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A Message from the President

Steve Estes, Middle Tennessee State University

This *President's Message (PM)* will be one of the last I write for NAKHE. I'm in the unusual position of having written these messages for three years, first during my term as president in 1998/1999, and now in the second year of a two-year presidency (2014/2016). Serving as NAKHE president has been a career highlight – it is hard to put the position of NAKHE president in perspective as I've never done anything like it, and will likely never do anything like it again. For anyone who is interested in such a position I can say only that serving as NAKHE president will be one of the most joyful, rewarding service roles that one can experience in an academic career. To those of you who asked me to lead, and for all of the help I have received over the years, Thank You for your consideration and confidence. I hope that I have lived up to your hopes and expectations.

While on the one hand I am grateful for the opportunity to be serving as president, this joy I experience is tempered by the news that many of you will have received by the time this issue of *IJKHE* goes to press. Our longtime colleague Shane Frehlich passed on September 5, 2015, and I am going to tell Shane's story in this *PM* because his story represents what NAKHE has become over the years to many of us. Indeed, NAKHE as an organization has chosen, through its *Strategic Plan* (http://files.www.nakhe.org/administrative/NAKHE_Strategic_Plan.pdf) to explicitly advocate and support the model life that Shane lived as a NAKHE member. Shane's career, like mine and many others, was shaped by NAKHE in ways too numerous to count. But I'll try to recount Shane's life-well-lived path in this narrative.



Shane Frehlich

I met Shane when he arrived at SUNY Cortland as a full time lecturer in the fall of 1997. During his first year, the Department of Physical Education did a nationwide search to fill the tenure track position in motor learning/sport psychology position and I chaired the Personnel Committee. In our department at that time were a bunch of "Young Turks," faculty influenced by the academic discipline movement in kinesiology (then physical education) that was in full bloom across the country. Our department hired five of us in 1993 – Ann Maliszewski, Susan Puhl (both exercise physiologists), Dapeng Chen (motor learning), Tom Quinn (physical education) and myself, and this was the beginning of what eventually became the heart of a new

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A Message from the President, *continued*

department of exercise science. Alison Wrynn joined us the same year Shane did, and this group began to advocate for the recognition of a disciplinary approach to studying and teaching physical activity that is dominant in most universities today. But our new ideas were not welcomed at Cortland in the mid-1990s, and were in fact actively resisted by senior faculty in the department who felt that the mission of the department should be teacher training. It was into this mix that we had our search, and Shane was the candidate of choice.

Shane was simply a fantastic hire. Not only did he possess the skill set that the department needed to teach and research in a critical area, he was simply a great person to be around. A consensus builder by nature, Shane's easy going ways and desire to see both sides of an issue were a real advantage in a unit that had devolved into an "either/or" mentality between the academic subdisciplines and the profession of physical education. I remember many conversations where Shane's easy baritone, smile, and sense of humor defused what could have been destructively rancorous discussions of curriculum and departmental mission. Eventually us "Turks," along with long-time Cortland faculty Chris Malone and Pete McGinnis, were successful in renaming the "Non-Teaching" degree in physical education to exercise science and sport studies. Shane was in the middle of these discussions and helped make this curriculum change possible by helping to convince our senior colleagues that we weren't all academic radicals bent on the destruction of what the Department of Physical Education had stood for and advocated for many years. A new name for an old degree (and, in fact, a new Department of Exercise Science and Sport Studies) was accepted, and in hindsight this change led to the splitting of the department into several units at Cortland that better represented where the field was going at that time. As of this writing Cortland's School of Professional Studies—which houses three separate departments formed out of the former Department of Physical Education, continues to do very well, in large part because our group of faculty were able to make changes that were consistent with where kinesiology is today. These changes were not without cost, though: all of us who were hired between 1993 and 1998 eventually left Cortland for other positions across the country. But we all remained in touch – through NAKHE.

This is where Shane's story picks up again. Shane began attending NAKHE meetings shortly after he joined the Cortland faculty, and one other NAKHE leader did as well – Alison Wrynn. The three of us found that NAKHE (then NAPEHE) was an organization that provided opportunities for us to express our ideas in presentations and in print. Furthermore, all of us began to assume leader roles in NAKHE that were critical in legitimizing the philosophical positions we held regarding what kinesiology should be, and where it should go. At the time all of us vaguely realized that we were being mentored to assume leader roles in NAKHE, but more than anything else we simply enjoyed each other's company and that of our mentors and colleagues – Ron Feingold, Leah Fiorentino, John Massengale, Hally Beth Poindexter, Judy Bischoff, Karen DePauw, Joy DeSensi, Bill Forbus, and many others. Our idea of fun was taking a position and arguing it to its logical conclusion, and then making this idea come alive in our academic homes. Our senior colleagues showed us how to do this, and we did the heavy lifting at home and wrote about it in *Quest* and *The Chronicle of Physical Education in Higher Education* (later this journal, the *International Journal of Kinesiology in Higher Education*).

Shane followed this path as well, first at Cortland and then at California State University – Northridge. Shane left New York for California when a good opportunity arose, and he had the chance to begin putting his own mark on a department while he was there. As an assistant professor teaching motor learning and sport psychology, Shane was successful at building consensus among his senior colleagues at Northridge just as he had done at Cortland. Later Shane's steady work manifested in a successful search that led to his appointment as department chair in 2009.

Shane's successes led to other leadership roles as well. Shane served as a California State University Statewide Academic Senator beginning in 2012, and he was elected chair of the

A Message from the President, *continued*

Faculty Senate at Northridge in 2014, a position he held until his passing. And he continued to achieve other milestones in a career that had much promise. I asked Shane to give the Sargent Lecture for 2015, one of NAKHE's prestigious named lectures at our annual conference. Because of poor health Shane was not able to deliver the lecture in 2015, but things looked up earlier this year so I asked him to deliver the lecture in 2016. Sadly this was not to be.

What to make of Shane's story? I'm proud to have been part of it, and that NAKHE was central to his very, very successful career. Regular conference attendance and presentations at both the Administrator preconference sessions and the conference; appointments to leadership roles in NAKHE leading to shaping the Association, and being shaped by it; professional opportunities arising out of networking with NAKHE colleagues; and on. Shane was active in other associations as well as NAKHE, but I'd like to think that we were his favorite. Shane certainly represents the template that NAKHE has strategically adopted in the 21st century: faculty development through membership in an academic and professional society dedicated to a mission of leader development – not only personally benefitting from membership in the Association, but benefitting others by working with them to shape their professional careers. And loving every minute of it.

I will miss Shane's smooth baritone, his easy smile, his youthful wisdom, his ability to temper impetuosity, and ultimately his leadership. I feel that Shane would have led NAKHE at some point in the future – that he would be writing these *PMs* – and I would have followed his lead as he once followed mine. He was simply an outstanding person, and I'm proud to have called him my good friend. Shane became the kind of academic leader that NAKHE hopes to "cause" in our young NAKHE members. And if there is any message in Shane's untimely passing it may be that the narrative of Shane's academic life can serve as a model for what we do in NAKHE, and why. This is a model that we can all be proud of, and this is how I will try to honor the memory of a damn fine colleague. Farewell old friend, and safe travels.

I'd like to thank colleagues Alison Wrynn of CSU Fullerton, and Doug McLaughlin of CSU Northridge, for their help in remembering Shane Frehlich.

Donations for the family of Shane Frehlich can be made at
<http://www.gofundme.com/FrehlichFamily>



Editor's Note

Dr. Britton Johnson, Editor

I would like to start by welcoming everyone to the first ever edition of the *International Journal of Kinesiology in Higher Education*. The *IJKHE* is the new title of the former *Chronicle of Kinesiology in Higher Education*. This change was approved by the NAKHE board in May of 2015, and has now taken effect.

I want to quickly echo the message of our president and offer condolences to the family of Shane Frehlich. Shane was the Editor of the *Chronicle of Kinesiology in Higher Education* before I took over when he became ill. Shane was a wonderful man and will be missed by his family, friends, NAKHE and those involved with the *IJKHE*, formerly the *Chronicle of Kinesiology in Higher Education*.

This will be my final edition as Editor of the *International Journal of Kinesiology in Higher Education* as my term is ending. I want to thank everyone who submitted manuscripts, acted as reviewers and otherwise helped me in my time as Editor. I want to specifically thank Steve Estes, Krish Singh, Daniel Burt, Beth Hersman and Jody Langdon who have all gone above and beyond to help me in my duties, especially in the transition from the *Chronicle* to the *IJKHE*.

As I leave this position, I know that the *IJKHE* is left in excellent hands, as I will pass the reins to Dr. Jody Langdon, from Georgia Southern. She will do wonderful things for this journal and will no doubt take it to unprecedented greatness during her term.

I encourage those of you who read this to submit a manuscript, or encourage others you know to submit. The main purposes of this new Journal are to encourage new professionals as well as graduate students to submit for publication, as well as to increase submissions related to leadership and administration in Higher Education. Finally, as the title suggests, we will look to increase our international submissions and truly become a global leader in Kinesiology in Higher Education. ■

Published Articles

Leading, Fast and Slow – Part 1

PEER REVIEWED ARTICLE

Bradford Strand, Ph.D.

North Dakota State University, Fargo, North Dakota

Gary Liguori, Ph.D.

University of Tennessee, Chattanooga, Tennessee

Michael Crow, Ed.D.

University of Tasmania, Hobart, Australia

Decisions, decisions, and more decisions. Everyone in leadership positions makes countless decisions every day (Heifetz & Linsky, 2002). Some are minor, such as what type of font to use in a memo or what to serve at a department meeting, while others are important and have long-lasting implications, such as hiring a new employee or funding a new project.

A good leader certainly needs to possess many traits in order to effectively make these decisions but the characters in the Wizard of Oz sum it up best. A leader needs courage when tough decisions must be made. A leader needs a heart, as emotional intelligence cannot be overrated when working with people. And obviously, a leader needs a brain to think through the many and varied events that happen every day.

Lawson (2014) made a point that, unfortunately, too many individuals become academic leaders through attrition, longevity, “it’s your turn to head the department”, or because “I want pay back”. These leaders-by-default have not typically been mentored or received any formal leadership training, and are therefore thrust into the position such that ‘trial and error’ is their only option for leading. As Lawson said, “given academic leaders’ importance, and the highly competitive resource environments characteristic of today’s higher education, this approach to leadership preparation and support is risky business (p. 264).”

With that as a background, we present Leading, Fast and Slow – Part 1. This paper describes the principles of thinking fast and slow as presented by Kahneman (2011) and how ‘thinking speed’ relates to, and impacts, leadership and decision-making in many dimensions.

System 1 vs. System 2

In his book *Thinking, Fast and Slow*, Kahneman (2011) described his thinking systems as System 1 and System 2, and offered ten concepts related to each. System 1 is described as being fast, automatic, frequent, emotional, stereotypic, and subconscious. System 2, on the other hand, is described as slow, effortful, infrequent, logical, calculating, and conscious. Anecdotal evidence suggests that most individuals default to System 1 as it is simply easier and requires much less effort to effect. For example, consider the following statement and count the number of F’s you see.

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**FINISHED FILES ARE THE RESULTS OF YEARS OF
SCIENTIFIC STUDY COMBINED WITH
EXPERIENCE OF MANY YEARS**

This challenge was presented in a recent seminar one of these authors attended. When asked how many F's they saw, one participant responded with "three" while yours truly (Brad) feeling a bit smug replied, "four". The moderator said, "okay we have four, does anyone see five?" Quickly someone said "five" while yours truly said "what?" Shortly thereafter someone said, "I see six". Eventually, as we all slowed down and carefully scrutinized the statement we all found six.

In his book, Kahneman (2011) presents the following question: A bat and ball cost \$1.10. The bat costs one dollar more than the ball. How much does the ball cost? This question has been posed to students at elite universities (Harvard, Princeton, and MIT) with 50% of the students answering incorrectly, while at less selective universities about 80% of the students answered wrong. For many, System 1 thinking leads to the intuitive, but incorrect answer of 10 cents. This response, however, demonstrates the System 1 overconfidence risk inherent in placing too much faith in intuition. The correct answer is 5 cents, and now you are questioning your thinking. Once you recognize the correct answer, it becomes obvious that System 2 thinking was necessary, a slow and deliberate approach to solve the problem.

The mental work that produces impressions, intuitions, and many decisions goes on in silence in our minds (Kahneman, 2012). As we navigate our lives, we normally allow ourselves to be guided by impressions and feelings, and the confidence we have in our intuitive beliefs and preferences is usually justified. For example, if asked to answer, "what is $2 + 2$?" one would quickly and without hesitation state, "Four". Conversely, as one drives along a highway and reads the words on large billboards, it is easy to assume we know all that is written, as we do not want to take our eyes off the road for too long. But our fill-in-the-blank approach is not always correct, yet we tend to be confident even when we are wrong, and therefore an objective observer is more likely to detect our errors than we are (Kahneman, 2011).

The most effortful forms of slow thinking are those that require one to think fast. The law of least effort is operating here, and therefore, one will think as little as possible. Chopra (1994) stated that the law of least effort is based on the fact that intelligence functions with effortless ease and that this is the principle of least action, of no resistance. For example, think about the exercise earlier in this paper when you were asked to count the occurrences of the letter F in the text. What comes quickly to mind in response is often an intuition from System 1. Knowing however that System 1 leads to fast rather than deliberant thinking, an individual will have to start over and search his or her memory very deliberately.

A goal of all leaders and decision makers is to improve one's ability to identify and understand errors of judgment and choice obtained through System 1 (Gould et al., 2013). To do so, one must understand the shortcomings of System 1 in order to engage System 2.

Shortcomings of System 1: Heuristics

The most obvious shortcomings of System 1 are judging, evaluating, and basing decisions on limited evidence. People often use heuristics when making decisions. A heuristic is a mental shortcut that allows people to solve problems, make decisions, and impart judgment quickly and without having to spend much time researching or analyzing the information (Long-Crowell, nd). These rule-of-thumb strategies shorten decision-making time and allow people

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Leading, Fast and Slow – Part 1, *continued*

to function without constantly stopping to think about their next course of action. Heuristics are helpful in many situations, but there are times when they fail at making a correct assessment and result in cognitive bias (About Education, nd).

The reliance on the ease of memory search is known as the availability heuristic (Tversky & Kahneman, 1973). In essence, one makes decisions based on what one can easily remember rather than on complete data. Kahnman (2011) stated in fact that, “historians of science have often noted that at any given time scholars in a particular field tend to share basic assumptions about their subject “ (p.8). As such, people tend to assess the relative importance of issues by the ease with which they are retrieved from memory. Other synonyms to describe heuristics include presuppositions, rule of thumb, bias of judgment, thinking errors, dogmatic assumptions, systematic errors, and intuitive flaws (Artinger, Petersen, Gigerenzer & Weibler, 2015).

Certain heuristics lead to muddled thinking and potential errors (Facione & Gittens, 2015; Frigotto & Rossi, 2014). For example, when confronted with a perplexing problem or decision we make life easier by answering a substitute or simpler question. Consider the substitution heuristic in job performance or hiring decisions. The question one should be asking is, “Can this candidate succeed in our department?” Too often however, the question people are discussing is, “How well does this candidate interview?” (Kahneman, 2011). Another example is that an individual likes a project; therefore, he or she determines the costs are low and the benefits high; based simply on how well he or she likes the project. In essence, one never gets around to asking the more difficult questions, such as what are the costs, what is the timeline, do we have the capacity, etc., but instead, the individual has substituted questions that are easier to answer.

What follows are five examples of common System 1 heuristics as identified by Kahneman (2011) and detailed by Johnson (nd).

Biased to Believe and Confirm

Too often leaders and decision makers are looking for quick answers so they can ‘check’ items off their ‘to-do’ list (Romanycia & Pelletier 1985; Bingham & Haleblan, 2012). In such instances it is easy to accept information on the surface while overlooking contrary, but important examples. In essence, one is not willing or interested in seeing the details but just wants to confirm his or her pre-determined beliefs. This is known as confirmation bias (Nickerson, 1998) or jumping to conclusions.

Confirmation bias is essentially the interpreting of evidence in ways that are partial to existing beliefs, expectations, or a hypothesis that one has previously established. Unfortunately, once one has taken a stance on an issue, one’s primary purpose then becomes that of defending that position (Nickerson, 1998), regardless of new information that may be contrary to one’s previous position.

In practice, System 1 thinking might lead one to make a decision on the basis of a good report from one consultant (Lavinsky, 2012) or a recommendation from a colleague. Conversely, by using System 2 thinking, one might say, “They made that big decision on the basis of a good report from one consultant but did not seem to realize how little information they really had. If we are going to do this right, we need to get as much information as we can from as many different sources as we have time and money.

The Anchoring Effect

Anchoring bias is a process where individuals are influenced by specific information that is given before a judgment (Chen, 2015; Furnham & Boo, 2011). The anchoring effect is the subconscious phenomenon of making incorrect estimates due to previously heard quantities (Strack & Mussweiler, 1997). For example, if I say the number 20 and then ask you to estimate the number of times the Yankees have won the World Series you will give a higher number

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Leading, Fast and Slow – Part 1, *continued*

than if I would have said to you the number 5. People make adjustments based on previous anchors. This anchoring effect suggests that people are more suggestible, given previous information, than they realize.

Bolden, Petrov and Gosling (2008) stated that negotiating is an integral part to successful management and leadership in higher education. When negotiating, the anchoring effect is often used to get the opposing party anchored on a particular number or idea (Strack & Mussweiler, 1997). This number then becomes the point around which discussions occur. For example, in salary negotiations with a new assistant professor, an administrator might put forth a lower salary than he or she is actually willing to settle for in an attempt to get the candidate anchored on that number. Using System 1 thinking the candidate would likely make a counter offer within a couple thousand dollars of the original offer. However, using System 2 thinking, the candidate would think, “I need to be aware of the anchoring point and avoid it when negotiating my beginning salary and start-up package. I need to determine what a starting salary is like for others in my situation and at this institution.”

Ignores Absent Evidence

Research suggests that people are often more confident in their judgments than is warranted by the facts (Griffin & Tversky, 2002). In most instances a decision maker is provided with evidence that helps him or her make a decision or solve a problem (Bingham & Eisenhardt, 2011). Based on what is presented, the decision maker says, “This looks great, let’s do it”. However, in some instances there is little or no evidence; for example, no budget details, no actual peer-reviewed research, or no evidence of having previously worked on this type of project. Unfortunately, this lack of evidence may help confirm pre-determined beliefs (or ‘misbeliefs’) and the project moves forward or a decision is made, both destined to fail.

Overconfidence is common and sometimes individuals make confident predictions on fallible data, even when they know that these data have low predictive validity (Dawes, Faust, & Meehl, 1989). Consider an assistant professor being evaluated for tenure. One committee member is stuck on using impact factor as the sole criteria for assessing the candidates’ publications. This committee member is confident that impact factors truly assess publication status. A System 2 thinking committee member might say, “We need more evidence before we make a decision. The true value of impact factor rankings has been questioned by scholars and this is too important of a decision to not consider all available evidence.”

Availability Cascades

Earlier in this paper we discussed the availability heuristic (Tversky & Kahneman, 1973). In essence, this heuristic is a mental shortcut that relies on immediate examples that come to one’s mind and operates on the notion that if something can be recalled, it must be important (Kahneman, 2011). Using this heuristic, people tend to heavily weigh their judgments toward more recent information, making new opinions biased toward the latest news with which they are familiar. For example, when asked to estimate numbers like the frequency of domestic violence instances among football players in the NFL, the ease with which one retrieves an answer influences the size of his or her answer. People are prone to give bigger answers to questions that are easier to retrieve and answers are easier to retrieve when one has had an emotional or personal experience (Kahneman, 2011). Furthermore, because one saw someone get fired for making a mistake, his or her belief is that if one makes a mistake he or she will also get fired. Conversely, if one sees someone make a mistake and the leader simply mentors that individual through the mistake, the belief is that it is okay to make mistakes as long as the lesson is learned. One must be careful not to under or overestimate the frequency of an event based on ease of retrieval (often based on personal experience) rather than statistical calculation.

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Leading, Fast and Slow – Part 1, *continued*

Similarly, an availability cascade is a self-reinforcing process of collective belief formation by which an expressed perception triggers a reaction that gives the perception of increasing possibility through its rising availability in public discussions (Kuran & Sustein, 1999). For instance, when news stories of a specific incident pile up our statistical senses do not clearly see the picture. A recent plane crash makes us think air travel is more dangerous than car travel. A business mistake makes us think that the company makes more mistakes than they actually do. Over-reacting to a minor problem simply because we hear a disproportionate number of negative news stories can cloud one's thinking and lead to flawed choices.

System 2 thinking might caution, "We need to be careful regarding her comments. Just because she keeps repeating the same story to make a point, it is only one story, and we need to be careful that the one event is not just inflated and swaying our discussion and decision making."

Representativeness

Representativeness is the intuitive leap to make judgments based on how similar something is to something one likes without taking into consideration other factors (Tversky, & Kahneman, 1973). An example would be a basketball coach recruiting players based on how closely their appearance resembles other good basketball players. Many well run companies keep their facilities neat and tidy, but a well-kept lawn is no guarantee that the occupants inside are organized. Evaluating a person or proposed activity on how much it resembles something we are familiar with, without taking into account other prominent or important factors, leads to poor, ill thought-out decisions that are destined to fail. System 2 thinking might say, "This project looks as if it could not fail, but the rate of success in other departments is extremely low. How do we know our case is different?"

Summary

Untrained or ill-informed individuals in leadership roles are certainly at a disadvantage when making decisions. In many departments and/or colleges there is a so-called jockeying for influence and power among the many members. Influence will come from the perceived status of individuals who have achieved their influence via one of five bases of power: 1) legitimate – this comes from the belief that a person has the formal right to make demands, and to expect compliance and obedience from others; 2) reward – this results from one person's ability to compensate another for compliance; 3) expert – this is based on a person's superior skill and knowledge; 4) referent – this is the result of a person's perceived attractiveness, worthiness, and right to respect from others; and 5) coercive – this comes from the belief that a person can punish others for noncompliance (French & Raven, 1959).

As a manager or leader, one must be cognizant of those who appear to have some sort of power position and then watch and listen carefully as those individuals try to influence others and influence department decision-making. A loudly spoken comment does not mean that it is right, an oft repeated mantra or story does not mean that it is true, and fear-mongering should not scare one from making the best possible decision. To ferret out the truth, one must think slowly and deliberately while considering the many dimensions of the situation and ramifications of the decision (Hanson, Hitt, Ireland & Hoskisson, 2013).

In Part 2 of this paper we present seven additional System 1 heuristics and continue discussing the implications and limitations of using System 1 thinking as opposed to System 2 thinking in leadership endeavors.

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The Prevalence of Anorexia Athletica in NCAA Division II Athletes

GRADUATE STUDENT RESEARCH

Jeff Bolles, Blair Long, and Leah Holland Fiorentino
University of North Carolina at Pembroke

Purpose

Despite the vast expertise in the fields of exercise physiology and nutrition available to athletes, many have followed their own methods to achieve the perfect physique and as a result developed eating disorders. Eating disorders are not uncommon, as nearly 24 million Americans and 70 million individuals worldwide are affected by eating disorders at some point in their lives (National Institute of Mental Health, 2013). A common eating disorder recognized by the American Psychological Association (2013) is anorexia nervosa (AN), a disease in which the afflicted purposefully restricts caloric intake in order to maintain an abnormally low body weight. AN has been prevalent in athletes seeking to lose weight; thus, substantial research has been dedicated to AN symptoms in athletes. In the 1990s, those researchers introduced anorexia athletica (AA), a form of AN that has not been clinically diagnosed (Miyairi, 2013). Specific to athletes, AA is characterized by the afflicted individual limiting calorie intake while also engaging in compulsive exercise (CE).

Athletes spend a good portion of their time experimenting with exercise and various dietary methods in order to enhance their performance (Melhuish, 2013; Miyairi, 2013). AA requires attention to detail and obsessive control over nutrition and exercise habits. This control does not require an excessive restriction of calories, but a calculated caloric deficit. Therefore, athletes can give the appearance of eating appropriately, yet still achieve extreme weight loss through caloric deficit. As well, with no instrument to clinically measure the disorder, athletes are able to hide the disorder and avoid negative publicity. Therefore, athletes who desire to enhance performance, especially in lean sports (e.g. running, gymnastics, wrestling, etc.), are at a higher risk for developing symptoms of AA (Melhuish, 2013; Miyairi, 2013).

Because of the surreptitious nature of AA, it is important to understand and pay attention to the associated behaviors of AA, namely caloric restriction and CE. However, while there are countless research studies that focus on AN and CE, there is a limited number of studies which compare the relationship between the two (Melhuish, 2013). The purpose of the study was to investigate the relationship between athletes who display symptoms of AN and athletes who display symptoms of CE, thereby indicating the presence of AA. It was hoped that the insights gained would add to the body of knowledge on the behaviors, signs, symptoms and prevalence of AA in order to emphasize the need for treatment and prevention.

Review of Literature

Eating disorders and disordered eating are prevalent in athletics. According to Eating Disorder Hope (2013), 13.5% of all athletes, male and female, will develop an abnormal eating behavior, which supported earlier reports, by Montenegro (2006), who reported the prevalence of abnormal eating behaviors in athletes ranged between 12%–57%. Furthermore, research supported that abnormal eating behaviors are increasingly prevalent in collegiate athletes (Van Zyl et al., 2012), resulting in high rates of hospitalizations and mortality in the athletes who have developed these behaviors (Milligan & Pritchard, 2006).

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The Prevalence of Anorexia Athletica in NCAA Div. II Athletes, *continued*

Multiple factors contribute to the development of eating disorders, perhaps the greatest being *sex*. Society has embraced a thin, lightweight physique in women and a large, muscular physique in men, dramatically affecting self-esteem and body dissatisfaction levels within individuals (Milligan & Pritchard, 2006; MEDA, 2013). As a result, a discrepancy has developed between men and women concerning the rates of abnormal eating behavior development, with higher reports for women. Johnson, Powers, and Dick (1999) reported that out of 1,445 college athletes 58% of females and 38% of males were classified at a high risk for the development of disordered eating behaviors; while 9% of women and 1% of men were diagnosed with an eating disorder. With a female/male ratio of 9:1, sex is a critical risk factor in the development of abnormal eating behaviors in athletes (Milligan & Pritchard, 2006; American Psychological Association, 1994).

Type of sport is another factor that contributes to the development of eating disorders in athletes divided into two categories, lean or non-lean, described by Smolak, Murnen, & Ruble (2000). Lean sports are weight-dependent sports, such as cross country, track and field, gymnastics, dance, and wrestling, which place emphasis on possessing a lean physique in order to be the most effective in athletic prowess (Klasey, 2009; Reinking & Alexander, 2005; Smolak et al., 2000). Non-lean sports, like football, basketball, baseball, softball, soccer, volleyball, golf and tennis, do not place emphasis on having a lean physique, but rather a toned, muscular one (Smolak et al., 2000). Sundgot-Borgen and Torstveit (2010) reported 70% of athletes competing in lean sports take part in abnormal eating behaviors to maintain a low body weight, while Reinking and Alexander (2005) reported 25% of lean sport athletes displayed symptoms of eating disorders, while 2.9% of non-lean sport athletes displayed symptoms of eating disorders. As such, participation in lean sports is an important risk factor for developing eating disorders.

Stresses or pressures are yet another contributing factor to athletes developing eating disorders and can be divided into three subsets, external, internal, and personal competitive drive. The National Eating Disorder Association (2013) reported that social influences are the leading factors contributing to the amount of dissatisfaction an individual perceives about his or her body (Peden, Stiles, Vandehey, & Diekhoff, 2000; Van Zyl et al., 2012). Van Zyl et al. (2012) asserted that the pressure coaches, teammates, society, and the media place on athletes is a leading cause of the development of abnormal eating behaviors and CE.

External pressures can come from coaches, parents, teammates, and the media. Peden et al. (2000) reported that some coaches perceive the symptoms associated with CE and abnormal eating behaviors as desirable simply because they cause athletes to develop perfectionism, competitive drive, and over-compliance. Further, media images influence self-image; for females especially, television, magazines, newspapers, and the Internet have portrayed thinness to an extreme that has ultimately affected how females feel about their bodies, while for males, these social avenues have portrayed muscle mass and strength to an extreme (Thompson & Heinburg, 1999).

Typically, athletes maintain a balance between intrinsic drive and extrinsic drive, and one's expectations can heavily influence one's behaviors. As discussed earlier, self-image can be affected by sex, sport and external influences, and a negative self-image can lead to dissatisfaction. Low self-esteem and body dissatisfaction are related (Abell & Richards, 1996), and have a significant influence on an athlete's participation in abnormal eating behaviors and CE. Additionally, an athlete with low self-esteem may interpret feedback incorrectly, exacerbating the problem. When an athlete experiences improved performance due to weight loss, his or her self-esteem increases, thereby encouraging the athlete to continue losing weight, even if this means using abnormal eating behaviors or CE (Milligan & Pritchard, 2006).

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The Prevalence of Anorexia Athletica in NCAA Div. II Athletes, *continued*

Another form of intrinsic pressure comes from the competitive drive that athletes display. The desire to outperform the competition breeds a willingness to resort to extreme methods to gain an advantage. Peden et al. (2008) suggested that some athletes are even willing to risk overall physical health in order to perform at the highest level. Indeed, an athlete's commitment to competition and desire to perform at the highest level contributes to the athlete engaging in abnormal eating and excessive exercise behaviors (Thompson & Shermon, 2002; Van Zyl et al., 2012).

AA results from a combination of CE and abnormal eating. More specifically, AA was defined as an intense fear of gaining weight or becoming fat even though one is underweight, resulting in weight loss that is usually accompanied by extensive or compulsive exercising (Doninger, 2003). Further, the National Eating Disorder Information Center Online (2012) considered AA as a condition where people over-exercise to control their bodies giving them a sense of power, control, and self-respect. Therefore, anorexia athletica is an appealing weight loss method for those who desire to increase their competitive advantage through weight control and increased self-image.

Methods

This study was a quantitative study focused on investigating the relationship between athletes who display symptoms of AN and athletes who display symptoms of CE. The study included a convenience sample of Division II male and female college athletes from the 16 (eight men's and eight women's) varsity sports at a university in rural southeastern North Carolina.

The athletes were recruited through an email forwarded to them by their head coach that included an explanation of the study, an informed consent statement, and a link to the survey instrument housed in *Qualtrics*. The survey instrument was a combination of the EAT-26, the most widely used measurement for measuring AN symptoms (EAT26, 2015) and the OEQ, which was the first validated scale produced to measure obligatory exercise in individuals (Pasman & Thompson, 1988). The survey remained active for four weeks, and reminder emails were distributed during week three and four. At the end of the four-week collection period, the data were compiled and analyzed. Out of the total sample of 379 athletes (108 women and 271 men), there were 125 respondents (57 women and 68 men) for a response rate of 33%. The EAT-26 and OEQ were scored independently and those scores were compared using the Pearson Product-Moment Correlation Coefficient.

Results

The EAT-26 scale was used to evaluate AN and the OEQ was used to evaluate CE. In order to exhibit symptoms of AN, participants had to score greater than 20, which occurred in 5.6% ($n = 7$) of the participants. Participants exhibiting CE had to score greater than 50 on the OEQ. Over fifty percent (56.8%, $n = 71$) of the participants achieved that benchmark. Although the correlation between AN and CE ($r = 0.387$) was weak, there was a remarkable takeaway from the result. Each of the seven participants who scored greater than 20 on the EAT-26 also scored greater than 50 on the OEQ. Table 1 provides an overview of those results.

Of the seven athletes who demonstrated symptoms of both AN and CE, four were women and three were men. The three men were wrestlers, a lean sport, and the four women were equally divided between lean (one cross country, one track and field) and non-lean (one soccer, one volleyball). Figure 1 depicts the breakdown of combined AN and CE compared to those who did not show a combination of AN and CE.

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The Prevalence of Anorexia Athletica in NCAA Div. II Athletes, *continued*

Table 1. EAT26 and OEQ Participant Scores

	EAT 26	OEQ
n=	125	125
# Scores < 20	118	-
% Scores < 20	94.4%	-
# Scores > 20	7	-
% Scores > 20	5.6%	-
# Scores < 50	-	54
% Scores < 50	-	43.2%
# Scores > 50	-	71
% Scores > 50	-	56.8%
# Scores < 20 & < 50	118	
% Scores < 20 & < 50	94.4%	
# Scores > 20 & > 50	7	
% Scores > 20 & > 50	5.6%	

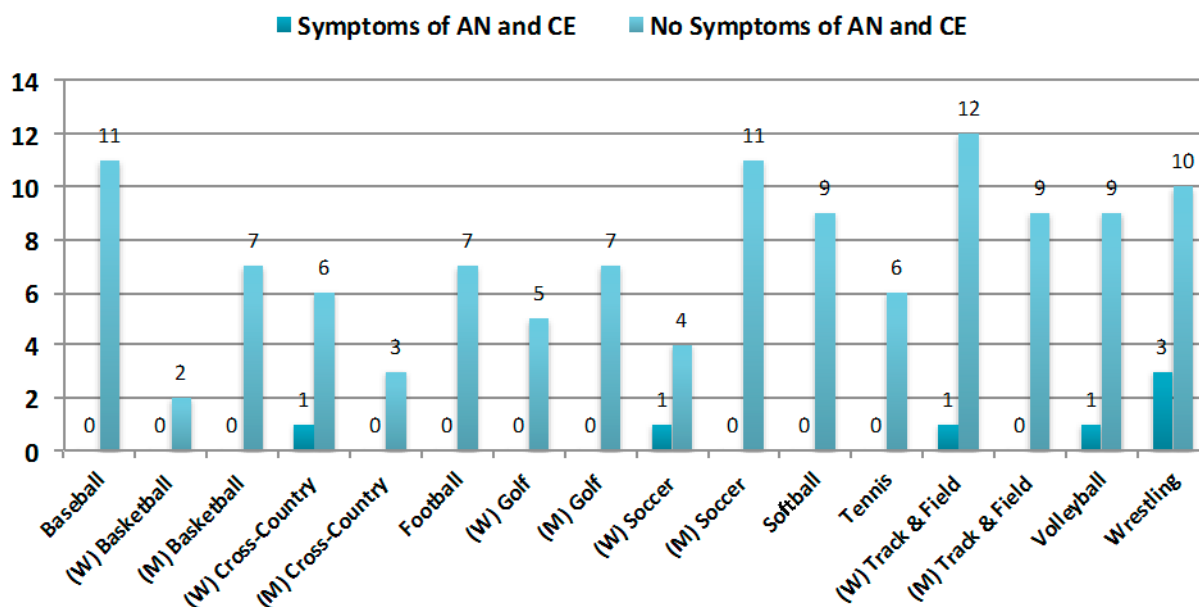


Figure 1. Sport affiliation and symptoms of AN and CE

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The Prevalence of Anorexia Athletica in NCAA Div. II Athletes, *continued*

Discussion

This study, while limited in its predictive power and generalizability, posed some very interesting information. Based on the weak correlation between AN and CE, the hypothesis that there would be a strong relationship between AN and CE was rejected. However, in order to derive that correlation, the researchers compared all of the participants' scores. Brewerton, Stelfox, Hibbs, Hodges, and Cochrane (1995) suggested that most individuals who exhibited AN symptoms would also display symptoms of CE. When one considers that the presence of symptoms for both AN and CE indicate the less clinical diagnosis of AA, there is a revelation in this study. All of the athletes who exhibited symptoms of AN also exhibited symptoms of CE, indicating that all of those athletes ($n = 7$) likely suffered from AA, a perfect correlation of 1.0. Given that the prevalence of all eating disorders in the United States is 3.5% (Eating Disorders Coalition for Research, Policy and Action, 2012), those seven athletes (5.6% of the sample) demonstrated that AA is a considerable problem at the target institution. Considering that AA results in psychological and sociological problems combined with physical health consequences that include anemia, fatigue, dehydration, weight cycling, vitamin deficiencies, osteoporosis, stress fractures, injuries, reduction in performance, soreness, stomach ulcers, hypotension, digestion problems, and amenorrhea in females (Robertson, 2010; Sundgot-Borgen & Torstveit, 2004 & Robertson, 2010), the prevalence of AA in this sample should not be ignored.

A second finding to consider was the relationship of the type of sport played to AA. Five of the seven participants (71.4%) participated in lean sports (women's cross country (1), women's track and field (1), and wrestling (3)). Reinking and Alexander (2005) also reported a relationship between type of sport and symptoms of eating disorders. That finding was also supported by Sundgot-Borgen and Torstveit (2010), who noted that 70% of athletes competing in lean sports engage in abnormal eating behaviors to maintain a low body weight. One would be remiss to rule out the importance of the other two athletes who demonstrated AA. Both were women who participated in sports that, in some circles, could be considered lean sports. Women's soccer is a sport that relies on a high-level anaerobic endurance for 90 minutes or more, especially for midfielders. Those midfielders rely on lower body weights in order to decrease workload and fatigue over the course of those 90 minutes. As well, women's volleyball players wear tight-fitting and short uniforms, putting their physiques on display. While volleyball players do not necessarily gain a performance advantage from being lean, wearing highly revealing uniforms may influence some players to desire a leaner physique.

Impact on the Field of Kinesiology

More expansive research should be planned to fully evaluate the prevalence of AA in collegiate sports, spanning all levels of competitive athletics, both sexes, and lean and non-lean sports. Even without extensive research on AA, it seems evident that a problem exists. Therefore, considering the difficulty in measuring AA, it is important that coaches and athletic trainers are aware of the signs and symptoms of the disease. AA should become a conspicuous component of the education regarding eating disorders.

Colleges and universities with athletic training, physical education, and coaching curricula must be proactive in educating future coaches and athletic trainers of the warning signs for AA. Further, organizations that provide credentialing for athletic trainers and coaches should include questions regarding AA in their test batteries. Finally, institutions that offer continuing education should include AA in all sessions that discuss eating disorders, compulsive exercise, or nutrition.

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The Prevalence of Anorexia Athletica in NCAA Div. II Athletes, *continued*

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Perceived Role of Sexual Activity on a Collegiate Athlete's Performance

GRADUATE STUDENT RESEARCH

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Purpose

College athletes experience many of the same emotions, such as happiness, excitement, anxiety, dejection, and anger, in both athletic competition (Dewar, Kavvassanu, & Ring, 2013; Rathschlag & Memmert, 2013; Pinkerton, Cecil, Bogart, & Abramson, 2003; Robazza, Pellizzari, Bertollo, & Hanin, 2008; Vodigar, Kovac, & Tusak, 2012) and sexual activity (Ein-Dor & Hirschberger, 2012; Janssen, 2013; Townsend & Wasserman, 2011; Ronson, Milhausen, & Wood, 2012). While athletic competition and sexual activity may elicit the same emotional responses from participants, there are conflicting views of the role of sexual activity in athletic performance. Coaches may encourage athletes to abstain from sexual activity due to the belief that sexual activity 24 hours before competition is detrimental to the athlete's performance, causing fatigue and lack of focus, while also possibly eliminating feelings of frustration that an athlete may be able to use to his/her advantage during athletic competition (Anshel, 1981). Conversely, sexual activity may allow an athlete to perform better; according to SayfollahPour, Heidary, and Mousavi (2013), sexual activity increases relaxation, reduces stress and depression, and improves self-confidence.

Despite the conflicting views on the role of sexual activity on athletic performance, there is a lack of research on the perceptions of athletes regarding their own sexual activity and athletic performance; therefore, the purpose of the study was to investigate this topic. The main hypothesis for the study is reported in this summary, as follows: Athletes who have engaged in sexual activity 24 hours prior to competition perceive their athletic performance to increase in competition.

In order to test this hypothesis, collegiate student-athletes at a small regional university in rural southeastern North Carolina were recruited to take a modified version of the Sport Emotion Questionnaire (SEQ). Because the study consists only of student-athletes from one university, the sample size for the study is relatively small, and may diminish the validity of findings.

Review of Literature

Many coaches believe that an athlete engaging in sexual activity 24 hours before a sport competition is detrimental to the athlete's performance due to the belief that sexual activity leads to fatigue, decreased aggression/anger, sleep loss, and lack of concentration (Anshel, 1981; Boone & Gilmore, 1995; SayfollahPour et al., 2013; Sztajzel, Periat, Marti, Krall, & Rutishauser, 2000). However, many studies indicate that this thinking is flawed (Anshel, 1981; SayfollahPour et al., 2013; Spielberger, 1991; Sztajzel et al., 2000).

SayfollahPour et al. (2013) and Boone and Gilmore (1995) debunk the notion of sexual activity leading to exhaustion. SayfollahPour et al. (2013) stated that the most aggressive types of sexual activity expend 250 calories per hour; whereas, an individual expends 30–50 calories walking up two flights of stairs. Therefore, if an athlete can walk up eight flights of stairs and not feel fatigued to the point of decreased performance, the athlete can engage in sexual activ-

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Perceived Role of Sexual Activity on an Athlete's Performance, *continued*

ity without becoming fatigued. Boone and Gilmore (1995) investigated the effects of sexual activity on a maximal treadmill test, examining the degree of fatigue. The results from this study confirmed that engaging in sexual activity 12 hours before a maximal treadmill test did not increase the amount of fatigue in the runners.

Sexual activity has been linked to exhaustion and decreased aggression, which coaches may view as a problem. According to the frustration-aggression hypothesis, abstinence from sexual activity increases a person's frustration, which increases feelings of anger and aggression (Anshel, 1981). When people become emotionally burdened with feelings of anger or aggression, they can direct the feelings in two ways, internally (towards self) or externally (towards others) (Spielberger, 1991). Coaches assume that anger and aggressive behavior resulting from the abstinence of sexual activity will lead to improved performance (Anshel, 1981; Boone & Gilmore, 1995; SayfollahPour et al., 2013); however, Janssen (2013) and Ein-Dor and Hirschberger (2012) explained that sadness and depression are the main emotions felt from little to no sexual activity.

Coaches believe engaging in sexual activity the night before competition causes loss of sleep (Anshel, 1981); however, research indicates this is not the case. SayfollahPour et al. (2013) and Anshel (1981) noted that sexual activity induces relaxation that promotes a good night's sleep. SayfollahPour et al. (2013) reported that a lack of sexual activity can diminish and disturb sleeping patterns. Coaches' concern with lack of concentration in athletes coming from sexual activity is best illustrated in the results of a study by Sztajzel et al. (2000), which investigated stress, testosterone, and concentration level in two days, one day with sex and one day without sex. Study subjects took an arithmetic mental concentration test, and results between the two days showed that sexual activity did not affect concentration levels. When athletes concentrate too much on competition, anxiety and stress levels increase. Anxiety and stress led to poor performance (Martin & Gill, 1991; Rathsclag & Memmert, 2013).

The impact of emotions on an athlete's performance was the subject of a study by Vast, Young, and Thomas (2010). Using the Sports Emotion Questionnaire (SEQ), the instrument also employed in the present study, researchers found that high levels of internal anger lower concentration, and happiness was beneficial to an athlete's performance and concentration. The study also noted that anxiety can benefit an athlete by eliciting different behaviors to avoid failure.

Methods

Data were collected from student-athletes at a southeastern university that competes at the NCAA Division II level and fields 16 varsity teams. When data were collected (spring 2014), the number of student-athletes at the university was approximately 379 (271 men, 108 women). Student-athletes were contacted via emails or through planned team meeting sessions. Student-athletes completed the survey through a secured university supported system, *Qualtrics*. Results were recorded in a manner that ensured confidentiality, and demographic information was vague enough that individuals could not be associated with their responses. One hundred ninety student-athletes took the survey; however, only 138 completed it correctly, resulting in 138 usable surveys (93 males and 44 females), for a response rate of 36.4%.

Data were collected via the Sport Emotion Questionnaire (SEQ) (Jones, Lane, Bray, Uphill, & Catlin, 2005), a validated and reliable instrument for measuring precompetitive emotions to assess anger, anxiety, dejection, excitement, and happiness. Three demographic questions were added to the questionnaire to gather information about the respondents' gender, race/ethnicity, and sport type. Thus, the final questionnaire included 22 emotions ratings, one question to determine how the athlete perceived sexual activity or to affect his/her athletic performance, one question to determine if the athlete perceive a lack of sexual activity to affect his/her performance, and three demographic questions. All questions except the demo-

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Perceived Role of Sexual Activity on an Athlete's Performance, *continued*

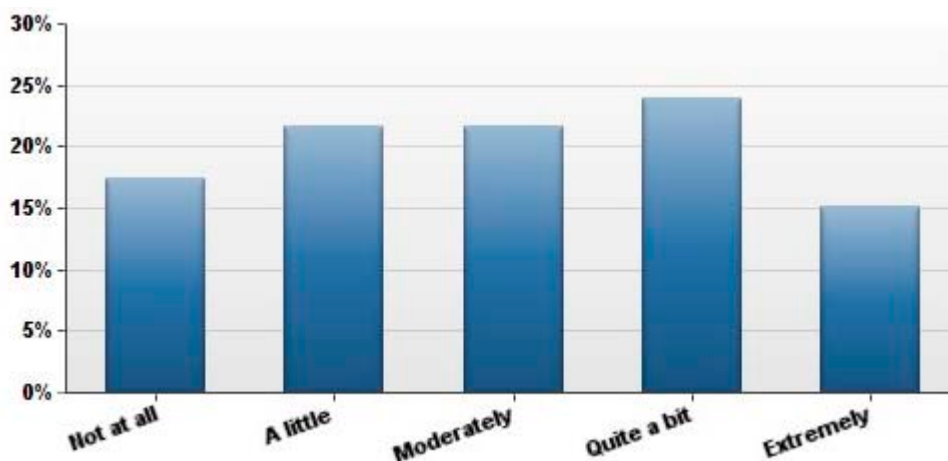


Figure 1. Percentage responses to “Does engaging in sexual activity 24 hours before a sport competition improve your performance?”

graphic questions were rated on the same five point Likert scale, with responses ranging from 1 = not at all to 5 = extremely).

Results

Data analysis revealed the demographics of the 138 respondents. The male (68%) to female (32%) ratio of respondents roughly mirrored the characteristics of the sample population; however, a 2:1 male to female ratio may not reflect the general population accurately. Respondents identified themselves as Eastern European or Caucasian (46%), African Americans (39%), with smaller percentages of Other (5%), Hispanic/Latino (4%), Native American/American Indian (4%), and Asian/Pacific Islander (2%). Respondents identified their team identity as football (21%), wrestling (14%), men's and women's soccer (12%), men's and women's basketball (12%), men's and women's track and field (11%), baseball (8%), men's and women's golf (7%), softball (7%), men's and women's cross country (5%), and volleyball (4%). Participants were not asked to select men's or women's team for sport affiliation in which the university fields both teams (basketball, cross country, golf, soccer, and track and field).

Figure 1 displays the responses to the question regarding the perceived impact of sexual activity 24 hours prior to a sport competition on their athletic performance.

Discussion

In order to test the hypothesis (Athletes who have engaged in sexual activity 24 hours prior to competition perceive their athletic performance to increase in competition), results of the question “Does engaging in sexual activity 24 hours before a sport competition improve your performance?” were analyzed. Figure 1 displays the frequency noted by the student-athletes ranging from *quite a bit* (25%), *a little* (22%), *moderately* (22%), *extremely* (15%), and *not at all* (17%). Therefore, 83% of respondents reported that engaging in sexual activity 24 hours before athletic competition did improve performance. This finding is in keeping with previous research by Anshel (1981) and SayfollahPour et al. (2013) who determined that sexual activity should not exert negative influence on sports performance.

Based on the data, the student-athletes under consideration did perceive that sexual activity had a positive impact on their athletic performance. However, these results must be taken

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Perceived Role of Sexual Activity on an Athlete's Performance, *continued*

in context. As noted above the sample accurately reflects the ration of males to females at the institution under consideration, but when a sample is skewed so heavily to males, there may be a bias based on sex in answers. Indeed, Mendle, Ferrero, Moore, and Harden (2013) and Townsend and Wasserman (2011) have investigated sexual activity in single individuals and have seen stress and anxiety levels rise in females who engage in sexual activity while not being in a committed relationship. Females may believe the risk for contracting a sexually transmitted disease and becoming pregnant will increase, creating a great amount of stress.

Impact on the Field of Kinesiology

Both coaches and student-athletes should be aware of the perceived impact engaging or not engaging in sexual activity may have on a student-athlete's performance. While engaging in sexual activity is a personal decision and the emotions related to that action are deeply personal, student-athletes need to consider that their decisions in this aspect of their lives may impact their athletic performance. Indeed, a student-athlete's performance is influenced by many factors, among them diet, training regimen, past and current injuries, hydration, and as seen in the present study, the perception of sexual activity.

Findings from this limited study indicate that for student-athletes at one university, sexual activity within the 24 hours leading up to an athletic competition is perceived by the student-athletes to improve sport performance. Due to the small sample size, limited age range of participants, large proportion of respondents from one sex, and location of participants at one university, findings cannot be generalized beyond the sample population. However, the findings do present potential for future research on a larger sample and at different levels of sport competition, such as, high school, professional, and recreational (whether in a college or community setting). With an expansion of samples, the impact of sexual activity on an athlete's performance better can be assessed. Despite the limitations presented in this study, the research does open a line of inquiry that should be pursued as athletes seek to identify factors helping them to perform at their maximum potential.

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NAKHE Announcements

NAKHE Foundation Memorial Fund

This fund was started with a large gift to NAKHE through the will of Dean A. Pease. Donations to the NAKHE Foundation Memorial Fund can be forwarded to:

NAKHE c/o Carrie Sampson Moore
Department of Athletics, Physical Education, & Recreation
Massachusetts Institute of Technology
77 Massachusetts Ave.
Cambridge, MA 02139
617.253.5004 (office)
clsmoore@mit.edu

Make checks payable to: NAKHE Foundation Memorial Fund.

Funding for NAKHE Special Projects

One of the responsibilities of the Foundations Committee is to oversee the spending of all endowed funds. There is interest money available in NAKHE's endowed funds to be used for special projects to further the goals of NAKHE. These are also projects that would not fall under the operating budget of NAKHE. Requests for special projects should be submitted by July 1st or November 1st of each year to the Chair of the Foundations Committee (FC). The FC, if possible, will make their decisions via e-mail. So there should be a short turnaround in the decision-making process.

Project requests should include:

1. Person(s) submitting request, address, phone, e-mail
2. Title and description of project
3. Itemized cost of project
4. Timeline for completion of project
5. Proposed benefits to NAKHE

☐ Request Advance ☐ Request Reimbursement ☐ Other

For 2016 requests, submit your proposal to:

Marilyn Buck
School of Physical Education, Sport and Exercise Science
Health and Physical Activity Building (HP) Room 360
Ball State University
Muncie, IN 47306
mbuck@bsu.edu

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***IJKHE* Deadlines**

Deadlines for *The International Journal of Kinesiology in Higher Education*:

Copy to Editor	Published
January 15	April
July 15	October

All material submitted to *IJKHE* must be double spaced, and regular articles should not exceed 8 pages of text. Charts and references can be extra.

***IJKHE* Editor**

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NAKHE membership entitles you to three issues of *Quest*, one of which features the *Academy Papers*, and two issues of the *International Journal of Kinesiology in Higher Education* per year, and to member rates for the annual conference. Please complete this form and return it to the address listed. **Or apply online at www.nakhe.org**

What are your special interests?

Check no more than three.

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Submit your job openings for posting at a NAKHE Webpage and for e-mailing to over 600 professionals in the field. The Website OPERA is updated weekly and receives nearly 600 hits per week. For details, please visit <http://www.nakhe.org/opera>

2016 NAKHE Convention

Don't forget

2016 Annual Conference
January 6–9, San Diego, CA

Mentoring Stewards for Our Profession

Recent discourses have called for a focus on stewardship as a concept that should be utilized in institutions of higher education. The discipline of kinesiology is not immune to this charge. Embedded in the communities where our programs lie are issues of leadership, new social responsibilities and ethical considerations that require the development of modern paradigms and realistic solutions. Stewardship is not an innate action. It must be contextualized, deconstructed, communicated and incorporated as a catalyst for organizational change. More importantly, stewardship is passed on to future generations through mentors who graciously accept it as part of the price of leadership.

Registration at www.NAKHE.org