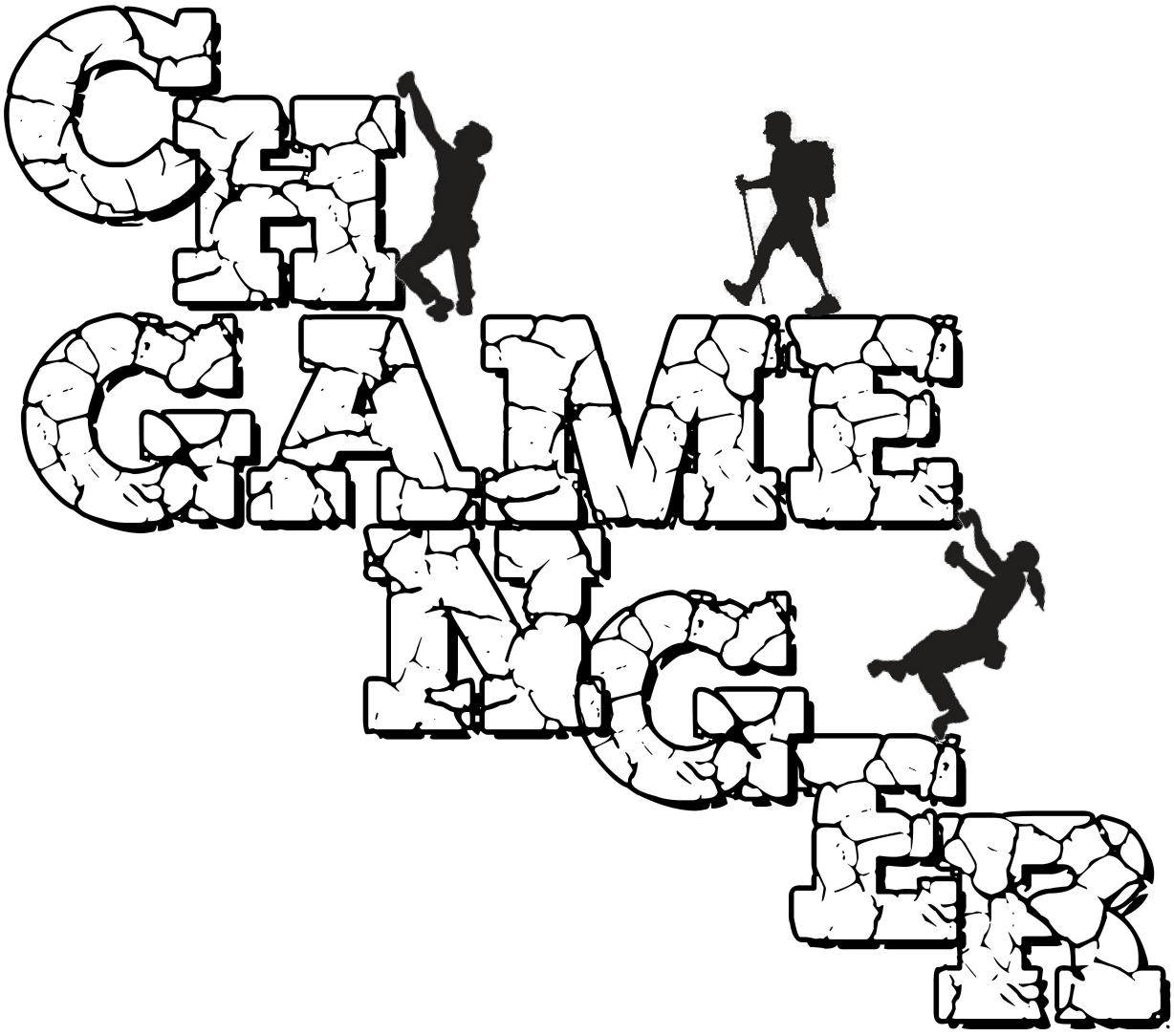
ASAHPERD
Promoting a Healthy Active Alabama

ASAHPERD Journal

SPRING/SUMMER 2019
VOLUME 39, NUMBER 1



Alabama State Association for Health, Physical Education, Recreation and Dance

ASAHPERD Journal

Spring/Summer 2019 Volume 39 No. 1

CONTENT

About the Cover

Game Changer, this year's theme selected by President Penny Edwards, challenges everyone to not only be *in the game* but to be a GAME CHANGER by making a difference for the children of Alabama. Now, more than ever, is the time for individuals in our profession to step up and change the game by providing quality physical activity opportunities in our schools, fitness facilities, recreation programs and sports leagues for ALL children.

Policy Statement

The *ASAHPERD Journal*, a refereed and blind peer reviewed journal, is the official publication of the Alabama State Association for Health, Physical Education, Recreation and Dance and is published two times annually in the fall and spring. Manuscripts, photos, and news items are invited and should be submitted in accordance with the Author's Guidelines found on page 30. The authors' opinions are their own and do not necessarily reflect the attitude or views of ASAHPERD, its officers, or the editors of the *Journal.*

Message from the President

Penny Edwards, National Center on Health, Physical Activity and Disability

ASAHPERD Members,

I am excited and grateful for the privilege to serve as your 2019-2020 ASAHPERD president. As a student member of ASAHPERD many years ago, I was provided an extremely strong professional foundation that taught me the importance of building relationships. My relationships have afforded me the opportunity to serve in many different capacities over the years and I want to thank ASAHPERD for showing support. I plan to give back to our organization in the same way that I have received.

It is truly an exciting time in Alabama as we just recently had the new Physical Education and Health Education Courses of Study approved and passed by the Alabama State Board of Education. The new courses of study are aligned with the National Standards. Both new courses of study are solid documents that will provide health and physical education teachers with a blueprint for developing quality programs.

Alabama is moving in the right direction. My goal is to continue promoting the need for 60 minutes of physical activity during the school day. Research shows that physically active children perform better academically. However, we are still lacking in providing opportunities for children to be physically active 60 minutes each day. By having quality physical education programs, brain boosters in the classroom throughout the day along with before and after school physical activity opportunities, we will continue moving forward supporting all children with the means to be physically active. We all must get in the game and advocate for our students and communities.

So, how can we make a difference for the children in Alabama? Did you know that 75% of all Americans between 17 and 24 years of age are unable to join the military? Did you know that being overweight is one of the main reasons individuals are unable to join the military? This year's theme is *Game Changer*. Now, more than ever, is the time for individuals in our profession to step up and *change the game* by providing quality physical activity opportunities in our schools, fitness facilities, recreation programs and sports leagues for ALL children. Teaching children about the skills needed for a lifetime as well as maintaining the skills into adulthood, must be the goal for all of us. It is time for you to step up and be a *Game Changer*. It is time for you to make a difference in the lives of those around you.

To be a true *Game Changer*, you need to grow professionally. Professional development is the best way for us to grow and learn new things. Your students and their parents should see your commitment to teaching and helping them build strong bodies and strong minds. Regardless of your profession, we all need to be a *Game Changer* in someone's life. Be that someone to Change the Game!

I look forward to seeing each of you at the Fall Conference in November and at the Health and Physical Literacy Summit in February 2020 both being held at the Hyatt-Wynfrey in Hoover, Alabama. You can learn more about both conferences at www.asahperd.org.

Be a Game Changer.

Penny Edwards, President

Source: Mission: Readiness-Military Leaders for Kids

ASAHPERD Board of Directors

Penny Edwards, President
Ginger Aaron-Brush, Past President & Social Media Manager
Derrick Lane, President-Elect
Donna Dunaway, Parliamentarian
Donna Hester, Executive Director
Sherri Huff & Nick Rankins, Advocacy Committee Co-Chairs
Sandra Sims, Future Professionals Advisor
Lee Renfroe & Jean Ann Helm Allen, Journal Editors
Nancy Ray, Alabama State Dept. of Education
Phil Holmes & Dee Pack, Governor's Commission on Fitness
Connie Dacus, Legislative Liaison

Vice Presidents & Vice Presidents-Elect

Health Division – Tricia Neura & Ellen Turner
Physical Education Division – Michael James & Becky Peterson
Sport & Exercise Science Division – Gina Mabrey & Tyler Williams

District Representatives

District 1 – Carrie Beach
District 2 – Rhonda Spears
District 3 – Angela McHugh
District 4 – Benita Gordon
District 5 – Ron Ashley
District 6 – Patricia Maiden
District 7 – Jessica Wallace
District 8 – Justin Foster

Council Chairs & Chairs-Elect

Adapted Council – Dana Webb & Jill Burt
Elementary Council – Jaime Giangrosso & Cindy O'Brien
Middle/Secondary Council – Autumn Smith & Laura Vines
Athletics Council – Brenda Vinson & Tonnie Glover
Higher Education Council – Claire Mowling & Angela Russell
Research Council – Jean Ann Helm Allen & Danielle Mason
Physical Activity Council – Patrick Shremshock & Deanna Pack
Future Professionals – Phillip Smith, Jayla Maye, Sydney Bozeman & Beth Ann Smith

Balancing Acts: Revisiting the Importance of Intentional Balance Training

Claire M. Mowling, Ed.D.

University of Alabama at Birmingham, Department of Human Studies

Introduction

Falls are the primary cause of mild and serious injury in children under 10 years old (Shim, Norman, & Ae Kim, 2013). Fewer falls may occur if children have higher levels of balance efficacy due to strengths in static and dynamic balance. Subsequently, balance can be linked to a child's ability to effectively participate in a variety of sports and activities, thus contributing to the development of motor skills needed to pursue lifelong physical activity (Claxton, Tropy, & Dupree, 2006). It has been suggested that balance and stability may be overlooked as physical educators plan quality physical education curricula (Mally, 2008). Yet, the development of balance features in the SHAPE grade level outcomes for elementary school years and beyond. Younger age groups should work to capture momentary stillness using a variety of bases of support extending to maintaining those static balances and controlling body movements for extended time while higher grades balance on various apparatus and develop dynamic balance through dance and gymnastics (SHAPE, 2013). Graham, Holt-Hale, & Parker (2013) endorse a balance promoting curriculum for all age groups and levels. To assist in the pursuit of a curriculum that intentionally includes balance training the purpose of this article is bifold: (1) to provide relevant information on the development of balance and (2) to provide creative ways to develop balance in children.

Development of Balance

Balance can be defined as an individual's ability to maintain equilibrium in a stationary position (static) such as tree pose or while moving (dynamic) such as moving through an obstacle course (Block, 2016). It is evident that balance is essential to the development of the vast majority of motor skills and until it becomes automatic the attention to maintain balance may be at the detriment of other motor functions (Auxter, Pyfer, Zittel, & Roth, 2010). Balance principles such as center of gravity, line of gravity, and base of support (see figure 1) must be taken into consideration when designing

balancing activities for children. Center of gravity exists within all objects. When the body is in a symmetrical position such as standing straight up in superhero pose (legs shoulder width apart and hands on hips), the center of gravity is located in the exact center. In many instances the body finds itself in an asymmetrical position that constantly changes due to movement such as twisting and turning. Under these circumstances the center of gravity always shifts in the direction of either the movement or the extra weight (Graham, Holt-Hale, & Parker, 2013). The line of gravity is an imaginary line that can be drawn vertically through the center of gravity to the base of support and towards the center of the earth (Werner, Williams, & Hall, 2012). A child's ability to maintain balance is determined on their adjustment when the line of gravity falls outside the base of support. As a teacher, providing visuals of the line of gravity can help children make the necessary adjustments. Lastly, the base of support is the parts of the body that come into contact with the supporting surface (Werner, Williams, & Hall, 2012). In a push up position, the line of gravity falls within the base of support thus the body will remain balanced. A wide base of support close to the center of gravity creates greater stability. Designing learning experiences with balancing principles in mind can enhance overall performance.

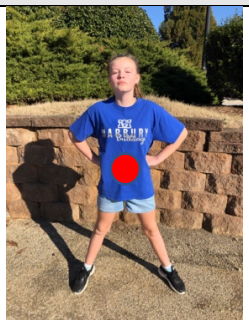
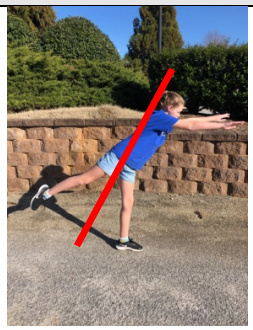
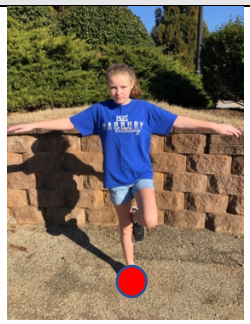
Center of Gravity	Line of Gravity	Base of Support
		

Figure 1: Examples of center of gravity, line of gravity, and base of support

Balancing Act #1

In a safe environment, many young children enjoy opportunities to challenge their ability to balance in a variety of situations. Playing with subtle changes in center of gravity are exciting as children work to adjust while maintaining balance. For this reason, physical educators should design progressive activities, motivating children to attempt the next

challenge as balance efficacy increases (Shim & Engle, 2017). During kindergarten and first grade SHAPE (2013) outcomes focus on maintaining momentary stillness on different bases of support (S1.E7.Ka), forming wide, narrow, curled and twisted body shapes (S1.E7.Kb) and maintaining stillness on different bases of support with different body shapes (S1.E7.1). A great activity that works on static balance is “Statues”. This relatively simple activity can be adapted to meet a number of outcomes. There are no limits to the different types of static balance that can be attempted. Superhero Statues is always popular and provides great opportunities for changes in center of gravity, line of gravity, and base of support. Teachers can begin by providing visual demonstrations of each balance and move to self-expression where students create their own individual balances (see figure 2) or with fellow superheroes in a team balance.

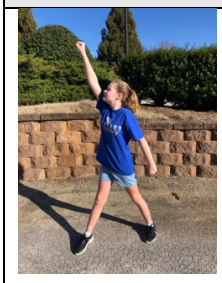
Ironman	Wonder Woman	Spiderman	Superman	Black Panther
				

Figure 2: Superhero Statues Using Static Balance

Balancing Act #2

Middle elementary grades focus on postural changes based on a differing center of gravity. Mally (2008), stresses the importance of maintaining stability throughout the body as accommodations are made in posture to meet the demands. SHAPE (2013) outcomes are as follows: Balances on different bases of support, combining levels and shapes (S1.E7.2a); balances in an inverted position with stillness and supportive base (S1.E7.2b); and balances on different bases of support, demonstrating muscular tension and extensions of free body parts (S1.E7.3). Partner Balances are a fun way for children to practice changes in posture while grasping the concepts of counter balance and counter tension. Children work as a team to find the right weight distribution and tension

to maintain balance. It should be noted that counter balances are easier to perform when partners are of equal size and weight. Below are several examples of partner balances with differing centers of gravity, line of gravity and base of support (see figure 4).

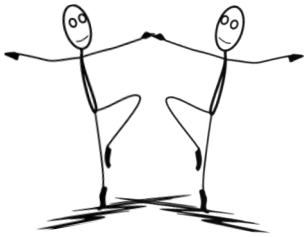
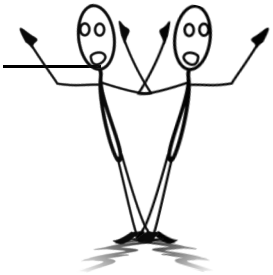
Counter Balance #1	Counter Balance #2	Counter Tension #1	Counter Tension #2
			

Figure 4: Examples of counter balances and counter tension (courtesy of pixabay.com)

Balancing Act #3

Balance experiences should be plentiful and diverse (Mally, 2008). Children should be encouraged to explore balance in a variety of settings with options for choice. SHAPE (2013) outcomes highlight the need for these varied opportunities in the upper elementary grades such as balances on different bases of support on apparatus, demonstrating levels and shapes (S1.E7.4) and combines balance and transferring weight in a gymnastics sequence or dance with a partner (S1.E7.5). A great activity to develop such competencies is a purposefully designed obstacle course. It should be noted that the obstacle course must fit the student's developmental level both physically and mentally. For example, 4th and 5th graders may not want to jump like a frog on to lily pads but may instead prefer to balance in a crouched position on a low balance beam, extend, and dismount using a balanced landing position. There should be options available for all balance activities. For example, a student may choose to perform a stork stand into airplane balance on a line on the floor or on a low balance beam. The design of the

obstacle course allows for multiple and diverse choices in both static and dynamic balance.

Balance Adaptations

Balance can be challenging for many children. For these reasons, it is imperative that adaptations are made to help all children feel safe and successful. By encouraging students to lower their center of gravity and perform balance tasks while sitting down or on their hands and knees, children with limited balance can more easily maintain stability. As discussed earlier, widening the base of support will increase an individual's stability, along with ensuring a large area of the body is in contact with the surface. The use of peer helpers can increase a child's sense of stability as they are encouraged to use helpers as they would a wall or a chair (Block, 2016). Also, it is a great idea to teach all children how to fall without hurting themselves. Sliding and rolling break falls are easily practiced on gym mats (Molnar & Dobrotka, 2014). Strategies such as these can increase a child's balance efficacy.

Conclusion

Creating a curriculum that intentionally teaches balance may result in a number of successes. Good balance and stability should decrease the number of falls resulting in injury of children. Balance assists in the development of motor skills, participation in sports, and ultimately a lifetime of physical activity. Physical educators can meet SHAPE (2013) grade level outcomes by focusing on multiple and diverse opportunities for static and dynamic balance while keeping in mind the three balance principles of center of gravity, line of gravity, and base of support. Finding balance through intentional movement can open children's eyes to a world of possibilities.

References

Auxter, D., Pyfer, J., Zittel, L., & Roth, K. (2010). *Principles and Methods of Adapted Physical Education and Recreation (11th edition).* New York: McGraw-Hill.

Block, M. (2016). *A Teacher's Guide to Adapted Physical Education (4th edition).* Baltimore, MD: Brookes Publishing.

Claxton, D., Troy, M., & Dupree, S. (2006). A question of balance. *Journal of Physical Education, Recreation, & Dance, 77(3),* 32-37. DOI: 10.1080/07303084.2006.10597842

Graham, G., Holt-Hale, S., & Parker, M. (2013). *Children moving: A reflective approach to teaching physical education.* New York, NY: McGraw-Hill.
Mally, K. (2008). Creative opportunities to improve young children's balance, strength, and stability. *Strategies, 21(4),* 25-28. DOI: 10.1080/08924562.2008.10590781
Molnar, S. & Dobrotka, B. (2014). School of break falls: Where safety and falling meet. *Palestra, 28(2),* 31-35.
SHAPE America. (2013). *Grade-level outcomes for K-12 physical education.* Reston, VA: Author
Shim, A. & Engle, T. (2017). Teaching balance to reduce possible injuries and promote skill acquisition. *Journal of Physical Education, Recreation, and Dance, 88(5),* 56-58. DOI: 10.1080/07303084.2017.1295765
Shim, A., Norman, S., Ae Kim, Y. (2013). Teaching balance training to improve stability and cognition in children. *Journal of Physical Education, Recreation, and Dance, 84(8),* 15-17. DOI: 10.1080/07303084.2013.827076
Werner, P., Williams, L., & Hall, T. (2012). *Teaching Children Gymnastics.* Champaign, IL: Human Kinetics

Leisure Identity of Birders in the United States

Michael J. Bradley[1], Ph.D., **James N. Maples**[2], Ph.D., **Dylan Bogard**[3], M.S., **Hung-Ling Liu**[4], Ph.D., **Ryan L. Sharp**[5], Ph.D.

[1]Eastern Kentucky University, Department of Recreation and Park Administration

[2]Eastern Kentucky University, Department of Anthropology, Sociology, and Social Work

[3]Eastern Kentucky University, Department of Student Life

[4]South Dakota State University, Department of Health and Nutritional Sciences

[5]Kansas State University, Department of Horticulture and Natural Resources

Introduction

In the United States, wildlife tourism is a popular leisure activity, with bird watching being one of the aspects of wildlife tourism for a wider range of people. Birding in the United States is also a large part of the wildlife tourism industry and one of the fastest growing hobbies (Eubanks, Stoll, & Dilton, 2004). Around 83 million Americans 16 years and older have participated in birding at least once by 2009, much more than hunting and fishing combined (US Forest Service, 2013). Birding requires little equipment and training, making it a low-cost activity. This low cost allows for more people to enjoy the activity (Eubanks, Stoll, & Dilton, 2004).

Although birding has very little monetary costs to get started, birding can have a large economic impact on an area (Hvenegaard, 2002). Birders often travel to areas to enjoy their activity. While there, they are likely to spend money in the area. Food, gasoline, supplies, lodging, etc. are often purchased in the area where the birders travel. Birders are also likely to travel with members of birding groups, allowing for more money to be spent in these areas. These birders can have a great impact on local economies.

This research is important for theoretical and practical reasons. While there are many studies on or related to birding, few focus on the identity of these birders. Understanding birders identity and being aware of how this propels tourism in birding areas may help tourism professionals as they market to attract birders. Identifying birder

demographics and leisure identity will allow for communities to better capitalize on birding tourism.

Review of the Literature

Birding Identity

While studies on birders and birding has increased over the last ten years, little research in birding identity has taken place. In 1999, Cordell, Herbert, and Pandolfi found that birding was the fastest growing means of outdoor recreation in America. The southeastern United States is the fastest growing region of new birding participation (Cordell, Herbert, & Pandolfi, 1999). Researchers found most birders were female, white, between 40-59 years old, married, retired, and college educated. In further support, a study by Cordell, Herbert, and Pandolfi (1999) found that birding enthusiasts have a mean age of 60 years, had a high school education, were female, and were more likely to participate in many birding trips each year. The researchers noted that the increasing number of birders in the US warranted more funding to promote this tourism endeavor.

Hvenegaard (2002), studied the demographic identity of birders around the world. Advanced-experienced birders were found to be much older than other birders (Hvenegaard, 2002). He found that advanced birders were more likely to have at least a bachelor's degree and have a higher annual income than any other set of birders (Hvenegaard, 2002). He also found that advance-experienced birders were more likely to be male, when studied globally (Hvenegaard, 2002). Hvenegaard (2002) also noted the importance of birder identity when planning for birding recreation.

In 2003, the US Fish and Wildlife Service conducted a survey regarding birder identity in the United States. In this study, a birder was defined as any person traveling more than a mile from their home to observe birds. This study confirmed that birders were more likely to have a higher income, education level, and be older than the average population. The study also highlighted that 94% of birders identified themselves as white, showing a lack of diversity among birders. The survey also showed that around 18 million Americans were willing to travel to enjoy bird watching (US Fish and Wildlife Service, 2003).

Eubanks, Stoll, and Ditton (2004) found the number of birders over 16 years of age had increased from previous years, to over 66 million Americans in 2004. With no cost to participate, more people are able to be involved in this form of recreation. Entry level birders can enjoy the activity with little personal investment, while more experienced birders spend upwards of $500 or more on birding trips or experiences. This money was likely spent on travel, food and lodging during birding excursions. While demographically similar, respondents in this study varied in their motivations, economic impact, and skill level in birding (Eubanks, Stoll, & Ditto, 2004).

The US Forest Service (2013) conducted a survey on birding in 2009. This research showed that birding continued to be a large source of outdoor recreation for many Americans. By 2009, more than 83 million Americans over 16 had participated in birding. According to the data, birding continues to be a growing source of recreation, though growth appeared to be slowing. It was predicted that 117-150 million Americans would classify themselves as birders by 2060 (US Forest Service, 2013).

Leisure Identity

Shamir (1992), studied serious leisure salience based on Stebbins (1982) characteristics of leisure. The researchers studied the physiological impacts associated with serious leisure activities. Respondents were surveyed on their feelings regarding leisure activities of personal interest (Shamir, 1992). Results show serious leisure was significantly related to respondents' identity and respondents' perseverance within a leisure activity (Shamir, 1992). Shamir (1992) also found serious leisure to have a significant psychological component and thus may be difficult to measure through common means (Shamir, 1992). Shamir (1992), also found that levels of serious leisure and leisure identity varied between different activities, perhaps affected by the background of participants.

In a leisure identity study in 2000, researchers found numerous variables contributed to leisure identity among recreation participants. Demographics such as race, age, and sexual orientation have a role in determining leisure identity (Kivel, 2000). He notes that this individual sense of leisure identity represents a paradigm shift in the field of recreation research, as individual identities were not as important as in the

past. Kivel (2000) also discussed how leisure plays into separating these different social categories, and how recreation professionals should look into this to create change in the future.

Jinhee and Gerard (2012), built upon the idea that leisure identity is varied by social categories. They studied the effect of gender on leisure identity among golfers. They found that gender and masculinity played a key role in determining the participant's identity. Males with a masculine identity were more likely to identify as golfers, while women with a more masculine identity were not (Jinhee & Gerard, 2012). This research is important as it provides more information on how social categories, gender specifically, effect participant's leisure identity.

Although, there is a great deal of information regarding birding, and the identity of birders in the United States, it is important to update information regularly. Since birding is a continually growing endeavor within outdoor recreation, studies need to be completed in order to maintain correct information regarding birder identities. This research serves as an update to existing information on birder identity. In addition, this research will add to the collection of knowledge on leisure identity, and how it is affected by social categories, such as age and income.

Methods

The researchers adopted Jun and Kyle's leisure identity measurement (2011) to measure birders' leisure identity in birding. This leisure identity instrument was composed of five sub-dimensions: Social Identity (5 items), Exclusivity (5 items), Self-identity (3 items), Negative Affectivity (2 items), and Positive Affectivity (4 items). Social identity reflects the degree to which an individual identifies as a birder from a social perspective, while self-identity reflects the degree of individuals' birder identity from self-referenced cognitions. Negative affectivity is to explain how birders' adverse emotional reactions to an undesirable outcome, while positive affectivity focuses on the positive affect from participating in birding. Exclusivity represents the extent to which individuals' identity is determined by their birding involvement and participation (Cieslak, 2004).

Research respondents were asked to rate their agreement with each leisure identity statement on a 5-point Likert scale (1 indicating "strongly disagree" to 5

indicating “strongly agree”). Research respondents’ demographics were also collected, including age, gender, race, education, household income, residential area, and membership. While demographic variables help researchers understand population characteristics of birders, they can aid in further understanding potential identity differences within the population.

Descriptive analysis was applied to achieve a general understanding regarding the U.S. birders’ demographic characteristics and their identity as a birder. The mean scores of the five sub-dimensions of leisure identity (social-identity, exclusivity self-identity, negative affectivity, and positive affectivity) are noted in Table 2, and an overall birding identity was also compiled for further analysis. To compare means of different demographic groups, Independent *t-tests* were applied to examine if birders’ identity scores varied with their gender, race, residential area, and membership with an organized birding group, while ANOVA was used to test possible differences among birders’ age, education level, and annual income. If an overall ANOVA test was significant, Tukey Post Hoc with .05 significant level was used to determine which pair(s) contribute the differences.

To target birders, the researchers began this project by compiling a national list or birding and birdwatching organizations in the United States. Through an online search, over 100 organizations were identified and over 300 email addresses of leadership within the organizations gathered. An initial email was sent out, introducing the research study that would be sent soon via email. After removing bad or email addresses with errors, 264 email addresses were used for online survey distribution. In the initial email, organizational leadership was informed of the study, the intent, and asked to distribute the forthcoming survey to all known birders. Thus, this research project relied on snowball sampling, soliciting birders from all areas of the United States to participate in the online survey. A second email, including instructions to help distribute they online survey to known birders, included a link to an online survey hosted by Qualtrics software.

Results

While the number of people that received the online survey link is unknown, 293 respondents responded and completed the online survey. Table 1 displays the demographic information for the survey participants, most respondents identified as white (93%) and male (51%). A majority, 53%, of the participants were 50-69 years of age and 27% were 30-49 years old. The 18-29 year old demographic composed 8% of the participants and over 70 composed 12% of the birders. Of the birders surveyed, 50% had a graduate degree, 32% had a college degree, and 18% had a high school degree or less. The majority of birders surveyed, 50%, had an annual income of $44,999-$99,999, while 28% made $100,000 or more annually and 22% made $44,999 or less annually. More than 60% of participants self-identified as residents in an urban area. Of the participants, 71% indicated that they were in an organization or wanted to join one in the near future.

The mean scores and standard deviation of respondents' five dimensions of leisure identity and overall birding identity are presented in Table 2. The overall leisure identity of participants, when summing means of sub-dimensions, was 63.13. The Cronbach's α of the entire leisure identity instrument was 0.89, while each sub-dimension of leisure identity comprised of two to five items ranging from 0.67 to 0.78 (Table 2). Within the five sub-dimensions of leisure identity, positive affectivity dimension showed the highest mean score (x=4.29), followed by Self-identity (x=3.88), Social identity (x=3.02), Exclusivity (x=2.82), and Negative Affectivity (x=2.58). "Participating in birding is a very positive part of my life" (x=4.49) was scored the highest among all the birding identity statements, whereas "I feel badly when I fail to meet my goals related to birding" (x=2.55) received the lowest mean score in birding identity.

The results of ANOVA and independent *t-tests* (Table 2) showed that individuals' birding identity varied with their gender, education level, annual household income, residential area, and whether having a membership of an organized birding group or not. The researchers found no significant difference when investigating age and race variables. In comparing to gender difference, there was a significant difference between the negative affectivity [$t(1, 291)=-2.98$, $p<0.01$] and positive affectivity [$t(1, 291)=2.04$, $p<0.05$] leisure identity of male and female birders. The results indicated that male

birders were more likely to identify less as a birder if they perform poorly, while female tended to have a stronger positive affectivity with the activity. As for birders' education level, a significant difference was found between individuals who received their doctoral degree and all other groups (i.e. high school or less, college degree, and Master's degree) in social identity [$F(3, 289)=4.29$, $p<0.01$], exclusivity [$F(3, 289)=5.28$, $p<0.01$], and their overall leisure identity [$F(3, 289)=4.36$, $p<0.01$]. Birders with doctoral degree were less likely to have stronger social identity, exclusivity, and overall birding identity than other individuals with other degrees. Similarly, birders' identity also varied with their annual household income. The results showed that birders in the highest income category of the study ($100,000+) reported a significant lower score in exclusivity [$F(2, 290)=3.74$, $p<0.05$], self-identity [$F(2, 290)=3.42$, $p<0.05$], positive affectivity [$F(2, 290)=3.36$, $p<0.05$], and overall leisure identity [$F(2, 290)=4.20$, $p<0.05$] than the lowest income group (less than $44,999). In addition, birders who live in a rural area reported a lower self-identity in birding than those who live in an urban area [$t(1, 291)=-2.48$, $p<0.05$]. Finally, birders' social identity [$t(1, 291)=-4.49$, $p<0.001$], exclusivity[$t(1, 291)=-2.45$, $p<0.05$], self-identity [$t(1, 291)=-2.90$, $p<0.01$] and overall birding identity were also significantly different in whether an individual is a member of an organized group or not [$t(1, 291)=-3.38$, $p<0.01$].

Discussion

The purpose of this study was to increase knowledge of identity of birders in the United States. The results of this research confirmed previous research on birding, researchers found birders were likely to be over 50 years of age, were 53% male, 61% urban, and 71% identified as a member of a birding group. Results also showed birders were more likely to be educated than the general population, with 72% having a college degree or some higher education. Birders were also found to have a higher income, with 79% of the survey participants making $45,000 or more annually.

The survey also covered a variety of questions regarding the leisure identity of the birders in the United States. Within this section (seen in Table 2), there were many sub-dimensions of birding, including: social identity, exclusivity, self-identity, negative affectivity, and positive affectivity. The overall mean for social identity was 3.02,

meaning that in this dimension; birders were neutral in their identity. In exclusivity, the average mean was 2.82, meaning that birders were not likely to agree that they were exclusively a birder. When the participants were asked about their self-identity, the mean was 3.88, meaning that the average participant agreed or strongly agreed that they self-identified as birders. Though this was the case, on average, birders with higher levels of education and income had lower levels of identity than the other birders. These individuals likely more identify with their career or other interests, rather than birding. Negative affectivity yielded a mean of 2.58, which indicates that the birders were not likely to have adverse effects related to poor performance in birding. Finally, the mean for positive affectivity was 4.29. This means that the birders felt good about themselves when they do well in their hobby, and this causes a higher sense of identity. In addition to this, the participants, on average, felt birding was not a significant part of their lives. This is seemingly contrary to the idea that the participants identified themselves as birders.

In all, the information found in this research supports previous research completed on birding identity. The demographic information is on par with previous research, in that the participants were found to be older, more educated, and wealthier than the general public. In addition to this, birders were more likely to have a strong identity if they were involved with a group, or fit into one of the general birding demographic categories.

Implications

Knowing the demographic information and leisure identity of birders is important for tourism and park managers. In knowing this information, it is possible to target birders. Though birding is a relatively low investment activity, it does pose an economic benefit. As seen from this study, there are birding participants that expend considerable funds on experiences (Eubanks, Stoll, & Ditto, 2004). In most cases, money spent is not related to licenses or equipment, it is spent in communities at or near the birding activity. While further research is needed related to economic impact of birding, a possible key finding from this study is the marketing implications related to birding activity.

Knowing the demographic and identity characteristics of birders may provide tourism specialists information needed to market places and experiences to individual birders or birding groups. This would allow them to draw in specific people for bird watching opportunities. For instance, there are four primary flyways in the United States, covering large corridors for north to south. The Mississippi flyway, for example, follows the river from the north part of the US to the Gulf of Mexico. Along the flyway are many towns and natural resources that see a lot of migration activity at certain times of the year. A community along the river could identify primary times for bird activity, develop infrastructure to enhance birding experiences, and market to people interested in birding. While investment is needed to plan, develop, and market birding opportunities, such investment could spur increased involvement in birding overall, but also increase tourism visitation. Increases in tourism have implications ranging from community transition and economic impact. Target marketing to individuals that are similar to respondents in this study may provide the best return on investment.

While current birders may be the main target, tourism managers could also find ways to expand the birding demographics. For instance, there are opportunities to offer birding lessons and programs to individuals and groups that may not have discretionary income for recreation activities. Educational programs, and participation in the activity, can be on the lower end of investment, further leveraging local resources to help the community.

In all, birding represents a great opportunity for economic development. With birding slated to increase in popularity over the next 50 years, it is important to develop strategies now (US Forest Service, 2013).

Limitations

Due to the study type, snowball sampling was used to gain the largest number of potential respondents with the least amount of time invested to identify potential participants. While snowball sampling was successful for this study, the methodology did limit potential respondents to people associated with birding groups, excluding birders not affiliated or associated with a birding group. Further inquiry should ensure random sampling of participants, including birders perhaps not a member or associated

with a birding group. In addition to this, this survey was only available to participants over the age of 18 years old. Other studies conducted by the National Forest Service typically include respondents 16 years and older. Though there is a discrepancy between this survey and the national surveys, the differences in results are limited.

Additional studies in birding would further the understanding of birders as individuals and groups. Overall leisure identity is likely to change when birders not affiliated with a group are included. Further, and perhaps an interesting aspect for the research, is the possibility that tourists are interested in birding but are not members of a group. Tourists are the primary target for marketing efforts, due to the outcomes of tourism for a local economy. Given this, it is possible some birding tourists may not be part of a birding group and still spend considerable funds birding and pursuing other travel and tourism activities. While it is logical to consider birding as an activity of importance, target marketing may need to extend beyond birding groups alone to capture the wider birding audience. More research is needed to identify the best places to invest resources for marketing, planning, and developing around birding activities.

Table 1 Demographics of Research Participants

	Demographics	Frequency	Percentage (%)
Age	18-29	22	8%
	30-49	80	27%
	50-59	156	53%
	70+	35	12%
Gender	Male	154	53%
	Female	139	47%
Race	White	273	93%
	Non-white	20	7%
Education	High school or less	51	17%
	College degree	93	32%
	Master or professional degree	105	36%
	Doctoral degree	44	15%
Income	<=$44,999	64	22%
	$45,000-99,999	146	50%
	>=$100,000	83	28%
Residence	Urban	179	61%
	Rural	114	39%
Birding Group Member	Yes	207	71%
	No	86	29%

Table 2 Descriptive analysis of Birders' Leisure Identity

Sub-dimensions of Leisure Identity	Mean	S.D.	α
Social identity	**3.02**	**0.63**	**0.67**
Other people see me mainly as a birder	2.83	1.03	
It is important that other people know about my involvement in birding	2.91	0.97	
If I stopped birding, I would probably lose touch with a lot of my friends	2.64	1.18	
You can tell a lot about a person by seeing them while out birding	3.52	0.78	
When I participate in birding, others see me the way I want them to see me	3.20	0.79	
Exclusivity	**2.82**	**0.76**	**0.78**
My involvement in birding has influenced my day-to-day decision making	3.12	1.09	
Participating in birding is the most important part of my life	2.44	1.05	
I typically organize my day(s) so I can participate in birding	2.93	1.03	
I make many sacrifices to participate in birding	2.81	1.03	
I continuously think about how I can "be more of a birder	2.79	0.98	
Self-identity	**3.88**	**0.70**	**0.71**
I consider myself a birder	4.33	0.74	
I have many goals related to birding	3.41	1.02	
Being a "birder" is an important part of who I am	3.91	0.86	
Negative affectivity	**2.58**	**0.87**	**0.72**
I feel bad about myself when I perform poorly when out birding	2.60	1.01	
I feel badly when I fail to meet my goals related to birding	2.55	0.97	
Positive affectivity	**4.29**	**0.47**	**0.76**
When I am participating in birding, I am happy.	4.39	0.56	
Participating in birding is a very positive part of my life	4.49	0.57	
I get a sense of satisfaction from birding	4.47	0.54	
I feel good about myself, I perform well while out birding	3.81	0.77	
Overall leisure identity	**63.13**	**10.09**	**0.89**

Table 3 Leisure Identity Comparison among Demographics (ANOVA and *t-test*)

Demographics	P-value	Post Hoc (mean score)
Age[1]	N/A	N/A
Gender[2]		
Negative affectivity	*t*(1, 291)=-2.98**	Male (2.72)> Female (2.42)
Positive affectivity	*t*(1, 291)=2.04*	Female (4.35)> Male (4.24)
Race[2]	N/A	N/A
Education[1]		
Social identity	*F*(3, 289)=4.29**	Doctoral (2.71)< High school or less (3.11), College (3.03) & Master's (3.10)
Exclusivity	*F*(3, 289)=5.28**	Doctoral (2.44)< High school or less (3.02), College (2.81) & Master's (2.88)
Total leisure identity	*F*(3, 289)=4.36**	Doctoral (58.23)< High school or less (64.63), College (63.54) & Master's (64.10)
Household income[1]		
Exclusivity	*F*(2, 290)=3.74*	$100,000+ (2.71)< less than $44,999 (3.03)
Self-identity	*F*(2, 290)=3.42*	$100,000+ (3.75)< less than $44,999 (4.05)
Positive affectivity	*F*(2, 290)=3.36*	$100,000+ (4.20)< less than $44,999 (4.41)
Overall leisure identity	*F*(2, 290)=4.20*	$100,000+ (61.62)< less than $44,999 (66.22)
Residential area[2]		
Self-identity	*t*(1, 291)=-2.48*	Rural resident (3.76)<Urban resident (3.96)
Membership[2]		
Social identity	*t*(1, 291)=-	No (2.77)<Yes (3.12)
Exclusivity	4.49***	No (2.65)<Yes (2.89)
Self-identity	*t*(1, 291)=-2.45*	No (3.70)<Yes (3.96)
Overall leisure identity	*t*(1, 291)=-2.90** t(1, 291)=-3.38**	No (60.09)<Yes (64.40)

References

Cieslak, T. J. (2004). *Describing and measuring the athletic identity construct: Scale development and validation*. Doctoral dissertation. The Ohio State University, Columbus.

Cooper, C.B. & Smith, J. A. (2010). Gender patterns in bird-related recreation in the USA and UK. *Ecology and Sociology, 15(4).* Retrieved from: http://www.ecologyandsociety.org/vol15/iss4/art4/

Cordell, H. K., Herbert, N. G., & Pandolfi, F. (1999). The growing popularity of birding in the United States. *Forest Sciences Library.* Retrieved from: ttp://www.srs.fs.usda.gov/pubs /ja/uncaptured/ja_cordell011.pdf

Eubanks, T.I., Stoll, J.R., & Ditton, R.B. (2004). Understanding the diversity of eight birder sub-populations: Socio-demographic characteristics, motivations, expenditures and net benefits. *Journal of Ecotourism,3(3),* 151-172.

Hvenegaard, G. (2002). Birder specialization differences in conservation involvement, demographics, and motivations. *Human Dimension Wildlife,* 7, 21-36.

Jinhee, J., & Kyle, G. T. (2012). Gender Identity, Leisure Identity, and Leisure Participation. *Journal Of Leisure Research*,*44*(3), 353-378.

Jun, J. H., & Kyle, G. T. (2011). The effect of identity conflict/facilitation on the experience of constraints to leisure and constraint negotiation. *Journal of Leisure Research, 43*(2), 176-204.

Kivel, B. D. (2000). Leisure Experience and Identity: What Difference Does Difference Make?. *Journal of Leisure Research*,*32*(1), 79.

Shamir, B. (1992). Some correlates of leisure identity salience: Three exploratory studies. *Journal of Leisure Research*,*24*(4), 301.

US Fish and Wildlife Service (2003). Birding in the United States: a demographic and economic analysis, *NCTC Conservation Library.* Retrieved from: http://digitalmedia.fws.gov/cdm/ref/collection/document/id/291

US Forest Service (2013). Birding trends. *Internet Research Information Series.*

Relationship between Select Dietary Habits, Academic Achievement, Body Mass Index, Living Arrangements, and Perceived Body Image among Collegiate Female Track and Field Athletes

Zachary J. Blahnik, M.S., **Shelley L. Holden**, Ed.D., **Neil A. Schwarz**, Ph.D.

University of South Alabama, Department of Health, Kinesiology and Sport

Introduction

A rise in fast-food consumption has been observed in college students in the United States as well as a concomitant increase in body mass index (BMI). The Center for Disease Control (CDC, 2016) reported that 36.5% of adults are considered obese with similar obesity rates being reported in college students (Odlaug, Lust, Wimmelmann, Chamberlain, Mortensen, Derbyshire, & Grant, 2015). It has been hypothesized that poor nutritional choices (McLean-Meyinsse, Taylor, & Gager, 2015) and the cost and convenience of fast food (Gerend, 2009) may be key factors in the increase in BMI of college students.

The National Collegiate Athletic Association (NCAA) reported there were approximately 491,930 student-athletes competing in sports with an NCAA championship during the 2016-2017 academic school year (56.2% males and 43.8% women) which is at an all-time high. Like non-athlete college students, fast-food consumption of collegiate student-athletes has also increased considerably which may establish bad dietary habits through adulthood. In fact, one study determined student-athletes consumed an average of 3.5 more fast food meals per month than non-athlete college students (Knapp, Holden, & Forester, 2017).

Little research has been conducted to determine differences in fast food consumption based on the sport played. The different body types required for different sports may dictate how fast food consumption may affect body weight regulation, diet quality, and general well-being. For instance, an athlete who can benefit from an increased body mass may be more likely to have a higher fast food consumption which, in turn, could potentially lead to other negative consequences (e.g. poor vegetable and fruit intake, lower academic performance). Collegiate track and field is particularly

interesting as it is divided into many different events such as sprints, runs, jumps or throws, or a combination of them all (heptathlon or pentathlon). Each event requires specific training and body type requirements in order to be successful. Thus, female athletes in this sport display a wide range of body types, which may also require specific dietary habits to maintain. However, differences of dietary habits among female athletes across different events within track and field remain to be elucidated.

The different body types required to be successful in each track and field event raises questions as to how other factors, such as diet quality and academic achievement, among these female college athletes may be affected. In many cases, diet quality is measured in participants as it relates to lack of fruit and vegetable intake (Ogunsile, 2012), while other studies of diet quality are conducted by examining fast food consumption (Knapp, Holden, & Forester, 2017; Kobayashi, 2009). Several other studies use a combination of both fruit and vegetable and fast food consumption to determine diet quality (Kruger, Greenberg, Murphy, DiFazio, & Youra, 2014; McLean-Meyinsse, Taylor, & Gager, 2015). It is plausible that the various body type requirements among track and field athletes may lead to differences in diet quality, which may contribute to overall health of the student-athlete.

Some of these concerns have been studied previously in other populations. Related research has determined an increased body mass index (BMI) and poor diet quality may have adverse effects on academic performance (Ogunsile, 2012). Other studies have reported corroborating evidence of a negative correlation between BMI and GPA, as well (Florin, Shults, & Stettler, 2011; Knapp, Holden, & Forester, 2017; Kobayashi, 2009). A major concern with the wide range in requirements for body type is the potential for problems associated with perceived body image. Research has shown that self-perception as being overweight or obese has a greater effect on academic performance than actual BMI (Florin, Shults, & Stettler, 2011). That is, students who perceived themselves as overweight or obese, whether or not they physically belonged in that category, tested lower academically than those who perceived themselves to be of normal weight (Florin, Shults, & Stettler, 2011). Further, body image issues in college-aged women are less prevalent among athletes than non-athletes (Gaines, & Burnett, 2014). A potential reason for more positive body image in female athletes is

that athletes tend to exercise daily and may see improvements in their body over time (Gaines, & Burnett, 2014).

Collegiate athletes face many demands concerning athletic performance and academic achievement. The complex interrelationships between many factors may act to affect overall health and well-being in this particular subpopulation. Therefore, the purpose of this study was to determine the relationships between fast food consumption (FFC), level of NCAA sport participation (I, II, or III), athletic year of eligibility, region of college attendance (Midwest, Northeast, South, Southwest, or West), track and field event participation, BMI classification, GPA, living arrangement (off-campus or on-campus housing), perceived body image, and fruit and vegetable intake within a sample of currently active female collegiate track and field athletes.

Methods

Participants

Approval was obtained from the University Institutional Review Board (IRB). Surveys were conducted online (SurveyPlanet, LLC, Los Angeles, CA) and female track and field athletes throughout the United States were surveyed. All participants were current female track and field team members at their college of attendance. Prior to athletes being surveyed, head coaches were contacted, via email, to obtain permission. The link to the survey was provided to members of the track and field team through their head coach or through the lead researcher (only after permission was granted by the collegiate head coach).

Instrumentation

Demographic questions such as ethnicity, height, weight, GPA, level of NCAA sport participation, region of the country were they attended college (Midwest, Northeast, South, Southwest, or West), event(s) participation, fruit and vegetable consumption per day, living arrangements, and perceived body type were all asked prior to completing the Michigan Behavioral Risk Survey. Body mass index was calculated from the reported height and weight for each participant. Additionally, the Photogenic Figure Rating Scale (PFRS)/ Stunkard Scale was used to assess body image among the student athletes participating (Swami, Steadman, & Tovée, 2009). This scale

presents nine male and nine female schematic silhouettes, ranging from extreme thinness to extreme obesity (Stunkard, Sorenson, & Schulsinger, 1983). Participants were asked to self-select the silhouette that best indicates his or her current body size and the silhouette that reflects their ideal body size (IBS).

The 12 question Michigan Behavioral Risk Survey was used to determine FFC. The questions on this survey included how many times fast food was consumed in a month and the reasons why participants chose to consume fast food. However, if participants indicated they did not consume fast food at all during the month, they did not answer the remaining 11 questions on the survey. In the current study, fast food was defined as food coming from a restaurant specializing in food that can be prepared, served quickly, is designed for ready availability, use, or consumption, and with little consideration given to quality or significance (Fast–food, n.d.).

Statistical Analyses

Data for each continuous variable were found to violate the assumption of normal distribution as assessed by the Shapiro–Wilk test (all $p < 0.05$) and by visual inspection of Q-Q plots. Therefore, continuous data were reported as mean, median, and interquartile range. Group comparisons were performed using non-parametric Kruskal-Wallis *H* tests and Mann-Whitney *U* tests. Pairwise comparisons for significant Kruskal-Wallis *H* tests were performed using Dunn's procedure (Dunn, 1964) with a Bonferroni adjustment and adjusted *p* values presented. Associations were determined non-parametrically using Spearman's rank correlation coefficient. Monotonic relationships were confirmed by visual inspection of scatterplots. All statistical analyses were performed using SPSS Statistics version 22 (IBM Corporation, Armonk, NY) with an *a priori* alpha level of 0.05.

Results

One hundred sixty-five female participants completed the survey. Nine participants did not answer the FFC questions, so only 156 participants were used for analyses requiring information regarding fast food consumption. Descriptive statistics for continuous and categorical data are displayed in Table 1 and Figure 1, respectively.

Results of this study did not reveal any significant group differences between NCAA Division level for BMI, GPA, or FFC (all $p > 0.05$). Further, no difference was observed for FFC and BMI by athletic year of eligibility. However, significance was observed for reported GPA, $H(3) = 10.972$, $p = 0.012$. Pairwise comparisons revealed seniors (median = 3.5) to have a significantly lower reported GPA than freshmen (median = 3.86; adj. $p = 0.01$; Figure 2).

Table 1. Participant Characteristics

			Interquartile Range	
Variable	Mean	Median	25%	75%
Age (years; *n*=165)	20.1	20.0	19.0	21.0
Height (cm; *n*=165)	168.1	167.6	162.6	172.7
Weight (kg; *n*=165)	64.3	59.9	54.4	68.5
Body Mass Index (kg/m^2; *n*=165)	22.7	21.7	20.1	24.1
Grade Point Average (*n*=165)	3.55	3.64	3.33	3.87
# of Fast Food Meals per Month (*n*=156)	4.6	3.0	1.1	5.0

Other statistical analyses revealed a significant group difference for FFC based on region of the country of academic attendance/athletic participation ($H(4) = 22.935$, $p < 0.001$). Pairwise comparisons revealed that the South region (median = 6.5) reported significantly more FFC than the West (median = 2.0; adj. $p < 0.001$) and Midwest (median = 2.5; adj. $p = 0.001$) regions (Figure 3A). However, there were no differences for GPA or BMI between regions.

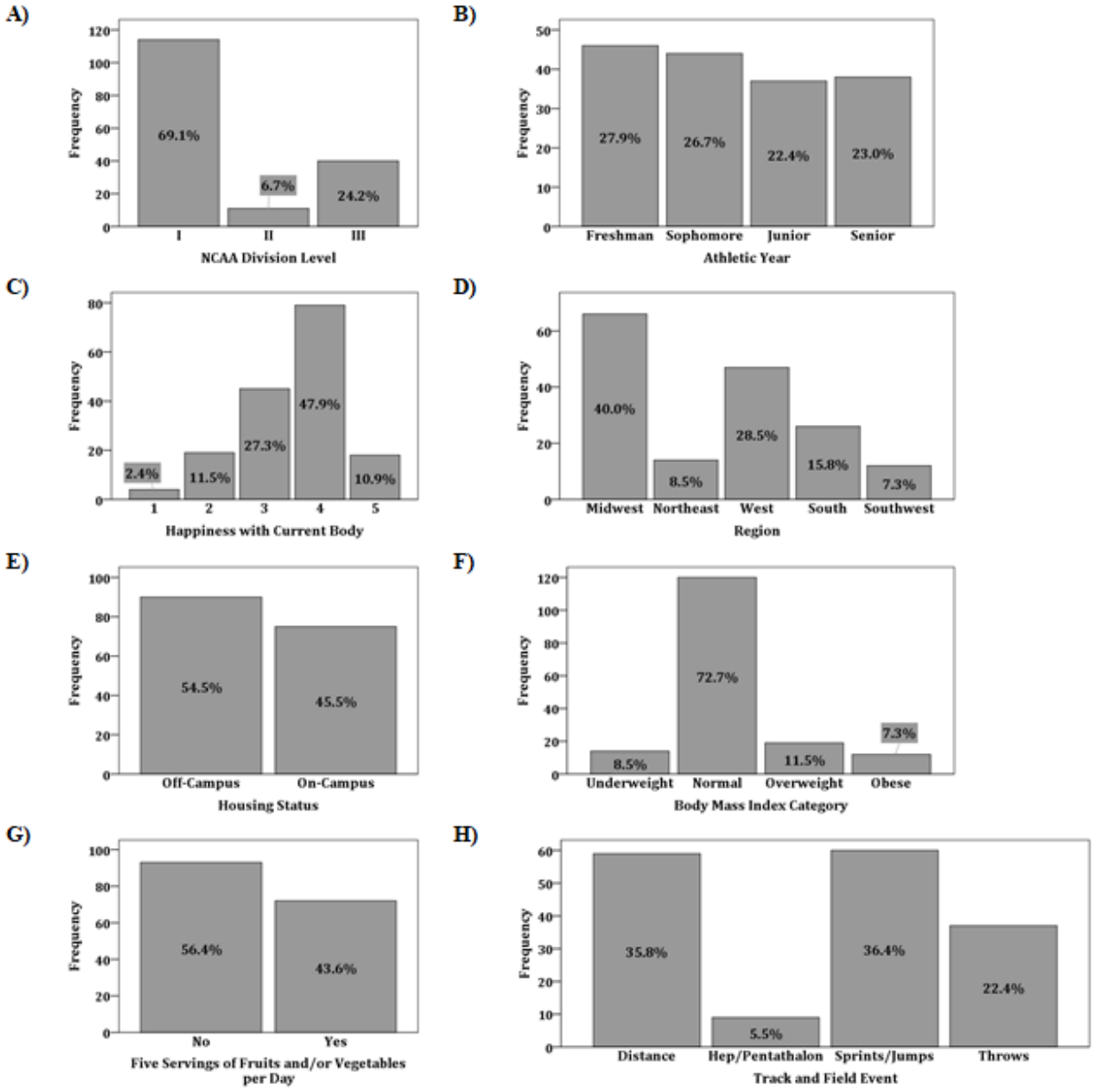


Figure 1. Frequency (and percentage) of respondents' **(A)** NCAA Division Level, **(B)** Athletic Year, **(C)** Happiness with Current Body (1- least happy, 5- very happy), **(D)** Region of the United States, **(E)** Housing Status, **(F)** Body Mass Index Category, **(G)** Fruit and Vegetable Intake, and **(H)** Track and Field Event

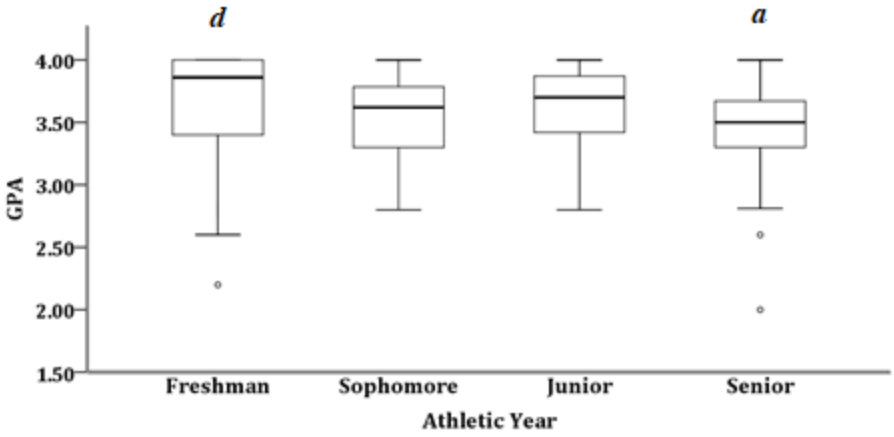


Figure 2. Respondents' grade point average (GPA) by athletic year. Note: [a] denotes statistically different from Freshman, [d] denotes statistically different from Senior. The boxes represent the interquartile range. The whiskers extend to the highest and lowest values which are no greater than 1.5 times the interquartile range. The line across the box indicates the median. Outliers (denoted by °) are values beyond 1.5 times the interquartile range.

There was no difference observed for GPA by event but significant differences were observed for FFC ($H(3) = 21.859$, $p < 0.001$) and BMI ($H(3) = 86.673$, $p < 0.001$) based on event. That is, athletes competing in sprints/jumps (median = 3.75; adj. $p = 0.004$) and throws (median = 4.0; adj. $p < 0.001$) reported significantly more FFC than distance athletes (median = 2.0; Figure 3B). Also, athletes competing in sprints/jumps (median = 22.0; adj. $p < 0.001$), heptathlon/pentathlon (median = 22.51; adj. $p = 0.011$), and throws (median = 26.64; adj. $p < 0.001$) all had significantly higher BMI than distance athletes (median = 20.06). Furthermore, athletes competing in throws had significantly higher BMI than those competing in sprints/jumps (adj. $p < 0.001$; Figure 3C).

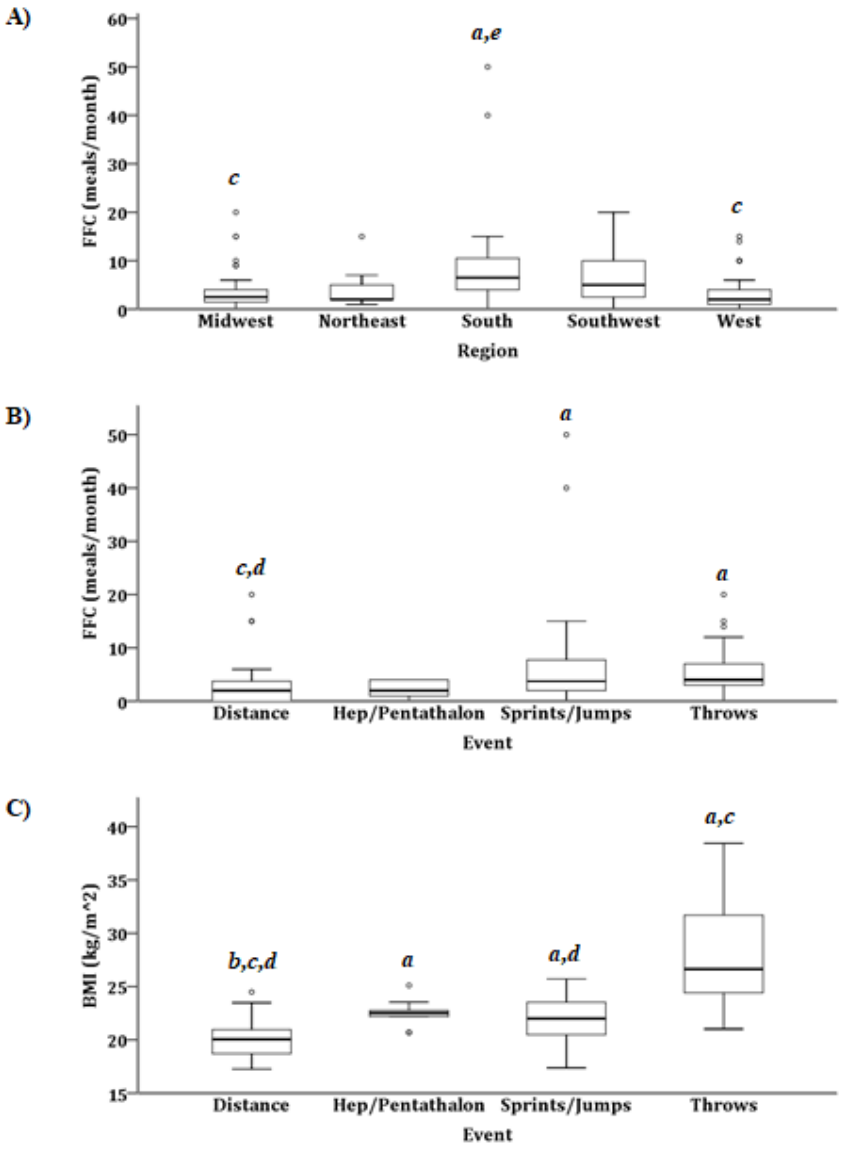


Figure 3. (A) Fast food consumption (FFC) by region of the United States. Note: [a] denotes statistically different from Midwest, [c] denotes statistically different from South, [e] denotes statistically different from West. **(B)** Fast food consumption by track and field event. Note: [a] denotes statistically different from Distance, [c] denotes statistically different from Sprints/Jumps, [d] denotes statistically different from Throws. **(C)** Body mass index (BMI) by track and field event. Note: [a] denotes statistically different from Distance, [b] denotes statistically different from Hep/Pentathalon, [c] denotes statistically different from Sprints/Jumps, [d] denotes statistically different from Throws. The boxes represent the interquartile range. The whiskers extend to the highest and lowest values which are no greater than 1.5 times the interquartile range. The line across the box indicates the median. Outliers (denoted by °) are values beyond 1.5 times the interquartile range.

No difference was observed between BMI category for GPA, but a significant difference was observed for FFC based on BMI category ($H(3) = 9.459$, $p = 0.024$). Participants categorized as obese (median = 5.5) reported significantly greater FFC than those categorized as underweight (median = 2.0; adj. $p = 0.038$). Although not significant, a trend was observed for those categorized as obese to report greater FFC than those categorized as normal (median = 3.0; adj. $p = 0.062$; Figure 4). Moreover, no difference was observed for FFC or BMI between those who lived on-campus or off-campus but reported GPA was significantly greater for on-campus students (median = 3.70) than off-campus students (median = 3.53;$U = 4{,}108.5$, $z = 2.404$, $p = 0.016$; Figure 5).

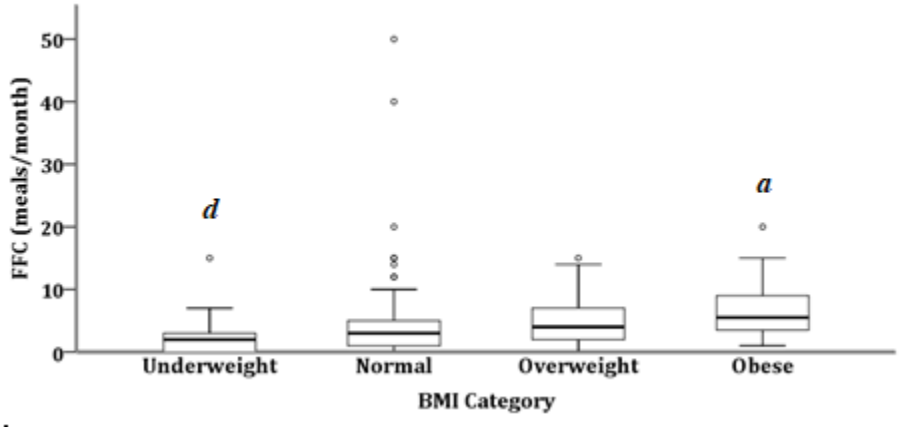


Figure 4. Fast food consumption (FFC) by body mass index (BMI) category. Note: [a] denotes statistically different from Underweight, [d] denotes statistically different from Obese. The boxes represent the interquartile range. The whiskers extend to the highest and lowest values which are no greater than 1.5 times the interquartile range. The line across the box indicates the median. Outliers (denoted by °) are values beyond 1.5 times the interquartile range.

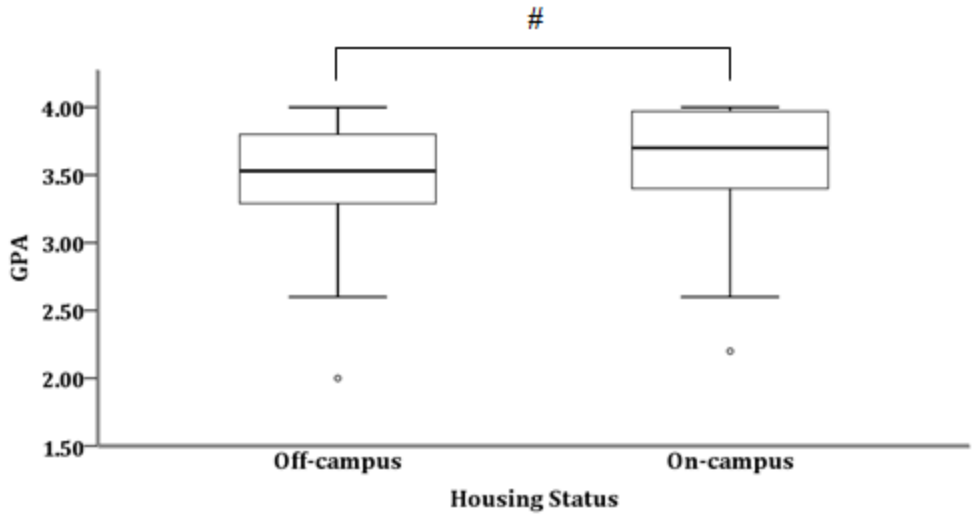


Figure 5. Grade point average (GPA) by housing status (on- or off-campus). Note: # denotes statistically different between groups. The boxes represent the interquartile range. The whiskers extend to the highest and lowest values which are no greater than 1.5 times the interquartile range. The line across the box indicates the median. Outliers (denoted by °) are values beyond 1.5 times the interquartile range.

Athletes were split into two groups based on perceived body image using the Stunkard scale. Those whose current perceived body type matched the body type that most appealed to them were put in one group, whereas those whose current perceived body type was different than the body type that most appealed to them were allocated to a second group. The two groups did not significantly differ in FFC or GPA; however, BMI was significantly higher for the group whose current perceived body type did not match the body type that most appealed to them (median = 22.36 kg/m^2) compared to those whose did match (median = 21.15 kg/m^2; U = 2,718, z = -2.188, p = .029; Figure 6).

When analyzing fruit and vegetable intake, athletes who consumed five or more servings of fruit and/or vegetables per day reported significantly less FFC (median = 2.0; U = 2,110.5, z = -3.137, p = .002; Figure 7A), had a significantly lower BMI (median = 21.03; U = 2,560.5, z = -2.588, p = .01; Figure 7B), and reported a significantly higher GPA (median = 3.70; U = 4020, z = 2.211, p = .027; Figure 7C) than those who did not consume five or more servings per day (median = 4.0, 21.97, and 3.50 for FFC, BMI, and GPA, respectively).

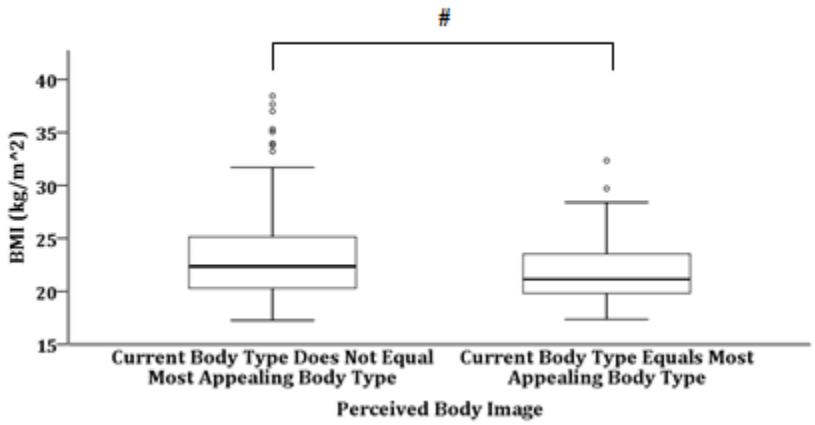


Figure 6. Body mass index (BMI) by perceived body image (current body type does or does not equal most appealing body type). Note: # denotes statistically different between groups. The boxes represent the interquartile range. The whiskers extend to the highest and lowest values which are no greater than 1.5 times the interquartile range. The line across the box indicates the median. Outliers (denoted by °) are values beyond 1.5 times the interquartile range.

Correlational analyses were also performed on FFC and BMI. A significant positive correlation was observed between FFC and BMI, $r_s(154) = .292$, $p < .001$, and a significant negative correlation was observed between FFC and GPA, $r_s(154) = -.162$, $p = .043$. No significant correlation existed between BMI and GPA; however a strong trend was observed, $r_s(163) = -.148$, $p = .057$.

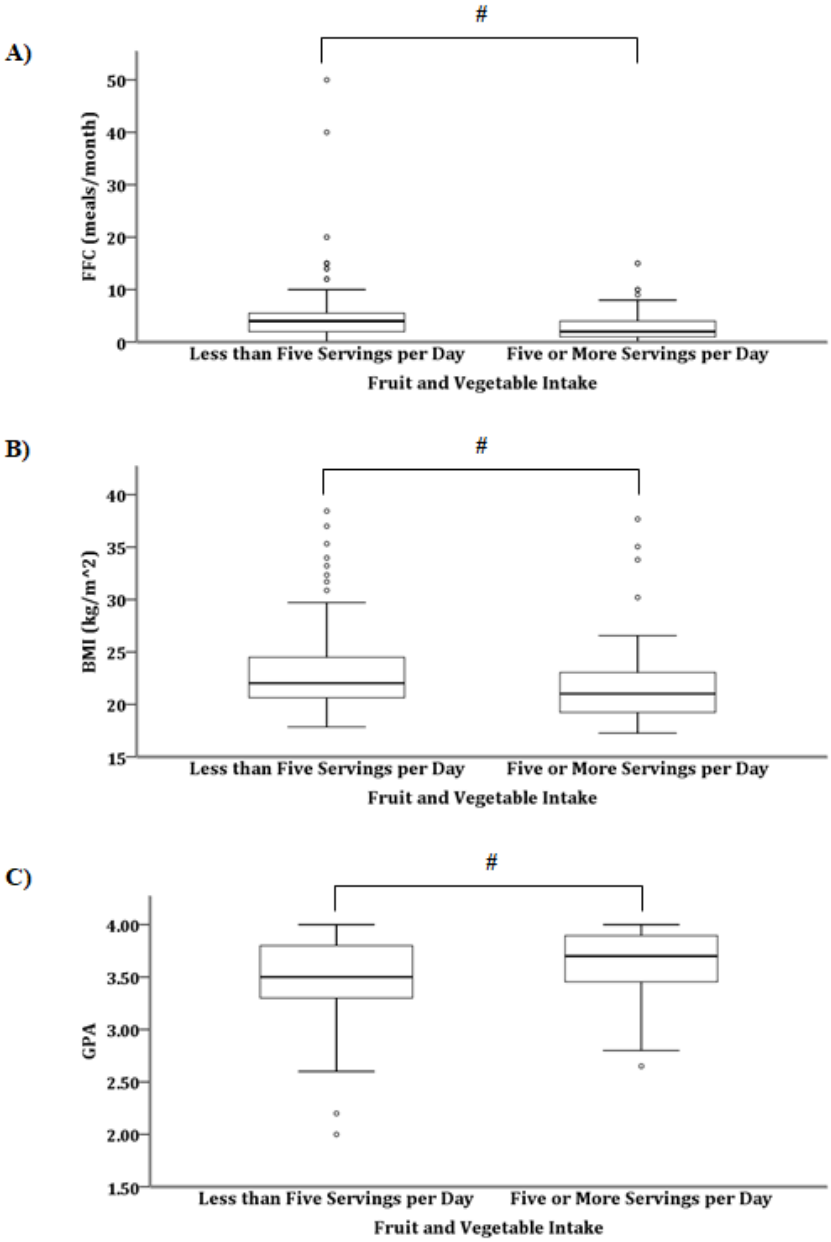


Figure 7. (A) Fast food consumption (FFC) by fruit and vegetable intake status (less than five servings per day or five or more servings per day). **(B)** Body mass index (BMI) by fruit and vegetable intake status (less than five servings per day or five or more servings per day). **(C)** Grade point average (GPA) by fruit and vegetable intake status (less than five servings per day or five or more servings per day). The boxes represent the interquartile range. The whiskers extend to the highest and lowest values which are no greater than 1.5 times the interquartile range. The line across the box indicates the median. Outliers (denoted by °) are values beyond 1.5 times the interquartile range. Note: # denotes statistically different between groups.

Discussion

Prior research has determined fast food consumption and unhealthy eating options tend to increase BMI in the general population (Ogunsile, 2012). In the current study, a positive correlation was observed between FFC and BMI suggesting this relationship extends to female track and field athletes, as well. Other studies have reported a negative relationship between FFC and GPA and BMI and GPA (Knapp, Holden, & Forester, 2017; Kobayashi, 2009; Ogunsile, 2012). The negative relationship between FFC and GPA is further corroborated in the current study population. Conversely, the negative relationship between BMI and GPA in this study did not reach statistical significance; however, a strong trend toward significance existed. This finding should be further investigated in other athletic populations to determine if BMI and GPA are negatively correlated in athletic populations or if sport participation modulates the relationship between BMI and GPA seen in other student populations.

Not surprising is the track and field athletes competing in the South region of the country reported significantly more FFC than other regions of the country. Lack of nutritional knowledge in the South has been well documented and researched (Akil & Ahmad, 2011; Gaines, Lonis-Shumate, & Gropper, 2011; Geiger et al., 2009; Holden, Norrell, 2014; Holden, Pugh, Norrell, & Keshock, 2014). This lack of nutrition knowledge may be a contributor to the higher rate of FFC in the South, but more data is needed to confirm this hypothesis. In the general population, the prevalence of obesity reported in the South is 32%, which is the highest of the five regions in the United States (South, Midwest, Northeast, Southwest, West).

Previous research has not been conducted on FFC of female athletes based on their track and field event. This study determined there are significant differences in FFC depending on the track and field event, with sprint/jump athletes and throwers consuming significantly more fast food than distance athletes. Also, distance athletes had significantly lower BMI than the sprint/jump and thrower groups. In terms of BMI category, female athletes qualifying as obese consumed significantly more fast food than those classified as underweight, with those classified as overweight trending toward a higher FFC than underweight individuals. Possible explanations for these results are the desire for endurance athletes to be lean and the average reported body

fat percentages (distance runner 14.3%, throwers 27%) for these types of events (McArdle, Katch, & Katch, 2013).

From a body image and social perspective, there are pressures for females to be thin and this may make female athletes in aesthetic sports, i.e. endurance sports, have an intense awareness of their body size, which may in turn, reduce their desire to consume fast food (Fulkerson, Keel, Leon, & Dorr, 1999). As a potential result of the need to feel thin, the group whose current perceived body type did not match the body type that most appealed to them had a significantly higher BMI compared to those whose did perceived body type did match their most appealing body type. Thus, even in track and field athletes, feelings of body dissatisfaction exist in those with a higher BMI. It should be further elucidated if this finding transfers to other sports such as football where some positions require a much higher body mass.

Interestingly, diet quality in terms of fruit and vegetable intake should be further investigated among collegiate athletes. A link between athletic performance and recovery and optimal nutrition is supported by many professional associations (American College of Sports Medicine, American Dietetic Association, Dieticians of Canada, 2009; American College of Sports Medicine Position Stand, 2016). Therefore, it is concerning that the group consuming fewer than five servings of fruit and/or vegetables per day are also consuming more fast food. Lastly, no differences were observed for FFC or BMI as a result of living arrangements which is consistent with previous research (Knapp, Holden, & Forester, 2017; McLean-Meyinsse, Taylor, & Gager, 2015). However, reported GPA was significantly higher for on-campus track and field athletes than those living off-campus.

Limitations

One limitation of the current study is the relatively low response rate. Over 75 track and field programs were emailed for permission and access to their student athletes; however, surveys were only received from 12 colleges/universities throughout the United States. Ideally a larger sample size would help to better define the population being studied.

Conclusion

All sports require different body types and capabilities for optimal performance and the various demands of each sport may even further complicate this. These differences in requirements can alter the dietary strategies employed by the participants of each sport. Hence, future research should utilize similar measures and questions to describe athletes participating in other collegiate sports such as basketball, soccer, softball, volleyball, etc. since the current study found distinct differences within event groups of track and field. Moreover, descriptive of diet quality and body image should be extended to male collegiate athletes.

The dietary habits being established in these female athletes are potentially going to result in lifelong eating patterns, thus it is important that an emphasis be placed on eating habits that promote overall health and cognitive ability in addition to supporting optimal athletic performance. Future research should also further examine the relationship between living arrangements of student-athletes and GPA as the latter can be a determining factor in collegiate athlete eligibility.

References

Akil, L. & Ahmad, H. A. (2011). Effects of socioeconomic factors on obesity rate in four southern states and Colorado. *Ethnicity and Disease, 21*(1), 58-63.

Center for Disease Control and Prevention. (2016). *Prevalence of self-reported obesity among U.S. Adults by state and territory, BRFSS, 2016*. Retrieved from http://www.cdc.gov/obesity/data/prevalence-maps.html

American College of Sports Medicine, American Dietetic Association, Dieticians of Canada. (2009). Nutrition and athletic performance: Joint position statement. *Medicine and Science in Sport and Exercise, 41*(3), 709-731.

American College of Sports Medicine Position Stand. (2016). Nutrition and athletic performance, *Medicine and Science in Sport and Exercise, 48*(3), 543-568.

Anderson, B., Rafferty, A. P., Lyon-Callo, S., Fussman, C., & Imes, G. (2011). Fast-food consumption and obesity among Michigan adults. *Journal of Preventing Chronic Disease, 8* (4)*, A71.*

Dunn, O. J. (1964). Multiple comparisons using rank sums. *Technometrics*, 6, 241-252.

Fast–food. (n.d.). Retrieved February 17, 2017, from https://www.merriam-webster.com/dictionary/fast–food

Florin, T. A., Shults, J., & Stettler, N. (2011). Perception of overweight is associated with poor academic performance in US adolescents. *Journal of School Health, 81*(11), 663-670.

Fulkerson, J. A., Keel, P. K., Leon, G. R., & Dorr, T. (1999). Eating-disordered

behaviors and personality characteristics of high school athletes and non-athletes. *International Journal of Eating Disorders, (26)1,* 73-79.
Gaines, A. B., Lonis-Shumate, S. R., & Gropper, S. (2011). Evaluation of Alabama public schools wellness policies and state school mandate implementation. *Journal of School Health, 81*(5), 281-288.
Gaines, S. A., & Burnett, T. S. (2014). Perceptions of eating behaviors, body image, and social pressures in female division II college athletes and non-athletes. *Journal of Sport Behavior, 37*(4), 351-369.
Geiger, B. F., Sims, S. K., Evans, R., Roy, J., Werner, K. A., Prier, M., Cochrane, K., Fulmore, J. S., Lett Dawson, V., Kirkpatrick, S., & Brown, D. (2009). Responses of health and physical educators to overweight children in Alabama. *Health Promotion Practice*, *10*(1), 111-118.
Gerend, M. (2009). Does calorie information promote lower calorie fast food choices among college students? *Journal of Adolescent Health, 44*(1), 84-86.
Holden, S. L., Norrell, P. M. (2014). The deep fried south: A literary analysis of nutritional knowledge of students and adults in Alabama. *Education*, *134*(3), 195-201.
Holden, S. L., Pugh, S. F., Norrell, P. M., Keshock, C. M. (2014). Nutritional knowledge of Alabama undergraduate students. *The Sport Journal*, 1-6. http://thesportjournal.org/article/nutritional-knowledge-of-alabama-undergraduate-students/
Hull, M. V., Jagim, A. R., Oliver, J. M., Greenwood, M., Busteed, D. R., & Jones, M. T. (2016). Gender differences and access to a sports dietitian influence dietary habits of collegiate athletes. *Journal of the International Society of Sports Nutrition*, 13:38. doi:10.1186/s12970-016-0149-4.
Knapp, A. C., Holden, S. L., Forester, B. E. (2017). Grade point average, body mass index, living arrangements, and fast food consumption of college students in Alabama. *ASAHPERD Journal, 37*(1), 5-11.
Kobayashi, F. (2009). Academic achievement, BMI, and fast food intake of American and Japanese college students. *Nutrition & Food Science, 39*(5)*, 555-566*. doi:10.1108/00346650910992213
Kruger, D. J., Greenberg, E., Murphy, J. B., DiFazio, L. A., & Youra, K. R. (2014). Local concentration of fast-food outlets is associated with poor nutrition and obesity. *American Journal of Health Promotion*, *28*(5), 340-343.
McArdle W, Katch F, Katch V̈. (2013). *Sport and exercise nutrition (4th ed.)*. Baltimore, MD: Lippincott Williams & Wilkins.
McLean-Meyinsse, P. E., Taylor, S. S., & Gager, J. V. (2015). Self-reported consumption of fast-food meals by university students. *Journal of Food Distribution Research, 46*(1), 23-29.
National Collegiate Athletic Association. (2017). *Sport sponsorship participation and demographic search [Data File].* Retrieved from http://webl.ncaa.org/rdgSearch/exec/main.

Odlaug, B. L., Lust, K., Wimmelmann, C. L., Chamberlain, S. R., Mortensen, E. L., Derbyshire, K., ... & Grant, J. E. (2015). Prevalence and correlates of being overweight or obese in college. *Psychiatry Research, 227*(1), 58-64.

Ogunsile, E. (2012). The effect of dietary pattern and body mass index on the academic performance if in-school adolescents. *International Education Studies, 5*(6), 65-72. doi.org/10.5539/ies.v5n6p65

Stunkard, A., Sorenson, T., & Schulsinger, F. (1983). Use of Danish adoption register for the study of obesity and thinness. In S. Kety, L.P. Rowland, R.L. Sidman, & S.W. Matthysse (Eds.), *The genetics of neurological and psychiatric disorders.* New York: Raven. 115-120.

Swami, V., Steadman, L., & Tovée, M. J. (2009). A comparison of body size ideals, body dissatisfaction, and media influence between female track athletes, martial artists, and non-athletes. *Psychology of Sport & Exercise, 10*(6), 609-614.

ASAHPERD Research Poster Abstracts
Spring Conference 2019

(1)Title: The Metabolic Cost of Hot Yoga

Authors: Deanne Allegro, Miles Rice, Hampton Brinson, Henry Williford, Auburn University Montgomery

Purpose: The purpose of this study is to determine the energy cost of a 75-minute hot yoga session. **Methods:** Ten females between the ages of 26 and 47 were recruited to participate. A 75-minute yoga session was developed and recorded by a trained yoga instructor. The recorded video was used to ensure consistency of instruction for each participant. Height was measured with a wall mounted SECA stadiometer and rounded to the nearest 0.05 cm. Body weight was measured using a TANITA digital scale and rounded to the nearest 0.05 kg. Physiological measures were assessed using the Cosmed K5 portable metabolic system. Heart rate was monitored continuously throughout the exercise test using a Garmin monitor. Room temperature and humidity was recorded at five minute intervals. **Results:** Mean energy expenditure (kcals) was 268.42 (± 16.77) per session, while mean METS were 3.29 (± 0.19). **Conclusions:** The mean energy cost was approximately 3.3 METS, which would classify the exercise as being moderate intensity exercise.

(2)Title: Exploring CrossFit women and their experiences with traditional and exercise apparel: A qualitative inquiry

Authors/Affiliations: C. Hauff, University of South Alabama, Mobile, AL, H. Bennett, Augusta University, Augusta, GA, C. Gipson, Georgia Southern University, Statesboro, GA, N Malcom, Georgia Southern University, Statesboro, GA

Purpose: Major CrossFit sponsors (e.g. CrossFit Headquarters and Reebok) advertise an informal “uniform” for female athletes that is form-fitting and revealing, featuring tight athletic shorts and a sports bra. On the surface, this apparel seems to support a traditional gender orientation which sexualizes and objectifies the female body. Yet, CrossFit women push boundaries by redefining the ideal female body, its functionality, and norms for “proper” attire.

The purpose of this qualitative exploration was to investigate the struggle CrossFit women face as they try to clothe their muscles and powerful body in apparel that is functional, feminine, and fitting of their transformed body. **Methods:** In focus groups of 3-6 participants (11 focus groups total), researchers interviewed a total of 47 CrossFit women. Participants ranged in age from 18-54 years old. In terms of their CrossFit ability, 22 participants said they were recreational, 16 participants described themselves as semi-competitive, and 3 participants described themselves as high-level competitive. As this was part of a larger study, participants were asked a series of semi-structured questions relating to their CrossFit experiences and body image. Once the focus groups were completed, the researchers conducted several cycles of coding to find emerging themes. **Results:** The authors identified three themes: focus on clothing functionality, transformation of clothing, and experiences with traditional apparel. Results indicated that CrossFit women prefer to wear clothing that is tighter fitting and physique revealing, not for aesthetic purposes, but in order to enhance their functionality and overall exercise experience. Additionally, CrossFit women discuss their experiences shopping for, and wearing, traditional apparel. CrossFit women indicate the challenges they face when trying to clothe their transformed bodies in straight-sized clothing and how this experience has contributed to their overall body image. **Conclusion:** This study provides a deeper understanding into how CrossFit women use their transformed bodies to challenge gender stereotypes and redefine beauty and athleticism for females through their clothing choices.

(3)Title: Perceived Versus Actual Physical Activity Through Examining Daily Step Counts

Authors/Affiliations: C.L. Hines, L.G. Killen University of North Alabama, Florence, AL

Purpose: The purpose of this study was to determine how daily step counts were perceived versus actual number of steps achieved. **Methods**: Thirty participants, who did not use a physical activity device, wore an Actigraph accelerometer for three days to measure daily step count. At the end of each day, participants estimated the number of steps achieved. **Results**: While the comparison of perceived versus actual steps was not significantly different for day 1 ($p = .27$); whereas, day 2 and day 3 approached significance ($p = .12$). Upon further analysis, it was determined daily step count is not perceived correctly with the majority being underestimated. **Conclusion**: The results suggest daily step counts are not accurately perceived. Therefore, it is suggested wearable devices could help track daily steps and potentially motivate individuals to meet the recommended goal of 10,000 steps.

(4)Title: Effects of CPR Training and Testing on Self-Efficacy of Alabama High School Athletic Coaches

Authors/Affiliations: K. D. Daigle, C. M. Keshock, University of South Alabama, Mobile, AL

Purpose: The purpose of this study was to investigate the effects of CPR training environment and testing methods on athletic coach CPR self-efficacy, which is an individual's belief that they can properly perform CPR and use an AED during a SCA incident. **Methods:** Participants included 609 Alabama high school athletic coaches, aged 20 to 72 years. All participants previously received CPR training, held a current CPR certification as of August 2017, and were

issued an Alabama High School Athletic Association (AHSAA) coaching card for the 2017-2018 academic year. A questionnaire was developed and distributed electronically to approximately 8,777 athletic coaches. The 27-question survey instrument contained four sections: CPR Self-Efficacy Measurement, Sudden Cardiac ArrestKnowledge, CPR/AED Certification, and Demographics. Based on the data collected, a CPR self-efficacy score and a SCA knowledge score was calculated for each participant. **Results:** Results indicated that the difference between classroom setting with 11 or more students (M = 4.5, SD = .49) and online (M = 4.24, SD = .62) training environments was statistically significant (p = .04). Results revealed the difference between gaining certification through skill demonstration accompanied with written test (M = 4.54, SD = .46) and skill demonstration only (M = 4.36, SD = .58) testing methods was statistically significant (p < .001). Additionally, the difference between gaining certification through skill demonstration accompanied with a written test (M = 4.54, SD = .46) and computerized test only (M = 4.23, SD = .53) testing methods was statistically significant (p = .038). **Conclusions:** Proper training in injury prevention and first responder emergency care is one of eight national domains expected of coaches (SHAPE America, 2018). Further research investigating the effects of CPR training and testing on CPR self-efficacy is warranted to determine how to best maximize a coach's CPR self-efficacy and to reduce the number of deaths related to SCA.

(5)Title: Fast Food Consumption and Exercise Habits of Air National Guard

Authors/Affiliations: Zachary R. Norred, Shelley L. Holden, and Brooke E. Forester

University of South Alabama

Purpose: The purpose of this study was to examine the fast food consumption and exercise habits of Air National Guard members. **Methods:** There were 22 participants in the current study with ages ranging from 22 to 56 (M=38.3) years old who were from a Combat Communications Squadron in the southeastern United States. Two participants were Officers while the remaining 20 participants were Enlisted members of the Air National Guard. The Michigan Behavioral Risk Factor Survey (2005) was used to determine fast food consumption. Prior to the questionnaire, 19 demographic questions were asked on items such as age, sex, education level, exercise habits, and military rank. All data was analyzed by the Statistical Packages for the Social Sciences (SPSS) program. **Results:** Participants consumed fast food an average of 8 times per month. Officers consumed fast food an average of 10.5 times and Enlisted members an average of 6.9 times per month. In addition, the body mass index of participants ranged from 21 kg/m^2 to 33.7 kg/m^2 (M= 27 kg/m^2) which identifies the mean BMI of participants as overweight (25.0-29.9 kg/m^2). Regarding exercise type, participants indicated they engaged in cardiorespiratory exercise, weight training, a combination of the two, or no exercise. Eight participants indicated cardiorespiratory exercise was their primary form of weekly exercise, two indicated weight training, seven participants engaged in both forms equally, and lastly, five did not exercise regularly. The ACSM recommends at least 30 minutes of moderate-intensity exercise five or

more times a week or at least 20 minutes of vigorous-intensity exercise three or more times a week (ACSM, 2011). Based on the ACSM's guidelines, only 59% (n=13) performed an adequate amount of exercise with 41% (n=9) falling below the recommendations. **Conclusion:** Military personnel need to make healthier decisions in regards to fast food consumption and exercise. Because the military operates at both high mental and physical capacities, their nutrition intake and exercise habits need to also be at an optimal level. More education and subsequent knowledge regarding nutrition and exercise may increase the awareness of health and the further illustrate the importance of nutrition and exercise.

(6)Title: The Risk of Injuries in High School Sports

Authors/Affiliations: J.B. Sluder[1], M.S. Green[1], C. Howard-Shaughnessy[1], R.R. Wright[1], B.A. Crenshaw[1], & K. Higgins[2]. [1]Troy University, Troy Alabama & [2]Auburn University, Auburn, Alabama.

Purpose: The purpose of this investigation is to provide coaches, parents, and students athletes research on the probability of injury during practice and competition for the more popular sports of football, volleyball, boys' and girls' basketball, boy's and girls' soccer, softball, and baseball. **Methods:** The researchers reviewed a large body of research on epidemiology of common injuries and frequency of injury in football, volleyball, boys' and girls' basketball, boys' and girls' soccer, softball, and baseball. All statistics were provided by the internet-based reporting and surveillance software RIO and NATION-SP. **Results:** During competition the risk of injury is exponentially greater than during practice. Head/Face injuries occurred more often than any other injury. **Conclusions:** It is important to educate parents, coaches, and student athletes on the most frequent injuries associated with major high school sports. Additionally, parents and students need to be aware of the injury risks associated with each sport.

(7)Title: Reducing the Risk of Injury in High School Sports

Authors/Affiliations: M.S. Green[1], J.B. Sluder[1], C. Howard-Shaughnessy[1], N. Martin[1], J. Ross[1], & K. Higgins[2]. [1]Troy University, Troy Alabama & [2]Auburn University, Auburn, Alabama.

Purpose: The purpose of this investigation is to provide parents, coaches, athletic trainers, and athletes with current research on preventative measures associated with reducing both physical and mental injury in high school athletics. Additionally, the authors want to highlight the rates of injury and the interventions that are both successful and practical in reducing the incidence of injury associated with participation in sports. **Methods:** Authors reviewed current literature on injuries in high school sports and the factors that lead to increased risk of injury as well as the factors and intervention programs that are designed to decrease the risk of injury. The studies covered both mental and physical preventative interventions such as: body awareness and control, Functional movement screening, physical training programs, counseling and stress management programs, goal-setting, and social support. All of these approaches can assist in reducing the occurrence of injuries. Outcomes of the studies associated with reduced incidence

of injury were noted by the authors and considered successful. These trends were then compared and explained in detail. **Results:** The results of the investigation revealed that there are many aspects of injury prevention strategies and that injury prevention is most successful when implementing multiple aspects into a prevention program. **Conclusions:** Overall, it is important to educate parents, coaches, athletic trainers, and athletes on the aspects related to reducing the incidence of injury associated with participation in high school athletics.

(8)Title: Frequency of Retained Asymmetrical Tonic Neck Reflex in a Preschool Classroom

Authors/Affiliations: A.R. Russell[1], S. Jones[1], E. Reilly[1], T. Higginbotham[2], L. Wildman[1], G. Duenas[1], & J.S. Reaves[1] . [1]Auburn University at Montgomery, [2]Body Logic Physical Therapy

Purpose: The purpose of this study was to assess the frequency of retained asymmetrical tonic neck reflex in a class of healthy preschool children. **Methods:** Twenty-two preschool children between the ages of 3 and 5 years currently enrolled in the same preschool class participated in the study. A physical therapist tested each child for the asymmetrical tonic neck reflex (ATNR) using the following procedures: Children were asked to get on their hands and knees. A physical therapist then turned each child's head to the right 5 times and to the left 5 times. For both left and right sides, each child was assigned a score ranging from 0 to 4, with a 0 indicating that the child did not have the reflex and a 4 indicating the presence of a strong reflex. Frequencies of reflex retention were calculated using SPSS to determine the following: number of children with no ATNR; number of children with right ATNR; number of children with left ATNR; number of children with both right and left ATNR. Additionally, these frequencies were also determined separately for boys and girls. **Results:** Only two (9%) children did not display the ATNR on either the right or left sides. Nine (41%) children exhibited mild ATNR retention (scores of 1-2), and eleven (50%) children displayed strong ATNR retention (scores of 3-4). Frequency of ATNR retention was comparable in boys and girls. **Discussion:** Although primitive reflexes such as the ATNR should be fully integrated and not observable after the age of 1, the majority of children in the present study displayed at least a mild degree of ATNR retention. These results agree with previous research and indicate a possible need for routine screening of primitive reflexes in preschool-age children. **Conclusion:** Because of the myriad of both physical and cognitive abilities that are negatively affected by retained reflexes, early intervention in the form of reflex integration therapy should be explored as a possible approach to supporting healthy motor and cognitive development in young children.

(9)Title: Wearables and Health Apps and their Influence on Negative Health Behaviors and Body Image

Authors/Affiliations: A. Reno, L. G. Renfroe, L. G. Killen, H, Drummond, K. Fleming, S. Swopes, University of North Alabama, Florence, AL.

Purpose: The purpose of this study was to determine if the use of health apps and wearables negatively affect health patterns and/or perceived body image. **Methods:** Ninety-three college aged students were recruited with 87 surveys completed (7 excluded due to lack of completion), males (n = 46) and females (n = 41). A 31-question survey pertaining to health behaviors and

app use was administered. Participants were asked to record their height and weight to determine BMI as well as mark the body image picture they felt best represented their perceived body image. Percentages were calculated for each survey question. A 2 (BMI) x 4 (wearable/app usage) ANOVA was used to compare if BMI (measured and predicted) differed based on wearable and app use. **Results:** Seventy-three percent of participants answered they have downloaded/used a wearable, whereas only 26.9% of participants answered no. Results indicated 54% of participants use an apple watch while only 33% of participants use their device for monitoring physical activity. Only 1.4% of participants indicated the app/wearable negatively impacted their health. No significant difference was found between wearable use ($p = 0.623$) (within the past 12 months, 6 months, week, or no use) and perceived body image. Participants significantly ($p < 0.001$) underestimated ones predicted BMI (23.9 kg/m2 ± 5.6) versus calculated BMI (26.4 kg/m2 ± 6.6). **Conclusion:** Wearables and health apps had no negative impact on health behaviors or perceived body image.

Publishing in the ASAHPERD Journal

The ASAHPERD Journal is looking for articles that communicate theory, research and practice in an ASAHPERD (health, physical education, recreation, or dance) discipline. Acceptable topics include teaching techniques; research; Alabama state resources and services; meeting Alabama state or national standards; philosophy; advocacy and policy appropriate for Alabama; and reviews of web resources, books, and audiovisuals.

Manuscripts must meet the most current APA Guidelines, be submitted electronically as a word document in portrait configuration (not landscape), include an abstract, and not exceed 2500 words or 5 pages single-spaced, Arial, 12 font, and fully justified. Headers should be centered, and sub headers left justified. Do not insert any extra blank spaces or special formatting. The current schedule for publication is spring and fall. Acceptance of articles for publication is ongoing. The abstract should be 50 words or less. Please include a cover letter with your credentials (student or faculty and your university affiliation or place of employment) and stating the article is not being considered for publication elsewhere. Contact asahperd.journal@gmail.com for more information.

Pre-professional undergraduate and graduate student submissions must be accompanied by a letter on official University letterhead from a faculty sponsor (even if NOT listed as a co- author) that they have reviewed the paper and vouch that it is in a condition worthy to be submitted to a peer-reviewed journal. We are requesting faculty sign and provide their contact information for an undergraduate or graduate student to ensure that the work is of high quality and was produced as part of a guided experience.

Interested in Reviewing for the Journal?

Would you be interested in making a professional contribution to our organization from the comfort of your own home? Do you enjoy reading the latest research going on in our field? Would you like to be a part of the journal process? If so, please apply to be an ASAHPERD journal reviewer TODAY!

Qualifications:

- Must be a current ASAHPERD member and maintain ASAHPERD membership
- Must have a terminal degree in an ASAHPERD field (i.e. health education/health promotion, physical education, adapted physical education, recreation, athletics/ coaching, exercise science, etc.)
- Have read and agree to the roles and responsibilities of an ASAHPERD Journal Reviewer

If interested access the link for the journal reviewer application here or contact the journal co-editors at **asahperd.journal@gmail.com** for more information.

Alabama State Association for Health, Physical Education, Recreation and Dance

Save the Date

FALL CONFERENCE 2019
NOVEMBER 17-19
HYATT REGENCY BIRMINGHAM
Look for preregistration & program information August 1st
www.asahperd.org

HEALTH & PHYSICAL LITERACY SUMMIT 2020
FEBRUARY 11-14
and
ADMINISTRATOR FORUM
February 12
HYATT REGENCY BIRMINGHAM
www.asahperd.org/health-physical-literacy-summit-2020

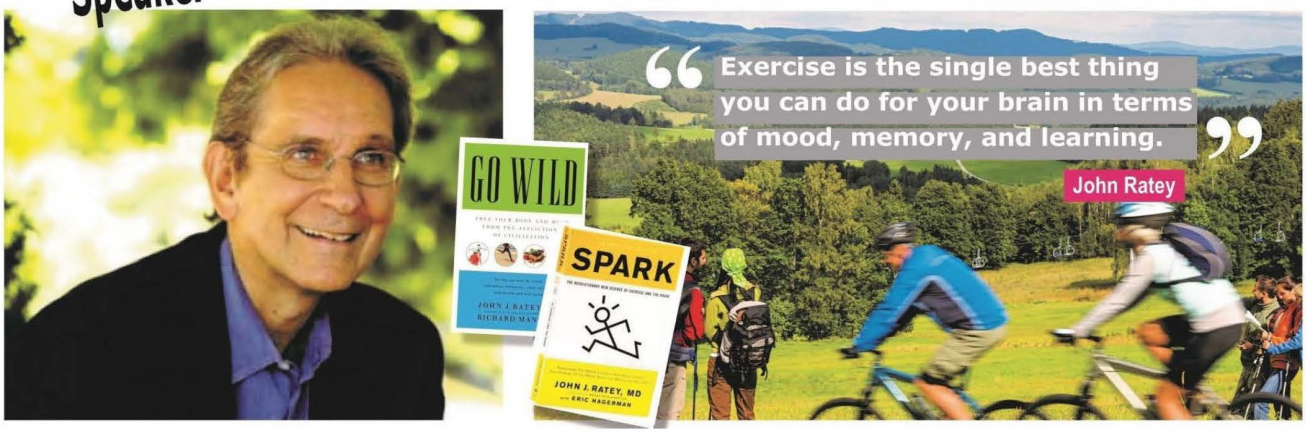
SPRING CONFERENCE 2020
APRIL 16-18
PHOENIX VI ORANGE BEACH
www.asahperd.org

@ASAHPERD ASAHPERD www.facebook.com/ASAHPERD/

Health & Physical Literacy Summit 2020
February 11 - 14, 2020
Hyatt Regency Birmingham - The Wynfrey Hotel

Featured Speaker

Best selling author, John J. Ratey, MD, is an Associate Clinical Professor of Psychiatry at Harvard Medical School and an internationally recognized expert in Neuropsychiatry.



Registration and Hotel Information at www.asahperd.org

- **NO Membership Required**
- **Professionals $130 pre, $175 onsite**
- **Future Professionals $45 pre, $65 onsite**

Special Bonus - Administrator Forum - See below for details!

Administrator Forum – February 12, 2020
8:30 am – 12:00 pm
Hyatt Regency Birmingham

- **8:30 am - 9:45 am:** Keynote address by John J. Ratey, MD, author of *Spark: The Revolutionary New Science about Exercise and the Brain*
- **10:00 am - 12:00 pm:** Interactive session with CLAS members moderated by Dr. Vic Wilson, CLAS Executive Director
- **Grab and go lunch**

Preregister by January 27th. There is **no fee** for CLAS members to attend the Administrator Forum but **preregistration is required!** Send an email with the Subject: Administrator Forum. Include your name, position, school & school system to dhester@asahperd.org. Additional registration details will follow.

*"**CLAS** is thrilled to support ASAHPERD in bringing Dr. John Ratey to Alabama for the Health & Physical Literacy Summit 2020 and Administrator Forum. As you know, a healthy body aids a healthy mind, and CLAS stands with ASAHPERD in recognizing the important role administrators play in the health of those under their care. We encourage you to consider attending this very important meeting. It is truly an exceptional event and one that you will want to attend to ensure that you are doing all that you can to enhance the lives of Alabama's students."* **Vic Wilson, Executive Director, CLAS**

The Administrator Forum and Health & Physical Literacy Summit 2020 are hosted by Alabama State Association for Health, Physical Education, Recreation and Dance (ASAHPERD)
Donna Hester, Executive Director - PO Box 369, Arley, AL 35541 - 205-388-0304