms, (3) requirements for receiving clearance from a physician before returning to play, (4) baseline testing for athletes in high risk sports, (5) return to learn (RTL) guidelines, and (6) a stepwise RTP protocol (Baugh et al., 2016). In general, most of the entities had adhered to the NATA concussion treatment protocol and standards.

Baseline Testing and Considerations for Return to Learn were two criteria requiring better conformity. As for the Return to Play protocol, all organizations have their own stepwise progressive measures; however, the strenuous level and depth of the program may vary. Eight of the ten RTP protocols followed a five-step progression. University 1's progression had an additional step between light aerobic exercise and sport-specific activity to ensure that the recovered athlete was truly ready to move on to more rigorous activity. In University 2's four-step progression protocol, after the non-contact practice phase, it allowed the player to engage in full contact activity with no restrictions. However, it was hard to know if the individual was to return for competitions. Research suggested it was safer for the player to engage in a full-contact practice or simulation before they were released to full activity and competition (Broglio et al., 2014). In addition, University 2 might need to expand the contents of concussion management protocol by inserting more guidelines on RTL. Typically, three of the four high school protocols had relatively less information addressing the specificities of baseline testing. Only High School Federation 4, showed more contents in baseline testing in its protocol. The authors wondered if budget limitations precluded most of the high schools from conducting thorough in-house baseline testing. The NFHS may need to create amendments to address this topic in its existing 2017 guidelines for management of concussion sports.

All reviewed collegiate concussion protocols met the recommendations in all six criteria from the NATA and NCAA, except University 2. University 2's online protocol was not very clear and had no mention of doing any concussion education for all athletes and related personnel. It did not address the responsibility of athletes to report any signs or symptoms. Nor did it discuss any RTL criteria or considerations.

Studies has shown the difficulties in identifying how various athletic programs and organizations adhere to the NATA standards and guidelines for managing concussions (Notebaret & Guskiewicz,

2005; Buckley & Kelly, 2015). Due to the small size of the review sample and limited surveyed information from the ATs, this review cannot be seen as a study of various organizations' compliance level. Nevertheless, when institutions are willing to post and update their concussion management protocol online and make the information available, this practice begins to show the good faith and the transparency in dealing with the concussion issue and serving the student-athletes with the best medical care.

Even with little research investigating in RTL progression, the NCAA deemed this topic as a necessary component in a concussion management protocol for athletes recovering from a head injury. The NCAA recommended a stepwise progression for RTL, as for RTP as well. The student's cognitive recovery and integration back into learning should be as important as (if not more important than) safe integration into their sport participation

Youth sports and high school programs typically don't have the resources for sophisticated baseline testing and sideline support of medical personnel. However, it was encouraging to witness the observed HS state federations all implemented a concussion management protocol following the guidelines provided by the NATA and CDC. The individual schools also need to deal with exceptional challenges in implementing these policies. Across the board, high school players are not as strong and athletic as college players. Many young athletes are still developing physical and mentally in their high school careers, so traumatic head injuries could be even more damaging. Medical professionals, whether it is an athletic trainer or doctor, may not be easily available for practices and competitions as in the collegiate and professional setting. In the authors' opinions, the rules and guidelines recommended by the NFHS and the state athletic associations should be as stringent as those of colleges and universities, if not more so. They should be clear and concise enough to be understood and followed by non-medical professionals, such as parents, coaches, and administrators. However, additional consideration should be given to which aspects of concussion management can be handled by the non-medical professionals. The practice is highly important since there is a risk and liability issue when involving the non-medical professionals managing the RTP protocols and baseline testing. The education program for understanding various aspects of concussion must be effectively delivered to students and parents. It would be wise to look into some economic baseline testing options (i.e., SCAT 5, which can be done by pen and paper) to ensure safety of the athletes.

Conclusions

This systemic-review was an evaluation of a small size of sample's ($n = 10$) concussion protocols at four levels of competition (high school, small colleges, Division-I institutions, and the NFL). Although the sample might not be the true representation of concussion protocols of all programs, it was promising that schools and organizations had adopted the recommended guidelines and standards set by the NATA, CDC, and their primary governing body. It was also apparent that some protocols were updated annually. All institutions should ensure the concussion management protocol is updated to provide the best medical care to their athletes. Every school and organization should implement the standards and best practices set by the NATA and CDC. All concussion management protocols should cover the six examined elements in the study as well. Failure to carry out the standards or protocol procedures could result in a detrimental sport related concussion.

References

- AANS (n.d.). *Concussion*. <https://www.aans.org/en/Patients/Neurosurgical-Conditions-and-Treatments/Concussion>
- Alla, S., Sullivan, S. J., McCrory, P., & Hale, L. (2011). Spreading the word on sports concussion: Citation analysis of summary and agreement, position and consensus statements on sports concussion. *British Journal of Sports Medicine*, 45(2):132-135. doi: 10.1136/bjsm.2010.074088.
- Asken, B. M., Snyder, A. R., Clugston, J. R., Gaynor, L. S., Sullan, M. J., & Bauer, R. M. (2017). Concussion-like symptom reporting in non-concussed collegiate athletes. *Archives of Clinical Neuropsychology*, 32(8), 963–971. <https://doi.org/10.1093/arclin/acx018>
- Baugh, C. M., Kroshus, E., Stamm, J. M., Daneshvar, D. H., Pepin, M. J., & Meehan, W. P. (2016). Clinical practices in collegiate concussion management. *The American Journal of Sports Medicine*, 44(6), 1391–1399. <https://doi.org/10.1177/0363546516635639>
- Broglia, S. P., Cantu, R. C., Gioia, G. A., Guskiewicz, K. M., Kutcher, J., Palm, M., & McLeod, T. C. V. (2014). National Athletic Trainers Association position statement: Management of sport concussion. *Journal of Athletic Training*, 49(2), 245–265. doi: 10.4085/1062-6050-49.1.07
- Buckley, T. A., Burdette, G., & Kelly, K. (2015). Concussion-management practice patterns of National Collegiate Athletic Association Division II and III athletic trainers: How the other half lives. *Journal of Athletic Training*, 50(8), 879–888. doi: 10.4085/1062-6050-50.7.04
- Center for Disease Control and Prevention. (2015). *Managing Return to Activities: Information for Healthcare Professionals*. http://www.cdc.gov/headsup/providers/return_to_activities.html
- Center for Disease Control and Prevention. (2019). *Concussion information sheet*. http://www.cdc.gov/headsup/pdfs/youthsports/parent_athlete_info_sheet-a.pdf
- Daneshvar, D. H., Nowinski, C. J., McKee, A. C., & Cantu, R. C. (2011, January). The epidemiology of sport-related concussion. *Clinical Sports Medicine*, 30(1), 1–17. doi: 10.1016/j.csm.2010.08.006. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2987636/>
- Datalys Center for Sports Injury and Prevention (2009). *Football injuries: Data from 2004/05 to 2008/09 seasons*. www.datalyscenter.org
- Erdal, K. (2012). Neuropsychological testing for sports-related concussion: How athletes can sandbag their baseline testing without detection. *Clinical Neuropsychology*, 27(5), 473–479. DOI: <https://doi.org/10.1093/arclin/acs050>
- Gessel, L. M., Fields, S. K., Collins, C. L., Dick, R. W., & Comstock, D. (2007). Concussions among United States high school and collegiate athletes. *Journal of Athletic Training*, 42(4): 495–503.
- Gregory, S. (2020, February 3). Is it unethical to watch football with my son? *Time*, 195(3), 26-27.
- Guskiewicz, K. M., Bruce, S. L., Cantu, R. C., Ferrara, M. S., Kelly, J. P., McCrea, M., Putukian, M., & Valovich McLeod, T. C. (2004). National Athletic Trainers' Association position statement: Management of sport-related concussion. *Journal of Athletic Training*, 39(3), 280–297.
- Inside Higher Ed (2012). *Despite NCAA efforts, concussion rates hold steady*. <http://www.insidehighered.com/quicktakes/2012/09/24/despite-ncaa-efforts-concussion-rates-hold-steady>

- Jim (2017, June 20). *NFL head, neck and spine committee's concussion diagnosis and management protocol*. <https://www.playsmartplaysafe.com/focus-on-safety/protecting-players/nfl-head-neck-spine-committees-protocols-regarding-diagnosis-management-concussion/>
- Kahler, K. (2016, September 19). The town that doesn't tackle. *Sports Illustrated*, 125(9), 7-8.
- Kerr, Z. Y., Simon, J. E., Grooms, D. R., Roos, K. G., Cohen, R. P., & Dompier, T. P. (2009). *Epidemiology of football injuries in the National Collegiate Athletic Association, 2004-2005 to 2008-2009*. <https://journals.sagepub.com/doi/pdf/10.1177/2325967116664500>
- Kluger, J. (2011). Headbanger nation. Concussions are clobbering U.S. kids. Here's why. *Time*, 177(4), 42-51.
- Leddy, J. J., Wilber, C. G., & Willer, B. S. (2018). Active recovery from concussion. *Current Opinion in Neurology*, 31(6):681-686. doi: 10.1097/WCO.0000000000000611.
- Mayo Clinic (2019, March 16). *Concussion*. <https://www.mayoclinic.org/diseases-conditions/concussion/symptoms-causes/syc-20355594>
- Mack, C., Myers, E., Barnes, R., Solomon, G., & Sills, A. (2019) Engaging athletic trainers in concussion detection: Overview of the National Football League ATC spotter program, 2011–2017. *Journal of Athletic Training*, 54(8), 852-857.
- McCrory et al. (2012). Consensus statement on concussion in sport: the 4th International Conference on concussion in sport. *British Journal of Sports Medicine*, 47(5), 250-258. doi:10.1136/bjsports-2013-092313
- Murphy, A. (2016, August 31). *Football's Endgame: What would happen if America's pastime just ... died?* <https://www.si.com/nfl/2016/08/31/future-of-football-nfl-safety-concussions>
- National Federation of State High School Federation (NFHS) (2017). *Suggested guidelines for management of concussion sports*. https://www.nfhs.org/media/1018446/suggested_guidelines_management_concussion_april_2017.pdf
- NCAA Sports Science Institute. (2017, September 21). *Concussion diagnosis and management best practices*. <http://www.ncaa.org/sport-science-institute/concussion-diagnosis-and-management-best-practices>
- Notebaert, A. J., & Guskiewicz, K. M. (2005). Current trends in athletic training practice for concussion assessment and management. *Journal of Athletic Training*, 40(4), 320-325.
- Ohio High School Athletic Association. (2014). *Implementation of NFHS playing rules changes related to concussion and concussed athletes and return to play protocol*. <https://concussion.jmc.kent.edu/docs/gahanna.pdf>
- Ontario Neurotrauma Foundation. (2018). *Guideline for concussion/mild traumatic brain injury and persistent symptoms*. (3rd ed.). https://braininjuryguidelines.org/concussion/fileadmin/user_upload/Concussion_guideline_3rd_edition_final2019.pdf
- Optim Sports Medicine (2017). *Athletic trainer (AT) concussion management protocol*. Retrieved from http://www.gobaronsgo.com/d/2017-18/Optim_Concussion_Protocol.pdf
- Randolph, C. (2011). Baseline neuropsychological testing in managing sport-related concussion: Does it modify risk? *Current Sports Medicine Reports*, 10(1), 21-26. doi: 10.1249/JSR.0b013e318207831d
- Reiter, B. (2015, December 28). Brain trust. *Sports Illustrated*, 123(25), 29-34.
- Sage, G., Eitzen, D. S., & Beal, B. (2019). *Sociology of North American Sport* (11th ed.). Oxford University Press.

- Sports Concussion Center (n.d.). *What is a sport concussion?* www.sportsoncussioncenterky.com
- Taylor, T. (2015, December 14). Brain and brawn. *Sports Illustrated*, 123(23), 74-79.
- Tennessee Secondary School Athletic Association. (2019) *Tennessee Secondary School Athletic Association concussion policy*. <https://cms-files.tssaa.org/documents/tssaa/Concussion-Policy-updated-12.2019.pdf>
- Wallace, J., Covassin, T., Nogle, S., Gould, D., & Kovan, J. (2017). Knowledge of concussion and reporting behaviors in high school athletes with or without access to an athletic trainer. *Journal of Athletic Training*, 52(3): 228–235. doi: 10.4085/1062-6050-52.1.07
- Wertheim, L. J. (2014, December 8). Bully market. Despite its concussion controversy and rash of off-field ills, the NFL casts a shadow that other leagues seem afraid to step out of. *Sports Illustrated*. <https://vault.si.com/vault/2014/12/08/bully-market>
- Williamson, C. L., Norte, G. E., Broshek, D. K., Hart, J. M., & Resch, J. E. (2018). Return to learn after sport-related concussion: A survey of secondary school and collegiate athletic trainers. *Journal of Athletic Training*, 53(10), 990–1003. doi: 10.4085/1062-6050-234-17

Appendix A. Major contents of concussion management protocol of various levels

Organization	Contents
(HS1)	Educational rulebook updated in April of 2012 was intended to distribute all to athletes, parents, or coaches. The information mimicked the concussion statements provided by the NFHS. No student should return to play on the same day a concussion occurs and after medical clearance by a professional. The concussed student-athlete should follow a step-by-step protocol for delayed reentry in his or her sport to make sure symptoms do not reoccur. This state protocol covers logistics of handling a suspected concussion and diagnosis of a concussion. The protocol also discusses the role of coaches and officials. The final section of the protocol revolves around the six-step RTP protocol.
(HS2)	This five-page Concussion Policy was consistent with guidelines of the NFHS as well. It made clear that the education for all individuals involved in athletics in Tennessee was a clear priority. All coaches needed to complete online trainings before the start of their season. The protocol gave 10 responsibilities for officials and five for coaches to look for concussion symptoms and remove any athlete exhibiting those symptoms. A lot of details covered additional duties of obtaining clearance from a medical official, filing appropriate paperwork, and informing the proper authorities. Neither the coach nor the official has any role at all in diagnosing a concussion. The state Concussion Return to Play form must be filled out by a medical professional in order for a student athlete to be cleared to return to athletic activity. The RTP protocol followed a six-step (6-day) stepwise progression. The medical personnel would give one of the five recommendations on RTP.
(HS3)	This 4-page concussion document did not read as much like a rule book. It was presented as information to be understood by athletes, parents, and others associated with sporting activities (with a signature requirement). Much of the information was provided in a Q&A format. The list of rules was similar to those of NFHS. It required written authorization by medical professionals to clear athletes to play. Concussion management contents covered symptoms, the roles and responsibilities, medical official's responsibility for the diagnosis and granting the RTP decision. Surprisingly, the gradual RTP protocols were not displayed specifically in details and information was just merely suggestions. The final part of the protocol was to be signed by the athletes and their parents related to liability concerns about the severity and risks of concussions. This protocol was easier to navigate than the HS1 protocol. The Q& A format is informative and extremely presentable. The question and answer portion of the document gives answers that are not found in the HS1. The last page asks for signatures from parents and student athletes. It also provided links to the CDC and NFHS sites.
(HS4)	The organization partnered with Optim Sports Medicine to develop the concussion protocol. The diagnoses were made by clinicians who received CDC's Heads Up Training. ATs contracted at each school are responsible for dispersing and collecting all concussion paperwork and awareness forms for all athletes and their parent/guardians. The neuropsychological testing, ImpACT, was used for baseline testing. Sports Concussion Assessment Tool (SCAT 5) was used for supplemental testing. Baseline testing is repeated every two years at a minimum. Concussion evaluations are completed by an Optim athletic trainer or other qualified healthcare professional (MD or PA). A general concussion handout was given to the parent or guardian as well as the concussion evaluation and RTP form. ATs would communicate with the school staff in regards to academic modifications for injured students. An athlete can only be cleared to begin the RTP progression while taking medication if cleared by a physician. The RTP protocol follows five-steps procedures.
(U1)	Education was given to all student-athletes and coaches on concussions in their pre-participation medical package and video sessions annually. All student-athletes required to sign a statement of accepting the responsibility of reporting their injuries, illnesses, and any signs or symptoms of a concussion. Initial baseline ImpACT testing and baseline symptom assessment were given. Athletes that show any signs, symptoms, or behavior of a concussion were removed from activity immediately. The initial concussion evaluation included a symptom assessment, a physical and neurological exam, cognitive assessment, balance exam, and a

	clinical assessment for any cervical spine trauma or a skull fracture. Standard concussion management protocol would apply. The ATs and team physician in consultation with the athlete would notify the coordinator for Student Disability Services and ADA Compliance for academic support throughout the recovery process. Routine testing included a daily checklist of symptoms that will be documented on the Sway balance mobile app, retest on ImPACT, and retest on the Sway app every two to three days until the patients were fully returned to activity. The physical activity progression can begin when the athlete became asymptomatic and post-concussion testing was within normal limits compared to their baseline testing. U1 implemented a six-step stepwise RTP progression.
(U2)	Athletes would go through baseline ImPACT and BESS (balance) testing. Any athlete who is suspected of sustaining a concussion will be removed from activity immediately and a sideline evaluation will be done to get an acute baseline of the athlete. The student-athletes are monitored by ATs. If the athlete shows any signs of deterioration, then they will immediately be referred to the emergency room. Daily symptom checklists must be filled out by the athletes, when that they come into the athletic training room. When the athlete has been asymptomatic for 24 hours, they would take ImPACT post-injury test and BESS testing for baseline comparisons. The athletes can be sent to the team physician for evaluation and clearance after their scores return to the baseline. U2 follows a 5-step RTP progression. No education components are specifically highlighted.
(U3)	All student-athletes, coaches, ATs and athletic directors are provided with the NCAA Concussion Fact Sheet and required to sign an acknowledgement annually during their pre-participation exams (PPE). All student-athletes go through at least one pre-participation baseline concussion assessment. The pre-participation assessment includes the following: brain injury and concussion history performed as part of the history portion of the PPE, symptom evaluation (symptom score), cognitive assessment (ImPACT testing), and balance assessment (Sway). U3's University Sports Medicine team physicians with training in diagnosis, treatment and initial management of acute concussion will be present at all NCAA competitions and practices. The initial concussion evaluation will include a symptom assessment, physical and neurological exam, cognitive assessment, and a balance exam. The return to learn portion of concussion management will be implemented with the support of a multidisciplinary team (including: faculty athletics representative (FAR), academic counselor, course instructor(s), college administrators, disability resource center, and coaches). The RTP (Five step) plan will be individualized and be supervised by someone from the sports medicine team, but the final clearance to return to full activity will be determined by the team physician or their qualified designee.
(U4)	U4's "Mild Traumatic brain Injury (MTBI) Evaluation and Return to Play Procedures" was a detailed, seven-page document that laid out the process athletic trainers should implement in diagnosing and treating a concussion and the protocol they must follow to help an athlete return to competition. Baseline testing included the Balance Error Scoring System (BESS) and Impact Testing. The management protocol also introduced concussion symptoms, warning signs for taking drastic measures and instructions for what to do (both 15 minutes and 24 hours following the injury). A U4's Head Injury Warning Form should be given to the athlete who has suffered the concussion. A set of return to learn guidelines were listed on the Athletics Academic Accommodations webpage. There is a very organized six-step Return to Play "Progression" in which a certified athletic trainer must sign off on every step for an athlete to progress to the next step.
(U5)	U5's protocol was a three-page document. The first page contained the "Post-Concussion Care Take Home Instructions." It provided typical symptoms of the concussion and recommendations for dealing with daily tasks. The second page is dedicated to the return to play protocol. The clearance for returning to competition being the responsibility of the team physician, which in U5's case is a neurologist, is an additional step to add safety for their student-athletes. The RTP protocol contained four phases. The protocol seemed to focus more on the wellbeing of the students.

National Football League (NFL)	All players and club personnel are required to review educational materials. All athletes undergo a preseason physical exam, neuropsychological testing and baseline examinations. Each athlete is tested at least once every three years. The NFL has many personnel as part of concussion diagnosis and management on game day (including neurotrauma consultant, video unaffiliated neurotrauma consultant, Booth certified athletic trainer spotter, and other neurologists). They follow the NFL concussion protocol and are responsible for monitoring all available video feeds and the network audio to identify players who may require additional medical evaluation. The NFL locker room comprehensive concussion exam is based on the SCAT 5. The NFL's RTP protocol also included five steps.
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(Peer Reviewed Case Study)**Role of the MCT-1 T1470A polymorphism (rs1049434) in the Uptake of Lactate in Resistance Trained Females****Tailgating at College Campuses: A Sobering Dilemma***Steve Shih-Chia Chen, Morehead State University**William Salazar, N/A (Teaching abroad in Vietnam)**Kenneth Henderson, Morehead State University***Abstract**

This case study addressed a regional public university's challenges for offering on-campus social activities to serve its student, an issue commonly faced by a "suitcase" school. Engaging students to attend intercollegiate sports and pre-game tailgate parties is a common practice carried out by the institutions. However, the potential risk of increasing excessive drinking and drunk driving cases by students had become a serious concern of institutions' administrators. Discussions and suggestions are given on how to foster a safe and family-oriented social environment on campus, and effectively minimize alcohol-induced problems.

Learning Objectives

Suggested Subject Area	Competencies	Focus	Educational Level
Tailgating Policies, Alcohol consumption at collegiate athletic events	Diversity, ethics, decision making, social responsibility	Sport Management	Undergraduate, Graduate, or both

Introduction of the Case

Musky State University (MSU) is a National Collegiate Athletic Association (NCAA) Division-I affiliated regional state institution located in Appalachia. The current enrollment was about 9,100. Due to the success of MSU's men's basketball program, enrollment at this institution reached a record high of 11,000 in 2013. The university has been named one of the Top-25 regional colleges/universities by the *U.S. News* for four consecutive years and its educational programs and student services have an excellent reputation within the institution's service region. Despite the high quality of its academic and student services programs, and despite the scenic environment in which the university is located, MSU has one shortcoming consistently identified by the students—its rural/remote location. It is referred to as a "suitcase" school that lacks a vibrant college-town life.

In order to enrich students' campus life experience, the Office of Student Life utilizes several campaigns (e.g., Leave Your Suitcase Behind and Residential Honor's College) and sponsors numerous programs/activities to entice students to participate in weekend activities, such as athletics. Intercollegiate sports are popular festivities on many campuses in America. In addition to the actual competitions, pre-game tailgate parties have also become a vital social and celebratory ritual practiced by both community fans and students.

The MSU football team competes in the NCAA Bowl Championship subdivision series and plays a competitive schedule. However, at MSU, tailgating is not allowed on campus grounds. Students are confused and upset by this unstated rule. They feel that MSU administrators have taken away a fun and enjoyable activity that is celebrated on other campuses in the region and across the country. The rationale for not allowing tailgate parties on the MSU campus before the football games is that state law prohibits any alcohol consumption in public areas. If this is the rationale, students may ask administrators, "why do all other regional public institutions in the state host tailgate parties on campus?"

The President of MSU, Dr. Wayne Disney, cares about the students' social lives. He even favors the idea of hosting the tailgate parties on campus. However, President Disney insists that only non-alcoholic beverages can be consumed at tailgate parties. He believes it is the institution's ethical responsibility to maintain a safe environment by minimizing the occurrence of alcohol-induced accidents. In an effort to provide safe and non-alcoholic tailgating parties, President Disney has asked the Vice President of Student Life and the Athletic Director to explore viable options and strategies for ensuring that tailgating events on campus will serve the needs of both students and community members.

You are to assume the role of the Athletic Director of MSU and answer the following questions with regard to allowing tailgate parties on campus.

1. State the problem of this case clearly.
2. Determine the organizational leadership team's objectives in this case.
3. What are the major issues in this case? How do they influence the problem(s)?
4. For the organization, identify alternative solutions to the issue. Consider the advantages and disadvantages of each solution, and choose a solution based on the evidence.
5. How would you convince the fans and students to participate in tailgate parties without consuming alcohol? How could the university prevent people from bringing alcohol to the tailgate parties on campus?
6. Discuss the advantages and disadvantages for MSU hosting tailgating parties/events.
7. Some universities have implemented a policy that requires students to complete an alcohol education program to participate in tailgate parties. Would you or would you not support the idea of establishing educational programs to allow those who meet legal-drinking age? Give your reasons.
8. What are some challenges and concerns that come with hosting tailgating parties at MSU?
9. Is it ethical (and legal) for a higher education institution to market itself as a school that sanctions tailgate parties? Give reasons to support your decision.

Teaching Notes

The sales and consumption of alcohol beverage at the collegiate athletic events seem to be an inevitable trend. Many more powerful collegiate athletics programs adopted the idea of selling alcohol to enhance fans' game experience and increasing concession revenue (Clouse, 2019; & Taylor, 2019). These sales were considered to be a great way to turn up college fan attendance (Reed, 2016). However, the death of Marco Lee Shemwell, a four-year-old boy who was killed by a drunk college student after the football tailgating event, reminded us about the danger and problem caused by the irresponsible and reckless drunk drivers and importance of minimizing the risk of alcohol related incidents after tailgating events (Stunson, 2019; WDTV, 2019). It is vital for campus and athletic administrators to develop effective policies to educate students and public and monitor the safety of all patrons.

Discussion Questions and Solutions

1. State the problem of this case clearly.

Answer: Many MSU students choose to spend their weekends and other free days out of the rural town where the university is located. As a result the university has acquired a reputation as a "suitcase" university that lacks exciting campus activities. Administrators are considering introducing tailgate parties to create a more social friendly and entertaining campus environment, increase attendance of athletic events, and build a more vibrant campus community. They point to many colleges and universities that promote their sport events as main sources of entertainment on campus and a means for enhancing students' social life and community engagement (William, n.d.). Among all of the athletic events, tailgate parties before the football games seem to be the most popular and highly anticipated. However, these parties seem to bring additional problems (i.e., excessive alcohol consumption, traffic accidents and violation of laws induced by drinking, loud noise, and littering) along with the fun and entertainment they have provided. Pre-game tailgate celebrations seem to be a common tradition for some Kentucky public institutions with a football program. However, negative incidents, such as post-game fighting, had occurred due to excessive drinking by the fans during the tailgate events (NBC News, 2012). Simply stated, the problem is *should MSU introduce tailgate parties at sport events in order to enhance campus life?*

2. Determine the organizational leadership team's objectives in this case.

Answer: The institution's leadership team is eager to provide more friendly student-oriented events to enhance the campus-life experience. The leadership team must create sensible and safe tailgating policies. According to Maslow's hierarchy of needs, students certainly are long for various types of safe and enjoyable social entertainments that can be offered on campus (McLeod, 2018). It is even more challenging for the university administrators to uphold safety guidelines and policies to regulate students' on-campus recreational and social activities in the midst of the novel Coronavirus (COVID) pandemic. Readers may refer to the following articles to learn about issues related to challenges faced by suitcase schools and strategies for establishing a well-sounded tailgate policy:

*How to tailgate during the COVID-19 Pandemic? (Juarez, 2020; WATE, 2020)

*Off, Off, Off Campus by Moore (2013),

*‘College Town’ Struggle to gel by Douglas (2013), and

*Perceptions of Students, Faculty, and Administrators About Pregame Tailgate Parties at a Kentucky Regional University by Chen, Teater, and Whitaker (2012).

*Eagle Rally Zone tailgating: Morehead State 2011 Football Tailgating Policies (2010-2011).

3. What are the major issues in this case? How do they influence the problem(s)?

Answer: Students’ answers may focus on (but are not limited to) the following areas.

(a) Lack of student-involvement on campus activities (including the athletic events): When there is nothing for students to do on campus, students leave campus often and gradually become disassociated from the community. When students are less associated with the community and generally dissatisfied with the campus experience, it decreases their school spirit and loyalty toward the institution and increases the possibility of eventual transfer to another institution. (Reed Moore, 2013; Douglas, 2013; Rosier, 2013 for additional insights)

(b) Drinking issue related to tailgate events: Allowing tailgate parties prior to football games on campus may promote fun entertainment and friendly social interaction among students and community fans. However, people could drink excessively during the parties and cause problems afterward, such as DUI and littering (Unknown, 2010). Tailgate parties may also cause an increase in underage drinking by the students. Sensible policies for tailgating must be developed to ensure the patrons’ safety and maintain a clean environment.

(c) Lack of attendance in athletic events: Some people refer to athletic programs as the front porch of their institution. A lack of student fans attending the athletic events symbolizes low school spirit and commitment within the campus community (Chen, Salazar, & Fitzgerald, 2009; Wells, Southall, & Peng, 2000).

4. For the organization, identify alternative solutions to the issue. Consider the advantages and disadvantages of each solution, and choose a solution based on the evidence.

Answer:

(a) Providing hospitality/treats to the fans: The University has traditionally offered food services to treat the fans without serving alcohol beverages (James et al., 2001; Swanson, 2003; Tailgate Station, 2007).

Pros—encourage more students to attend the games and enjoy the free food

Cons—those treats can be costly to the Athletic Department

(b) Increasing the patrol and monitoring of campus police: Campus police would increase the number of staff and frequency of patrols for the confined party area (Eastern Michigan, University, 2008a; USA Today, 2009a). Officers can also try to be less restrictive while enforcing the rule of “no alcohol consumption in public area.” They can give out warnings first, before issuing citations, or allow people to drink if the alcoholic beverage is contained in a plastic cup or mug.

Pros—drinkers would feel the law enforcers are more sensible and try to behave properly since they have been given respect.

Cons—allowing people to get away with violation by using ‘tricks’ is a dishonest and unethical practice; Furthermore, universities certainly should not be the agency to promote any possibility of underage drinking.

(c) Implementing programs or strategies to help fans drink responsibly (Appalachian State University, 2008; Eastern Michigan University, 2008b; New York Giants, 2008; University of Massachusetts, 2008; University of West Georgia, n.d.; University of Wisconsin Stout, 2009; USA Today, 2009b): There are professional agencies such as TEAM Coalition and others that help teams and institutions educate their fans on drinking responsibly and execute effective tailgate policies (TEAM Coalition, n.d.).

Pros—the university can implement a policy that allows fans to drink if they can show documentation of having received an alcohol education course. Those who have gone through the course may act and drink more responsibly during the tailgate parties.

Cons—No matter what, someone will always cross the line and act out of control.

5. How would you convince the fans and students to participate in tailgate parties without consuming alcohol? How could the university prevent people from bringing alcohol to the tailgate parties on campus?

Answer:

5.1 (a) Educate fans about the danger of alcohol abuse

(b) Provide more food and non-alcohol beverages for fans (Personal conversation with the President of a regional state university in Kentucky)

(c) Create a variety of activities to entertain all attendees

5.2 Provide law enforcement monitoring

(a) Establish check-point gates

(b) Enforcing the state law (if applicable): “no alcohol consumption in public areas”

6. Discuss the advantages and disadvantages for MSU in hosting tailgating parties/events.

According to past literature, hosting tailgating parties may bring numerous advantages to the hosting institution. Those advantages include: (Dixon, 2009; Dickinson, 2004; Drenten et al., 2009; James et al., 2001; Laverie & Arnett, 2000)

(a) Generate more student support for the athletic programs;

(b) Promote school spirit;

(c) Provide a fun atmosphere for students and community fans;

(d) Increase game attendance; and

(e) Provide better food services

Disadvantages: (Glassman et al, 2007; McCarthy, 2009; Oster-Aaland & Neighbors, 2007; National Football League, 2009; Woodyard & Hallan, 2010)

(a) Violating laws or university policies (i.e., increase of alcohol related traffic accidents, and potential increase of violent acts, such as fights, vandalism, sexual assaults);

(b) Littering and environmental concerns;

(c) Congestion of traffic around the campus;

(d) Added financial burdens for hosting the tailgating events;

- (e) Decrease the sales of the university concession stands; &
- (f) Negative school reputation.

Readers may refer to the following sources for additional information concerning this discussion:

- Seven reasons why UGA is the greatest school in the state by Adams (2006); and
- Tailgating: An American tradition by Allison (2005).

7. Some universities have implemented a policy that requires students to complete an alcohol education program to participate in tailgate parties. Would you or would you not support the idea of establishing educational programs to allow those who meet legal-drinking age? Give your reasons.

Answer:

7.1 Yes. Alcohol awareness educational programs can help students be aware of the dangers of excessive drinking and can teach them to drink responsibly (EVERFI, 2011; University of Florida, n.d.). This is a good way to differentiate those who can exercise self-control and hold tailgating peers accountable for their behavior. TEAM Coalition is an example of the agencies that collaborate with the institutions or professional teams conducting educational programs for fans or students.

7.2 No, a higher education institution should not send out a mixed message - preaching the negative effects of alcohol consumption and allowing the chance for people to get drunk at the same time (Personal conversation with the President of a regional state university in Kentucky).

8. What are some challenges and concerns that come with hosting tailgating parties at MSU?

In general, the following challenges are considered to be universal issues among small and regional colleges and universities.

- (a) Budget constraints (Chen et al., 2012);
- (b) Increase in alcohol induced incidents (Glassman et al., 2007);
- (c) Lack of tailgating locations (Chen et al., 2012; Armes, 2007; Personal conversation with the Director of Athletics of a regional state university in Kentucky);
- (d) Lack of security manpower to maintain a safe environment (Armes, 2005; Oster-Aaland & Neighbors, 2007).

9. Is it ethical (and legal) for a higher education institution to market itself as a school that sanctions tailgate parties? Give reasons to support your decision.

A distinction must be made between ethical and legal. Although it might be legal for a university to sanction tailgate parties the question remains whether endorsement of this type of activity is ethical. It is safe to argue that promoting alcohol consumption at a higher education institution could easily violate its educational mission (Bormann & Stone, 2001). Tailgate parties may result in more drunk driving related incidents (Oster-Aaland & Neighbors, 2007). How do the university president and its administrators justify their position; if parents, legislators, or community members criticize the decision? On the positive side, this promotion may help the school recruit new students-providing the university establishes a controlled fun/safe environment for all students to enjoy athletic events. Therefore, it is not necessary to ban tailgate parties because of the actions of certain students who

choose not to follow the rules. Bittner's (2011) article exhibits how a university student group can promote sober tailgating with a strong sense of ethical responsibility.



References

- Adams, B. (2006). Seven reasons why UGA is the greatest school in the state. *Atlanta*, 46(7), 44.
- Allison, C. (2005). Tailgating: An American tradition.
http://www.associatedcontent.com/article/10253/tailgating_an_american_tradition.html?cat=25
- Appalachian State University (2008). *Appalachian State University football tailgating policy*.
<http://www.alumni.appstate.edu/PDFs/tailgatepolicy.pdf>
- Armes, A. (2005). Score big with safe tailgating. *Family Safety & Health*, 64(3), 14-17.
- Bormann, C., & M. Stone (2001). The effects of eliminating alcohol in a college stadium: The Folsom Field beer Bban. *Journal of American College Health*, 50(2), 81-8.
- Bittner, J. (2011). *Group promotes sober tailgating*.
http://www.alligator.org/news/campus/article_8863f168-eb1e-11e0-92a0-001cc4c03286.html
- Chen, S., Teater, S. A., & Whitaker, B. (2012). Perceptions of students, faculty, and administrators about pregame tailgate parties at a Kentucky regional university. *International Journal of Developmental Sport Management*, 1(2),
<http://www.internationaljournalofdevelopmentalsportmanagement.com/resources/Steve%20S%20Chen%20Second%20article%20for%20April%20Publishing.pdf>
- Chen, S., Salazar, W., & Fitzgerald, L. (2011). Factors affecting collegiate sports season-ticket holders' satisfaction and renewal intention. *ASAHPERD Journal*, 31(2), 18-21.
- Clouse, A. (2019, June 26). *How do other Power 5 schools handle alcohol at college football games?* <https://www.knoxnews.com/story/sports/2019/06/26/alcohol-college-football-games-policy-power-5-university/1358400001/>
- Dickinson, C. (2004). Syracuse Sports Corp., CVB drive to bring in more sporting events. *Business Journal*, 18(25), 4.
- Dixon, A. W. (2009). *Estimating the private consumption benefits derived from the college football game experience*. Unpublished dissertation, Clemson University.
- Drenten, J. Peters, C. Okleshen, L. Thomas, & Hollenbeck, C. R. (2009). Not just a party in the parking lot: An exploratory investigation of the motives underlying the ritual commitment of football tailgaters. *Sport Marketing Quarterly*, 18(2), 92-106.
- Douglas, A. (2013). 'College town' struggle to gel.
<http://www.heraldonline.com/2013/08/12/5107657/building-a-college-town-business.html>
- Eastern Michigan University (2008a). *Eagle's landing fan zone*.
<http://www.emueagles.com/sports/2008/4/14/EaglesLanding08.aspx?id=334>
- Eastern Michigan University (2008b). *Eagle's landing tailgates*.
<http://www.emich.edu/homecoming/documents/2008TailgateFormPolicy.pdf>
- EVERFI. (2011). *AlcoholEdu® for College: Engage students, Inspire action, achieve results*.
<http://www.outsidetheclassroom.com/solutions/higher-education/alcholedu-for-college.aspx>
- Flynn, K. Lenkowitz, E., & M. Ward, Elizabeth, M. (n.d.). *Tailgating 101*.
http://www.mensfitness.com/sports_and_recreation/outdoor_recreation/37
- Glassman, T., Werch, C., Jobli, E., & Bian, H. (2007). Alcohol-related fan behavior on college football game day. *Journal of American College Health*, 56(3), 255-260.
- James, J., Breezeel, G. S., & Ross, S. (2001). A two-stage study of the reasons to begin and

- continue tailgating. *Sport Marketing Quarterly*, 10(4), 212-222.
- Juarez, C. (2020, September 10). *How to tailgate during a pandemic?*
<https://www.kcbd.com/2020/09/10/how-tailgate-during-pandemic/>
- Laverie, D., & Arnett, D. (2000). Factors affecting fan attendance: The influence of identify salience and satisfaction. *Journal of Leisure Research*, 32, 225-246.
- McCarthy, M. (2009). NFL's crackdown on fan conduct gets tough. *USA Today*.
http://www.usatoday.com/NEWS/usaedition/2009-11-19-1Anflfans19_CV_U.htm?csp=34
- McLeod, S. (2018, May 21). *Maslow's hierarchy of needs*.
<https://www.simplypsychology.org/maslow.html>
- Moore, A. S. (2013). *Off, off, off campus*. http://www.nytimes.com/2013/02/03/education/edlife/at-suitcase-schools-around-the-country-friday-means-its-time-to-leave.html?pagewanted=all&_r=0
- Morehead State University (2010). *Eagle Rally Zone tailgating*.
http://www.msueagles.com/sports/2010/8/30/GEN_0830104853.aspx
- National Football League (2009). *NFL teams implement fan code of conduct*.
<http://www.nfl.com/news/story?id=09000d5d809c28f9&template=without-video&confirm=true>
- NBC News (2012). *University of Kentucky restricts alcohol at tailgate parties in response to post-game fights*. <http://usnews.nbcnews.com/news/2012/09/27/14126193-university-of-kentucky-restricts-alcohol-at-tailgate-parties-in-response-to-post-game-fights?lite>
- New York Giants (2008). *Updated stadium alcohol policy for 2008*.
http://www.giants.com/news/headlines/story.asp?story_id=28168
- Oster-Aaland, L., & Neighbors, C. (2007). The impact of a tailgating policy on students' drinking behavior and perceptions. *Journal of American College Health*, 56(3), 281-284.
- Reed, P. (2016, December 14). *Methods to increase student turnout at games*.
<https://www.spectatornews.com/sports/2016/12/14/methods-to-increase-student-turnout-at-games/>
- Rosier, J. (2013). *Suitcase schools*. <http://blog.ctnews.com/rosier/2013/02/27/suitcase-schools/>
- Stunson, M. (2019, February 6). *Grand jury adds reckless homicide to charges against former UK student in 4-year-old's death*. <https://www.kentucky.com/news/local/counties/fayette-county/article218592505.html>
- Swanson, S., Gwinner, K., Larson, B. V., & Janda, S. (2003). Motivations of college student game attendance and word-of-mouth behavior: The impact of gender differences. *Sport Marketing Quarterly*, 12(3), 151-161.
- Tailgate Station (2007). *Tailgate station testimonials*.
<http://www.tailgatestation.net/testimonials.cfm>
- Taylor, J. (2019, August 16). *Tennessee joins five other SEC schools in bringing alcohol sales to football games this fall*. <https://collegefootballtalk.nbcsports.com/2019/08/16/tennessee-joins-five-other-sec-schools-in-bringing-alcohol-sales-to-football-games-this-fall/>
- TEAM Coalition. (n.d.). *Techniques for effective alcohol management*.
<http://www.teamcoalition.org/about/about.asp>
- University of Florida (n.d.). *Alcohol education program requirement*.
<https://www.dso.ufl.edu/nsfp/first-year-experience/alcohol-education/>
- University of Massachusetts (2008). *UMass releases football tailgating policy for 2008*.
<http://www.umassathletics.com/sports/m-footbl/spec-rel/081507aaa.html>

University of West Georgia (u.d.). *Tailgating policies and procedures.*

http://www.westga.edu/alcohol/index_10646.php

University of Wisconsin Stout (2009). *Football tailgating policies.*

http://athletics.uwstout.edu/sports/2009/8/13/FB_0813094947.aspx?tab=Footballtailgatingpolicies

Unknown. (2010). Eco-friendly tailgating. *Men's Fitness*, 26(3), 52.

USA Today (2009a). *How NFL clubs' tailgating hours differ.*

http://www.usatoday.com/NEWS/usaedition/2009-11-19-1Anflfans19_VA_U.htm?csp=34

USA Today (2009b). *No fun league' strikes again.*

http://www.usatoday.com/NEWS/usaedition/2009-11-23-letters23_ST2_U.htm?csp=34

WATE (2020, April 7). *A new way of partying during COVID-19: Social distance 'tailgating.'*

<https://www.cbs17.com/news/a-new-way-of-partying-during-covid-19-social-distance-tailgating/>

WDTV (2019, February 4). *UK student indicted after crash outside of football game that killed 4-year-old.* <https://www.wdtv.com/content/news/UK-student-indicted-after-crash-outside-of-football-game-that-killed-4-year-old-505460951.html>

Williams, B. (n.d.). *NCAA sporting events.*

<http://ccsap.wsu.edu/default.asp?PageID=3352>

Woodyard, C., & Hallan, J. (2010). Differences in college student typical drinking and celebration drinking. *Journal of American College Health*, 58(6), 533-538.

Wells, D. E., Southall, R., & Peng, H. W. (2000). Analysis of factors related to attendance at Division-II football games. *Sport Marketing Quarterly*, 9(4), 203-210.