Kinesiology Today

AKA American Kinesiology Association

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The Winning Advantage—Who's Got It?

By Siv Schwink, KT staff writer

In elite athletics, any performance advantage or competitive edge is highly sought after by athletes and coaches alike. Given the intensive training and extensive resources committed, stakes are tremendously high at regional, national, and international athletic competitions, where athletes are under enormous pressure to perform at their peak abilities.

The strain is also felt by commentators and fans before and during a rank-setting competition, as they speculate on who is favored to win based not only on strength and skill, but on past performance, training history, confidence levels, ability to maintain mental focus, known injuries, and so on.

Scholarship on the subject of why and when athletes win or lose is likewise confounded by the complexity of interacting factors that may not be constant from one competition to the next. Numerous interrelated, fluctuating variables influence the outcome of any elite sports competition—and this is particularly true for team sports—so outcomes can not easily be predicted.

A growing collection of research over the last three decades has searched for evidence that would support or discount the popularly held belief in the sway of an athlete or sport team's psychological momentum—the notion

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Caution Light Blinking for Marathon Runners?

The deaths of two runners, one 30 and the other 35, during Raleigh, North Carolina's, inaugural Rock 'n' Roll Marathon has once again caused people to wonder about the health benefits of intensive endurance sports. Conventional wisdom is that since exercise is good for you, more must be better. Therefore, if running 2 or 3 miles is good for you, running 26 miles is even better. But a growing body of research is calling these assumptions into question. Some studies have shown, for example, that chronic, excessive, high-intensity exercise may lead not only to oxidative stress and myocardial fibrosis but to atherosclerosis and increases in vascular wall thickness as well.

Six years ago, researchers using computed tomography (CT scans) found marathon runners to have increased calcified plaque in the coronary arteries. Now a new study reported in *Missouri Medicine* (March/April 2014) using advanced, high-resolution computed tomography angiography (CTA) confirms earlier results. Robert Schwartz and his colleagues at Minneapolis Heart Institute and Foundation compared a group of men who had completed at least one marathon per year for the last 25 years and a group of 23 male sedentary controls using the advanced technology. While the two groups had comparable resting blood pressure measurements, total cholesterol, and LDL, marathon runners had lower weights, resting heart rates, BMIs, and triglyceride levels. But marathon runners also had higher levels of coronary artery plaque (volume, calcified plaque volume, and noncalcified plaque volume) than the controls. Although 95 lesions were spotted in 30 of the 50 marathoners and 46 lesions in 12 of the 23 sedentary participants, there were no statistical differences in prevalence, lesion area and length, number of lesions per participant, and diameter stenosis in the arteries. Given the design of the study, Schwartz was careful not to suggest that running marathons causes cardiovascular disease.

The same issue of *Missouri Medicine* features a companion review article on the topic by Peter McCullough and Carl Lavie, researchers at Baylor Medical Center and Queensland School of Medicine, respectively. They offer these sober observations:

"Thus, despite the healthier CV risk profiles on the surface, the burden of atherosclerosis and potentially worrisome non-calcified plaques which could be more susceptible to rupture and result in MI is a reality that must be understood by adult marathoners and their physicians." They conclude, "We should stress that the benefits of physical activity and exercise training seem to occur

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President's Message

Working Hard on AKA Goals

By Penny McCullagh, AKA President

Penny McCullagh

Spring has sprung in California! I know the Midwest and East have been hit hard with weather this year, but that has not dampened enthusiasm in AKA. Our committees are making progress on a number of issues:

- Membership committee has lofty goals to increase membership to 200 institutions in the next 5 years. We are currently at 142, and each week new members are recruited. An emphasis will be to target institutions in the Carolinas since our next workshop will be held in Charlotte, North Carolina.
- The communication committee is working on putting together additional webinars. If you have ideas about what might be useful to departments, please let them know.
- The workshop programming committee is working on themes for 2016 and into the future. This year's workshop is January 24 to 27, 2015, and is titled The Intersection of Physical Activity and Public Health: Opportunities for Kinesiology.
- The awards committee has had a busy spring, and new AKA scholars will be announced soon.
- The publications committee will work on providing guidelines on the November issues of *Kinesiology Review.*
- The research and analysis committee is deciding on the next topic to be studied.

All the committees meet on a regular basis, and one person from the executive committee serves as a liaison. Our executive director Amelia Lee helps keep the committees on task with help from our business manager, Kim Scott.

As a result of conversations at the workshop in January, I have formed two presidential committees. One committee (Jason Carter, MiSook Kim, and Jim Morrow) are investigating the feasibility of using MERLOT (a free and open peer-reviewed collection of online teaching and learning materials and faculty-developed services contributed and used by an international education community) as a depository for kinesiology materials. The committee hopes to report back by May on the exciting possibilities that this site could provide for promoting the field of kinesiology with an AKA brand around the nation and the world (www.merlot.org).

A second committee is investigating CIP (Classification of Instructional Programs) codes. Many universities use CIP codes as a source of funding and also as a source for determining instructional appointments. The committee will determine the most likely avenue to pursue to inform AKA member departments about CIP codes and their campuses.

Kim Graber and Wojtek Chodzko-Zajko are working on getting the workshop papers from San Jose ready for inclusion in *Kinesiology Review.*

Remember to use the *Kinesiology Today* as a resource in your program. I encourage faculty to share with their students, and as chair I often share it with my dean and in student–parent orientations to inform individuals outside our field about kinesiology.

Every step counts.

Basketball Coaches Behaving Better Than It Might Seem

The sport blogs have buzzed with stories about the decline of fan behavior at NCAA basketball games. The fight between New Mexico State and Utah Valley has received most of the attention, but players from Kentucky and Oklahoma State have also squared off against fans in separate incidences this season. The press has been dinging coaches as well. Syracuse coach Jim Boeheim was ejected this season from a game against Duke after going ballistic and earning himself two technical fouls. Some saw it as an all too common occurrence and lamented the decline of civility in the ranks of college basketball coaches. After all, it occurred not long after photos and videos of a screaming Cincinnati coach Mick Cronin going nose to nose with a referee Ted Valentine, or Kentucky's John Calipari's weird untucking of his shirt before charging officials during his team's loss to South Carolina. (It's helpful to keep in mind that as ugly as such behavior is, it doesn't come close to Temple coach John Chaney's postgame threat to Calipari in 1994, vowing to "kill him" after Chaney's team had lost to the UMass team then coached by Calipari.) Yet appearances can be deceiving. According to the *Wall Street Journal* (March 4, 2014), Stats LLC—a sport statistics firm—reported that technical fouls against college basketball coaches actually are on the decline. According to LLC, in the 9,954 games played through March 4 this year, 379 fouls were assessed against coaches, setting a trend as the lowest rate of technical fouls against coaches in 10 years. John Adams, the NCAA's national coordinator for basketball officiating, confirms the decline but told *USA Today* (March 7 online) that between November 2013 and January 2014, there were only 85 technical calls against coaches.

-SJH

Wii Fit Not So Fit

By Amy Rose, KT Staff Writer

With the release of Nintendo's Wii Fit video game system to the U.S. marketplace in 2008, it quickly became a ray of hope in the struggle to increase physical activity across the nation. Unfortunately since that time, there have been several studies suggesting that "exergames" are no substitute for good ol' high-intensity physical activity and sport for children and adults.

The first challenge is getting people to actually use the programs on a regular basis, and simply having the equipment in the house is no guarantee that its residents will take advantage of it. "Just like any sort of exercise equipment that gets into the home, it has to be used," said Scott G. Owens, associate professor of health, exercise science, and recreation management at the University of Mississippi. According to their study published in 2011 in the *Journal of Strength and Conditioning Research,* Owens and his colleagues found that merely having a Wii Fit system in the home did very little to increase the physical activity of the residents. The study simulated the real-world scenario of Wii Fit use. Eight families were given a Wii Fit system for their household but no instructions on how or when to use the game. Use of the device was tracked through the software included in the Wii Fit system. Fitness tests administered before and after a three-month period of having the Wii Fit system in their home revealed a whopping 82% decline in use of the system over the three-month period. At the end of the study, health-related fitness measures were essentially the same as before the study began.

Scott Owens

So, what happens when you can actually get people to play the active video games on a regular basis? There's a good chance that it will increase their total physical activity minutes, but not at the intensity level that is recommended for improving physical fitness. According to the American College of Sports Medicine, an activity must reach a level of moderate intensity to provide health benefits. The intensity of physical activity is measured in metabolic equivalents (METs). Activity that measures 3 to 6 METs is considered moderate-intensity exercise.

Vigorous activities have an intensity measurement over 6 METS.

Japanese researchers measured the intensity of each Wii Fit Plus activity when done for 8 minutes. The activity games consist of yoga, balance, resistance, and aerobic exercises. It also included the Wii Sports package of bowling, golf, tennis, baseball, and boxing. Balance and yoga exercises measured below the minimum of 3 METs for a moderate activity level. They only provided light exercise activity, which is not likely to provide cardiovascular benefits. Many of the resistance training and

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When Kids' Desire to Play Rubs Up Against Community Laws

Journalists across the country have jumped all over village trustees in Munsey Park, a Long Island housing development of 840 homes within the town of Hempstead, for banning street-side basketball hoops. Outraged by it all, *The Economist* ran a banner over its story: "Local Busybodies Ban Basketball." Well, not really. But it is true that kids can no longer legally wheel a portable basketball goal to the space between the sidewalk and the street, choose teams, or play HORSE on the street. Basketball is still legal, but it must be played in driveways away from the public streets.

Patrick Hance, the Munsey Park trustee in the village who was the leading proponent of the new law, explained the reasoning. The village, through its building advisory committee, has long enforced laws governing architectural aesthetics, some of which forbid constructing anything permanent between the sidewalks and the street, the spots where kids were setting up their hoops. (Technically, they were locating portable basketball hoops there, but, says Hance, when the goals are anchored at the base with sand, most of them "became more or less permanent.") "All of this public attention came when the trustees redrafted the law after a resident's request for an interpretation. It was our downfall, I suppose," said Hance, "that we rewrote the law rather than interpreting it since we were only continuing a law that had been on the books for years."

Why Munsey would crack down on kids playing sports in an age when young people are not getting enough exercise ultimately boiled down to a matter of safety and aesthetics, although it is hard not to get the impression that aesthetics was the major concern. The rat-tat-tat of dribbling was also a consideration. Hance emphasized that the new law doesn't forbid playing basketball outside; it merely forbids playing it in the streets. "You can still put a hoop in your driveway and play there," he says, but some residents point to the sloped driveways at many houses as rendering that suggestion unworkable.

As to what seems like a sharp disconnection between public laws forbidding children a chance to play and public health data that underscore the importance of physical activity, Hance said, "We play a lot of sports here. In fact, Munsey is a town of sports fanatics." He points to the enormous popularity of lacrosse in the village. Asked if local laws forbid kids from playing lacrosse on the streets, he said, "No, if the goals are moveable." Hockey is also being played

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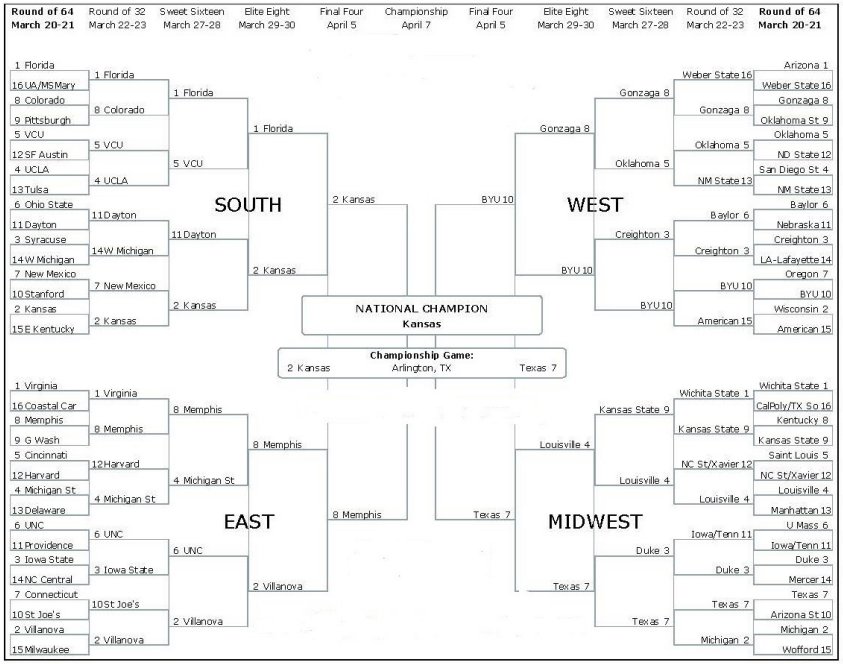
And If Academic Performance Won Tournaments?

Okay, so Connecticut won the Women's NCAA Basketball Tournament, but what if the scores were based on academic performance rather than 2s and 3s and dribbling, finishing moves, post plays, and blocks? For the third year in a row, Allie Grasgreen of *Inside Higher Education* has posted a tournament bracket in which academic performance rather than final scores determine the winners for both the men's and women's tournaments. Tournament progression is based on academic progress reports, the NCAA's measure of a team's classroom progress. Ties are determined by the NCAA graduation success rate (proportion of athletes on track to graduate within six years). To break further ties, the federal graduation rate uses a slightly different metric.

It will surprise no one that actual tournament performance is a relatively poor predictor of academic performance. In the women's tournament, the University of Connecticut—this year's actual champion—managed to make it to the Sweet Sixteen of the academic bracket, where they lost to Nebraska, but runner-up Notre Dame was knocked out in round 2 in the academic tournament by Vanderbilt. By the same token, winners of the academic tournament fared poorly in the actual tournament. Marist, finalist in the academic tournament, lost in the first round of the basketball tournament to Iowa. The other basketball finalist, Depaul, lost in the third round to Texas A&M.

The men's tournament followed the same pattern. This year's finalists, Kentucky and Connecticut, both lost in the first round of the academic tournament—Kentucky to Kansas State and Connecticut to St. Joe's. Kansas, the academic tournament champion, was a first-round loser in the actual tournament. In fact, three of the teams in the academic final four were beaten in the first round of the actual tournament; the exception was Texas, who made it to the second round.



Men's Academic Tournament Bracket courtesy of Inside Higher Education.

Grasgreen, A. March 17, 2014. The 2014 academic performance tournament. *Inside Higher Education.*

Grasgreen, A. March 18, 2014. The 2014 academic tournament, women's edition. *Inside Higher Education.*

-SJH

Executive Director Column

Promoting Physical Activity: Estimating Our Success

By Amelia Lee, AKA Executive Director

Amelia Lee

Just recently the U.S. Department of Health and Human Services released a progress report for the status of the 26 leading health indicators of *Healthy People 2020*. These indicators communicate high-priority health issues identified as having a significant influence in reducing preventable disease and death. As you would expect, physical activity and obesity are listed among the leading topics along with environmental quality, mental health, substance abuse, and tobacco use. The update indicated that progress had been made in 14 of the 26 indicators during the first third of the decade, and many of the target goals have been met or have shown significant improvement. Noteworthy progress was reported for the following indicators: Fewer adults are smoking cigarettes, fewer children are being exposed to secondhand smoke, more adults are meeting physical activity targets, and fewer adolescents are using alcohol and illicit drugs. There are eight of the indicators, however, where little or no change was detected, and obesity among children and adolescents was one topic that was far below the target set. While physical inactivity for children was not specifically identified as a high-priority issue, the link between inactivity, obesity, and a host of other health problems is fairly well established. Therefore, we in kinesiology must strive to be a leading force in promoting physical activity initiatives for all age groups, and I would argue that our success thus far has been marginal. Read the full report on the leading health indicators at www.healthypeople.gov.

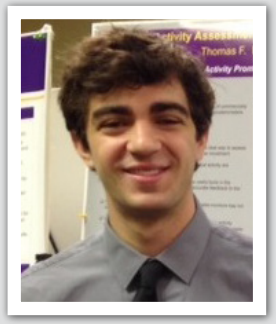
One way that kinesiology leaders can advocate for policies that will encourage more physical activity might be to partner with public health entities. This collaboration will allow us to plan, coordinate efforts, and generate forceful strategies that might reduce physical inactivity and perhaps reverse the disappointing figures on childhood obesity reported in the *2014 Progress Update for the Leading Health Indicators*. The AKA has taken an important step in this direction by making the focus of the 2015 leadership workshop the intersection of kinesiology and public health. The annual workshop will be January 24 to 27, 2015, at the Renaissance Charlotte South Park Hotel and will emphasize how kinesiology can play a critical role in public health. Watch for updates and make plans to attend this important event.

The Economic Future of MOOCs

"The market for instructors will also be transformed. The best teachers will be fabulously productive, reaching hundreds of thousands of students. There may therefore be far fewer of them, each compensated like superstars in the entertainment industry."

The Economist, February 8, 2014

AKA Congratulates the 2014 National Scholar Award Winners



Thomas Mahar

Undergraduate Student
Thomas Mahar, East Carolina University

Chelsea Soebbing

Masters Student
Chelsea M. Soebbing, Louisiana State University

Youngdeok Kim

Doctoral Student
Youngdeok Kim, Middle Tennessee State University

Jennifer Flynn

Writing Award
Jennifer Flynn, University of Tennessee, Knoxville

Congratulations to the outstanding students nominated for the AKA Scholar recognition awards as well.

Book Review

By Doug Hochstetler, Associate Professor of Kinesiology, Penn State University, Lehigh Valley

Getting Physical: The Rise of Fitness Culture in America, by Shelly McKenzie

Doug Hochstetler

The cover photo of *Getting Physical* depicts a cluster of "joggers" in Eugene, Oregon, during a 1969 training session. The picture captures both the constancy and change across time with respect to physical fitness and, in particular, running. The joggers wear canvas tennis shoes and Chuck Taylor Converse All-Stars, footwear that predates both the rise of the traditional running shoe and foreshadows a return to the minimalist trend initiated by Vibram's Five Finger models. The history of running (or jogging) is just one aspect of Shelly McKenzie's narrative describing the fitness culture in the United States from the Cold War period through the 1980s.

The author begins by examining physical activity in the 1950s. McKenzie provides a glimpse into the President's Council on Youth Fitness (PCYF), a largely forgotten predecessor to the President's Council on Physical Fitness, Sports, and Nutrition established by President Kennedy. The exercise campaigns helped promote the virtues of movement while more subtlety addressing concerns over juvenile delinquency. Promotional efforts involved reaching out to nonprofit organizations such as Girl Scouts and Boy Scouts, although largely relegated to a white, middle-class demographic. While placing emphasis on developing "total fitness," and hoping to encompass moral and ethical development, the PCYF never sufficiently arrived at an understanding of its precise meaning. Subsequent efforts through the President's Council, bolstered by President Kennedy's active lifestyle, focused exclusively on *physical* fitness.

While the 1950s brought focus on fitness in part to combat an apparent softness of character, in the 1960s conversation turned toward the utility of exercise for combatting excess weight and enhancing beauty, messages targeted toward females. Media efforts encouraged women to attain trim figures both as a fashion statement and as part of marital responsibility. The rising popularity of television enabled females to exercise in the comfort of their homes, taking a break from household responsibilities to work out with programs such as *The Jack LaLanne Show.* While women received messages regarding weight loss, fashion, and beauty, men became the targets for exercise promotion based largely on health reasons. Men were urged to exercise to ward off heart disease and to combat stressful work environments. Part of the health promotion efforts during this time solidified women's roles in protecting their husbands. McKenzie contends that for men to obsess about physical appearance during this period raised questions about sexuality.

Fitness promotion found mass appeal through the jogging movement, which rose to prominence during the 1960s and 1970s. It was enhanced by University of Oregon track coach Bill Bowerman's book *Jogging* and former Air Force Surgeon General Ken Cooper's work titled *Aerobics.* Rather than a short-lived fad, the jogging movement encompassed a wide swath of American culture, both fitness enthusiasts and environmentalists. Other adherents ran for mental

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Seniors, Don't Just Sit There!

By Siv Schwink, KT staff writer

In early childhood, "Sit still!" is probably one of the most challenging commands to obey. As it turns out, for seniors, the exact opposite directive may be the best advice for maintaining health and independent living. Emerging research shows that the more time individuals ages 60 and over spend sitting still, the higher the associated risk of disability in activities of daily living (getting in and out of bed, eating, dressing, or walking). This holds true regardless of how much time may (or may not) be spent in moderate to vigorous exercise.

Lead author Dorothy Dunlop is a professor of rheumatology at Northwestern University's Feinberg School of Medicine.

"While we expected sedentary behavior was related to disability, we were surprised the relationship was as strong as the NHANES data showed," comments Dunlop. "What we found was the more time spent in sedentary behavior (like sitting), the greater the chance the person was in the pool of disabled people. This relationship held even after accounting for time spent in moderate or vigorous activities (like exercise)," explains Dunlop.

The study, published in the February 2014 issue of the *Journal of Physical Activity & Health,* is based on data collected between 2003 and 2005 through the National Health and Nutrition Examinations Surveys (NHANES). These included 2,286 adults aged 60 years and older who wore accelerometers an average of 14 hours per day for one week of the three-year period. Since the survey is conducted on a cross-sectional nationally representative probability sample of the U.S. non-institutionalized population, the team's findings can be generalized to the U.S. population.

The data revealed that individuals aged 60 and over spend almost 9 hours each day—almost two-thirds of their waking hours—being sedentary. Less than 4% of the sample population reported having disabilities in activities of daily living. Significantly, for each daily hour spent being sedentary, the odds of disability in activities of daily living increased by 46%.

Where other studies have shown that sedentary behavior in seniors is associated with multiple health risks, this is the first study to link it as a separate risk factor for disability, independent of exercise habits.

The study further showed that only about 6% of U.S. seniors currently meet the government's physical activity guidelines of at least 2½ hours of moderate-intensity physical activity each week or 1¼ hours of vigorous-intensity physical activity.

Dunlop cautions that the study results do not necessarily show sedentary behavior is a causal factor in disability, but rather that it's positively correlated with disability, and more research into the nature of the connection is called for: "We cannot determine from these data which happened first, sedentary behavior or disability."

Still, the new finding has huge implications for healthy-lifestyle recommendations and health programs that target seniors: Implementation of programs that encourage seniors to reduce sedentary time may be just as important as promoting programs that stimulate the health benefits of engaging in regular exercise. The authors note that other research has indicated that replacing as little as 30 minutes a day of sedentary time with light activity offers significant health benefits.

Dunlop suggests older adults should stay as physically active as possible, because regular physical activity has been proven

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Rails to Trails Program Placed in Jeopardy by the Court's Decision

A recent decision by the Supreme Court threatens expansion and possibly diminution of the popular national Rails-to-Trails program, an effort by the Rails to Trails Conservancy (www.railstotrails.org) to convert abandoned railroad lines into trails for biking, hiking, and running. The case in question revolved around an 83-acre tract in Wyoming owned by Marvin Brandt who, unlike others along the former railroad track, refused to allow the U.S. Forest Service to use the property for public trails. The ensuing legal battle ultimately ended on March 10 when the Supreme Court, by a vote of 8 to 1, found that the government originally had granted railroad companies only an easement to use the land, and once the railroad companies abandoned the tracks, ownership reverted to the original owners who are not required to continue granting the easement. The conservancy, the prime advocate for the program, has overseen rapid growth and development of rail-trails since it opened in 1986, when there were 200 such trails. Now there are more than 1,600 spanning more than 20,000 miles throughout the country with an additional 9,000 miles of potential trails to be built. Sonia Sotomayor was the lone dissenter in the court's decision. She said the decision "undermines the legality of thousands of miles of former rights of way that the public now enjoys as means of transportation and recreation," and noted that taxpayers may be forced to foot the bill for hundreds of millions of dollars of legal claims that may follow the decision.

Photo courtesy of © Rails-toTrails Conservancy

-SJH

Good News/Bad News on Fitness Trackers

What? You don't have a Fitbit or Jawbone? Obviously you can't be serious about getting in shape. For those who haven't been keeping up with fitness technology, digital fitness trackers are all the rage. The $130 wristbands from San Francisco-based companies Fitbit and Jawbone that monitor data ranging from levels of physical activity to step length and hours spent sleeping have become hot items not only for average workout enthusiasts but also for CEOs of major corporations. A March 12 *Wall Street Journal* feature article described how heads of companies such as American Express and Dell Computer increasingly are relying on the devices to monitor their own levels of physical activity, nutrition patterns, and sleep and to function as social networking devices to keep track of the exercise and sleep patterns of colleagues they compete with and rely on for encouragement. When Marc Benioff, CEO of Salseforce.com, missed a few days of exercise because of illness, Michael Dell saw it and called to see what was up. Caroline Goshen, CEO of the professional women's network Levo League, and Ruzwana Bashir, CEO of an online travel concierge, use their trackers to help each other set exercise and sleep goals and keep to their plans.

That's the good news. Now comes word that Fitbit has had to recall one million of its Fitbit Force pedometer wristbands after customers registered more than 10,000 complaints about itchy rashes and burn marks on their wrists. The company says about 1.7% of its customer base was affected and have assured consumers that the rashes are not caused by the electrical components of the wristband. According to the Consumer Product Safety Commission, the rash is actually contact dermatitis, an allergic reaction to the nickel component of the wristband's stainless steel casing, the materials used in the strap, or adhesives used to assemble the product. The company is offering a full refund to those who request it. Have you purchased one? If so, refunds can requested at http://fitbit.expertproductinquiry.com/Force.aspx. KT

-SJH

Editor's Two Cents' Worth

Life of the Kinesiology Department Chair

By Shirl Hoffman, KT Editor

Shirl Hoffman

Back in the good ole' days, heads of kinesiology departments considered themselves to be first and foremost academics charged with shouldering a few ancillary responsibilities such as setting class schedules, assessing faculty and the curriculum, and hosting the annual departmental party. Now, such a view seems almost quaint. External pressures buffeting colleges and universities has made it expedient—and, in the case of public universities, necessary—to scuttle such notions in favor of a corporate organizational model that has recast the role of department head as a manager with merely ancillary academic responsibilities and identities. Of course, some department heads have succeeded in keeping a hand in research and teaching, but even in such cases, they recognize that the primary standard by which their performance will be measured is in their leadership of the department.

Such was the message of a December 6, 2013, article about the changing nature of the department chairmanship in the *Chronicle of Higher Education* ("For Chairs the Seats Gotten Hotter"). Department chairs, says author Audrey June, "have become more like managers who happen to work in academe" swimming in spreadsheets, overseeing complicated budgets, satisfying demands of accrediting agencies, courting donors, and up to their eyeballs in efforts to recruit students and raise external funds.

One example cited by June is a Professor Vaidhyanathan, chair of the media studies department at University of Virginia, who told the *Chronicle* that he couldn't wait for the summer when his term as chair ended: "I'm going to spend the first month reading trying to catch up on all those important books that I haven't had the chance to read."

Anyone who has spent time in the chair's seat knows how difficult it can be to do justice to the two roles. The danger of course is that as the projected model of department head as manager continues to evolve, "management-think" will replace "academic think" in which concerns about efficiency and bottom lines trump the more intractable and nuanced considerations that contribute to a vibrant academic community.

In the next issue of *Kinesiology Today* we will explore the plight of the kinesiology department chairperson. We will be concerned not merely with the two often-conflicting worlds that department heads inhabit but with all the demands and pressures brought to bear on this important role. What do department heads find most difficult, most time consuming, and most rewarding? **To this end we invite department chairs (and former chairs) working in any size of institution to share views, opinions, and anecdotes with us. Please send your comments by June 15 to shirlh@hkusa.com.** KT

Too Fit for Her Own Good

A California woman terminated her membership in a Planet Fitness gym after an employee asked her to put a shirt on to cover her sculpted arms and washboard abs. She was told, "We've had some complaints you're intimidating people with your toned body."

The Week, April 4, 2014

Good Reads

Weighing Value in Sports Allie Grasgreen
Inside Higher Education January 6, 2014
www.insidehighered.com/news/2014/01/06/temple-cuts-highlight-cost-big-time-football

Is March Madness a Sporting Event or a Gambling Event? Alan Barra
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For Depression, Prescribing Exercise Before Medication Olga Khazan
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These Companies Are Tracking the Fitness of Their Employees Siraj Datoo
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Lift Squat Repeat. Hyper-Intense Crossfit Gyms Face Critics Sean Gregory
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Basketball Academy's Empty Promise
Brad Woverton
Chronicle of Higher Education, March 30
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How to Earn Tenure I & II Jacob Vigdor
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Your Organization Planning a Convention?

According to *USA Today* and 10Best.com, these are the best convention cities:

1. Indianapolis, 2. Boston, 3. Nashville, 4. Salt Lake City, 5. Atlanta, 6. Denver, 7. New Orleans, 8. Washington, 9. Minneapolis, 10. Chicago

Technology

The Babolat Pure Drive Tennis Racket

The Babolat Play Pure Drive racket looks pretty much like a regular tennis racket, but this is not your granddaddy's racket. It relays information back to players about their performance, information that normally is accessible only to sport biomechanists. Sensors integrated into the handle allow players to have access to the power of their shots, where the ball impacts on the face, the type and number of strokes (forehand, backhand, serve, overhead smash, how consistently the ball hit the sweet spot on the racket face, and the mean value of power for all shots. It also offers feedback about energy used during each session. How well it actually performs as a tennis racket has yet to be determined. Cost ranges from $399 to $169. www.babolat.com/product/tennis/racket/pure-drive-+-102167/

Be Safe Running at Night With the Sporty Supaheroe Jacket

Fluorescent polyester is out, LEDs are in. The waterproof jacket is constructed with stretchable polyurethane circuit boards with LED microcontrollers in an electronic harness that is attached with Velcro, allowing it to be easily detached. The lights (white in front, red in back) can be seen through semitransparent panels. It runs on batteries that will last 10 hours before requiring recharging. This equipment is for very serious runners. It will set you back a bit over $2000. www.yankodesign.com/2014/03/11/be-a-supahero-safely.

City Stadiums Not Worth Cost to the Public?

The new baseball stadium outside of Atlanta will cost $672 million—$300 million of which will be publicly funded. Is it worth it? "The team will say it's good for the city," says sports economist Robert Baade, but "it's disingenuous." There is some economic boost—nearby bars tend to benefit—but the bulk of the income from a new stadium goes directly to the team, in higher revenues from naming rights, sponsorships, and luxury suites."

Time, December 9, 2013

NCAA Issues Paper on Self-Reported Concussions

The executive summary of "Self-Reported Concussion Among NCAA Student-Athletes," published by the NCAA's Sport Science Institute in February, compares incidences reported by male and female athletes and breaks down the data by sport. Overall, 87% of female athletes report never having experienced what they felt was a concussion; 81.6% of men reported the same. Approximately 13% of female athletes reported having a concussion, nearly a third of these reported multiple concussions. Among male athletes, 19.4% reported having concussions; a bit less than a third reported multiple concussions. Rates of reported concussions were roughly similar across Division I, II, and III, but the type of sport was a strong independent predictor of self-reported concussions among both male and female athletes. Using track and field athletes as a baseline comparison group, specific odds ratios were calculated. In men's sports, ratios were lowest in golf, tennis, and diving and highest in football (5.0), wrestling (4.9), lacrosse (4.4), ice hockey (4.0), and soccer (3.7). In women's sports, ratios were lowest in crew, golf, and diving and highest in ice hockey (5.7), soccer (4.1), field hockey (4.0), lacrosse (3.7), and basketball (3.2). The analyses showed that differences between men and women in the rate of self-reported concussions were accounted for by the different sports played by men (football and wrestling, notably) rather than by sex-specific factors.

These findings, reported in the February issue of the institute's newsletter, seem to contradict findings in earlier research by Brian Hainline, the NCAA's chief medical officer, published in the previous month's newsletter that reported different concussion rates between men and women competing in similar sports. For example, female soccer players were found to have a 2.1 times greater risk of getting concussed playing soccer than men. Women playing softball have a 3.2 times greater risk of getting concussed playing softball than men do playing baseball, and women have a 1.7 times greater risk of being concussed than men when playing basketball. In an e-mail, Hainline told KT, "Self-report data are difficult to sort out regarding causation or correlation because of so many unknowns. Also, as noted in the executive summary, the data were obtained after the fact, and we plan to assess it better in a prospective manner. So, I don't think the contradictions are the issue; it is really different ways of looking at the problem. That is the core issue in concussion. We don't have good prospective clinical data, which is something I hope we will resolve over the next couple of years."

-SJH

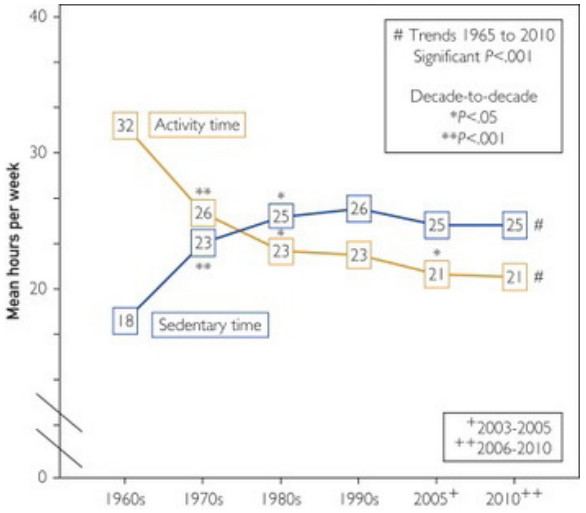
www.ncaa.org/sites/default/files/Concussion%20%20GOALS%20Exec%20Summary_Feb_12_2014_FINALpost_0.pdf

www.ncaa.org/health-and-safety/medical-conditions/do-female-athletes-concuss-differently-males

Modern Moms More Sedentary, Less Physically Active

A new report by Edward Archer and colleagues published in *Mayo Clinical Proceedings* compared levels of physical activity of modern moms with data from 45 years ago and found that mothers of children aged 5 to 18 decreased time allocated to physical activity by 11 hours each week, and mothers of younger children (<5) decreased physical activity by 14 hours per week. In 2010, mothers of older children spent 7 more hours each week in sedentary behaviors than in 1965, and sedentary time of mothers of younger children increased by nearly 6 hours per week. According to the report, women with children have logged increasingly more time watching television and driving and increasingly less time playing with children, doing chores, and exercising (see chart). The investigators attribute the decline at least partly to sociocultural changes occurring over the last 45 years, which has seen more and more mothers enter the paid workforce. "With each passing generation," say the researchers, "mothers have become increasingly physically inactive, sedentary, and obese, thereby potentially predisposing children to an increased risk of inactivity, adiposity, and chronic NCD." They describe the results of their study along with many others as pointing to what "may be the greatest public health crisis facing the world today."

-SJH



Activity and Sedentary Time: Mothers of children 5-18

Chart Source: Maternal Physical Activity: 45-year Trends in 'Mothers' Use of Time. (2013) Archer, E. et al. *Mayo Clinic Proceedings,* December, 2013, p 1368.

New Knees and Hips Offer More Opportunities for Physical Activity

A paper presented at the annual meeting of the American Academy of Orthopedic Surgeons pegged the number of Americans walking, running, and playing on artificial hips and knees at more than 7 million. Other studies at the conference painted a picture of who these people are: the aging and the obese. Over 90% of the prosthetics are still functioning well 10 to 15 years after surgery.

Snorting Xenon Found to Boost Performance—and It Is Legal!

Xenon, an inert gas that makes up only a tiny fraction of the atmosphere, has long been used as an anesthetic and to protect body tissues from trauma, lack of oxygen, and cold temperatures. It also increases EPO (erythropoietin), an effect that has been put to use as a treatment for (among other things) babies deprived of oxygen at birth. While artificially *injecting* synthetic EPO is known to increase heart and lung capacity and ward off fatigue in athletes, its use in competition is banned by the World Anti-Doping Agency (WADA). Not so for the use of xenon. Russian sport authorities have argued (successfully so far) that xenon shouldn't be regarded as appreciably different than the widely accepted practice of placing athletes in low-oxygen chambers, which stimulates the production of red cells. But, while the effects of such "high-altitude training" wear off within a few hours, xenon's effects are reported to last for several days. The Russian Ministry of Defense has laid out guidelines for its administration, recommending a dose of 5% oxygen and 50% xenon as a way to increase cardiopulmonary capacity and prevent muscle fatigue, but also suggests

that it can be a curative for precompetition anxiety and sleep disorders and to aid in recovery after an event. On its website, Atom-Med Centre, the Russian company that produces xenon, claims it has been "constantly working with sports federations of Russia in the preparation and participation of athletes in team competitions at an international level" since 2003 and points to its success in helping prepare athletes for the 2004 Summer Games. The final word on xenon ultimately will come from WADA, who has yet to formally review it. Ben Nichols, WADA's senior manager of media relations and communications, told *KT* that WADA's list committee will meet in April but could not say whether Xenon would be discussed at that time.

- SJH

Short Shots

Reflecting on Specific Past Experiences May Influence Exercise Behavior

In the first study to examine the effects of autobiographical memory on self-reported exercise activity, researchers at the University of New Hampshire found that participants asked to conjure up either positive or negative exercise-related memories reported higher levels of self-reported physical activity the following week than members of a control group not asked to entertain such memories. Previous research in other areas has shown that memory of specific episodes can affect future behaviors and the researchers reasoned that the same dynamic might be at play in exercise behavior. One group of participants was asked to describe specific past experiences when they felt especially pleased and satisfied (positive) and another when they felt displeased and dissatisfied (negative) during or after some type of physical exercise or activity. Control group participants were not asked to conjure up a memory. The group instructed to conjure positive memories reported higher levels of physical activity than the negative group, but both reported higher levels of physical activity than the controls. These effects were observed even though none of the groups were instructed to use the memory episode as a motivational device, nor were they given explicit encouragement to increase their levels of physical activity. KT

Biondolillo, M.J., and Pillemer, D.B. February 26, 2014. Using memories to motivate future behavior: An experimental exercise intervention. *Memory.*

Healthy Obesity? Fuhgeddaboudit!

New research from Toronto's Mount Sinai Hospital Lunenfeld-Tanenbaum Research Institute raises questions about the notion of "healthy obesity." Data based on more than 61,000 people included in a meta-analysis of eight studies found that overweight and obese people have a greater risk of dying or of having cardiac-related problems than normal-weight people. Based on BMI, the researchers found that overweight people have a greater risk of metabolic abnormalities, high blood pressure, and insulin resistance. Interestingly, levels of HDL ("good" cholesterol) fell as BMI increased. "Our research findings challenge the myth that there is such a thing as healthy obesity if people maintain normal-range readings of cholesterol, blood glucose, and blood pressure," says coauthor Dr. Ravi Retnakaran, an endocrinologist at the Leadership Sinai Diabetes. Retnakaran says the key finding is that even in the absence of high blood pressure or cholesterol (in other words, a metabolic problem), an obese person whose BMI is 30 or greater may be at 24% additional risk for a cardiovascular event or premature death compared to a person of normal weight. KT

Kramer, C.K., et al. 2013. Are metabolically healthy overweight and obesity benign conditions? A systematic review and meta-analysis. *Annals of Internal Medicine,* 159 (11), 758-769.

Preschoolers Mimic Mothers' Physical Activity Levels

Using accelerometry, a team of researchers led by Kathryn Hesketh at the University of Cambridge's Centre of Excellence for Diet and Activity Research measured the physical activity levels (sedentary, light, and moderate to vigorous) of 554 British 4-year-olds and their mothers over a period of 7 days. They found positive associations between children's and their mothers' physical activity at each intensity.

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Strength of the association differed by temporal and demographic factors such as children's weight status, time spent in preschool, length of mothers' schooling, and time and day of the week. Only 53% of mothers met the recommended 30 minutes of moderate to vigorous physical activity on one or more days.

Hesketh, K., et al. 2014. Activity levels in mothers and their preschool children. *Pediatrics,* 133(4), 975-980.

Obesity: The Gift That Keeps on Giving

The risk of a child becoming obese in later life is heightened when that child is overweight at 5 years of age. A study reported in the *New England Journal of Medicine* found that overweight kindergarten children are four times more likely than their normal-weight peers to become obese by the time they reach 14 years of age. Data were analyzed from the Early Childhood Longitudinal Study on over 7,000 participants whose heights and weights were measured seven times between 1998 (when they entered kindergarten) and 2007. At entry, 12.4% were obese and 14.9% were overweight. By age 14, 20.8% were obese and 17% were overweight. Of those who became obese between the age of 5 and 14, nearly half had been overweight and 75% had been above the 70th-percentile BMI at baseline.

Cunningham, S.A., et al. January 30, 2014. Incidence of childhood obesity in the United States. *New England Journal of Medicine*, 403-411. www.nejm.org/doi/full/10.1056/NEJMoa1309753.

Key to a Hotter Golf Game

The *LA Times* ()March 20) reports that the fires that burned 25 acres at Shady Canyon in Irvine, California, in 2010 and a smaller fire at Arroyo Trabuco Golf Club in Mission Viejo in 2011 were started when golfers' titanium clubs hit rocks while trying to advance balls that had left the fairway. Scientists used high-speed cameras and electron microscopes to investigate and found that when titanium clubs hit rocks, it can create sparks up to 3,000 degrees, and they will burn for more than a second, long enough to catch adjacent dry foliage on fire. No similar effects were observed with the use of steel clubs.

See video at www.telegraph.co.uk/science/science-news/10711546/Titanium-golf-clubs-cause-sparks-and-start-fires.html.

Cardiac Rehabilitation for Heart Failure Now Eligible Under Medicare

Some 6.5 million people live with heart failure, the most common reason Medicare beneficiaries wind up in the hospital. Medicare has long covered cardiac rehabilitation expenses but only for those who suffer a heart attack, even though the benefits of supervised exercise for those with heart failure has been well established. (The seminal study conducted five years ago found that three weekly sessions over 12 weeks were associated with an 11% reduction in death and hospitalization.) Now Medicare has announced that it will now cover cardiac rehabilitation expenses for those with the disease. Only those whose heart efficiency has been compromised to a specified level and for whom drug therapy doesn't work will be eligible. Estimates are that this will include about 50% of all patients.

Wall Street Journal, April 1, 2014.

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Short Shots

Football Not Harmful to Teenage Brains, Says a Researcher

A report given in March at the American Academy of Orthopaedic Surgeons suggested that high school football players do not suffer lasting cognitive effects from playing the game. Retrospective analysis of data on 1,289 teenaged male players revealed that 4% suffered concussions during the data collection period and all had returned to school within 7 days. Gregory Stewart, professor of clinical orthopedics at Tulane Medical School and lead investigator, found that, controlling for age, the more football a boy played the better he performed on digital symbol-substitution texts and reaction-time tests. "The concussive forces may not be quite as bad as we think," he told *Medscape Medical News*. Dr. Robert Cantu, whose work on concussions in athletes has put him at the forefront of those advocating for better helmets and other ways of reducing traumatic brain injuries among football players, questioned the tests used in the study and suggested that that they aren't as sensitive as those employed today. As an example, Cantu points to results using what he describes as a much more accurate test—Immediate Post-Concussion Assessment and Cognitive Testing (ImPACT)—which has shown that players who got hit more often and harder showed warning signs of concussion. He told reporters his group has found "a clear correlation between the length of time an individual has been exposed to head trauma and the chance of developing brain injury." Matthew Matava, professor of surgery at Washington University and president of the Physicians Society of the National Football League, greeted the results with "cautious optimism." KT

Medscape Medical News. March 19. www.medscape.com/viewarticle/822190.

Accounting for Professors' Time

Having adopted a policy that all professors should spend 60 percent of their time teaching, Boise State University tenured and tenure-track faculty were recently asked to report everything they did from 4:00 a.m. on the previous day to the day of the recall interview. While still in its early stage of development, results of the Time Allocation Workload Knowledge Study are attracting attention. Of the 61 hours each week (10 hours per day Monday through Friday and about this much on Saturday and Sunday combined) faculty reported working, 17 percent was spent in meetings, including those with students, and 13% managing e-mail both for research and with students. Only 35% was spent teaching (12% on instruction and 11% on course management), leaving relatively little time (3% of the work week) for primary research and 2% for "scholarly writing." Faculty reported working on campus 36% of the time. Phase 2 of the study will employ a smartphone app that will be used to poll participants at random times to determine their activity. KT

Read more at *Inside Higher Education*: www.insidehighered.com/news/2014/04/09/research-shows-professors-work-long-hours-and-spend-much-day-meetings#ixzz2yaYjMq1Q.

Early Handedness May Be Key to Early Language Development

Psychologists at Florida International University and University of North Carolina at Greensboro have discovered that consistent use of the right hand during infancy was associated with advanced language skills at 24 months. Those who became right-handed or left-handed later in their development had typical language scores for the age group. Although hand preference

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tends to be variable in early years, some children use the same hand from a very young age. The results suggest that such children may have more rapid development of the brain's left hemisphere, which is involved in both right-handedness and language in adults. The research team did not find any association between the timing or direction of handedness and cognitive or motor skill development.

Nelson, E.L., et al. 2014. Early handedness in infancy predicts advanced language in toddlers. *Developmental Psychology*, 50(3), 809-814. See video here.

Continued from page 6

When Kids' Desire to Play Rubs Up Against Community Laws

on the streets of Munsey, something that Hance described as "a bit of a loophole." He points to the nearby elementary school with its ample fields and spaces as other locations where kids can play.

Munsey Park isn't the only municipality to squelch youngsters' desires to play basketball in the vicinity of their homes. After the Greens Farm subdivision in Ypsilanti, Michigan, enacted a law banning street basketball, police confiscated more than four basketball hoops. A neighborhood association leader told reporters, "It dirties up the neighborhood. Some lady walking down the sidewalk shouldn't have to feel afraid because a bunch of kids aren't moving. People have driveways. Park the car in the street, which is a legal thing to do, and play basketball in the driveway."

Going Ypsilanti and Munsey Park one better, the neighborhood association of Miramar at the Country Club in Lakewood Ranch, Florida, recently passed a law banning play of any kind in its streets. Fifteen-year old Nico Cardenas told local TV reporters that he would like to be outside tossing a football, but says he now spends more time playing video games. "They are taking away the fun, to be honest. We just want to go outside and play. I don't know why that's such a crime."

www.economist.com/news/united-states/21596979-local-busybodies-ban-basketball-dangers-dribbling

-SJH

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Seniors, Don't Just Sit There!

to benefit many aspects of health. And, for those seniors who spend the bulk of their waking hours being sedentary, she recommends looking for opportunities to increase light activities.

"When you go shopping, park on the far side of the parking lot. Walk around the store once before you start shopping. When watching TV, walk around the house during commercials. When using a computer, set an alarm for 30 minutes and walk around the house for a few minutes," she urges.

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The Winning Advantage —Who's Got It?

that a winning or losing streak will most likely continue into the next competition. After all, when opponents are otherwise well matched, it stands to reason that the psychological component—an athlete's level of confidence, focus, and mental toughness in the face of unnerving pressure—would be decisive of the outcome.

The problem has been considered from the vantage point of several disciplines, each bringing its own tools and methods to bear on it. But research findings on the effects of psychological momentum from one competition to the next have been inconsistent.

Recently, an international research team led by Walid Briki, a professor of sport and physical education sciences at Southern France Montpellier University working with psychologists in the Netherlands and the US, has addressed the complexity of this problem by applying a dynamical systems approach to the question of how psychological momentum changes during a single sporting event. In this approach, researchers look for patterns of behavior to emerge from a complexity of interacting elements within a system.

In two separate studies, the team identified distinct patterns in responses to psychological momentum that emerge among athletes engaged in competition, and more recently, among sports spectators watching a competition. The respective findings of the two studies were published in the 2013 and 2014 issues of the journal *Psychology of Sport and Exercise.*

The researchers found that among athletes, the perception of negative psychological momentum was triggered much more readily than positive psychological momentum. Among spectators, the inverse was true: a perception of positive psychological momentum was triggered much more readily than negative.

The first study engaged evenly-matched duos of regional-level cyclists to compete against each other in a race. The participants rode stationary cycles and simultaneously watched moving avatars of their performance against their competitors on a screen. The participants were unaware that the race scenarios they watched were fixed to generate perceptions of positive or negative psychological momentum. The cyclists, whose view of one another was blocked by a screen, reported their ongoing perception of positive or negative psychological momentum by pushing one of two buttons on the bikes' handlebars, and their responsive increases and decreases in exertion level were measured throughout the race.

The second study employed a similar setup, but measured the perception of psychological momentum in a crowd of spectators who watched the cycle race.

A clear pattern emerged among the athletes that indicates competitors actually exert greater physical effort in response to negative psychological momentum than to positive, at least at first perception. Positive psychological momentum resulted in "coasting" behavior, or a reduction of effort. Both positive and negative psychological momentum resulted in a slacking of effort over time, with negative momentum resulting in a more rapid decline of effort.

Other emerging research suggests that maintaining confidence and mental focus when the pressure is on may be a function of our nonconscious motives. Psychologists at Friedrich-Alexander University and Ruhr-Universität in Germany maintain that whether an individual thrives or buckles under pressure is determined by an implicit need for achievement (or the lack of same) that originates in childhood experiences. The findings are published in the November 2013 issue of the *Journal of Research in Personality.*

The team examined data from two studies that included a total of more than 150 subjects and found that, when confronted with the same high-pressure task, individuals with a greater nonconscious need to achieve didn't produce as much of the hormone cortisol—the body's response to stress—as did individuals with an implicit low need for achievement.

Applied to athletes in a high-stakes competition, these findings suggest that the underlying motivations of some will be ruled by the perceived potential for failure, where others will tend to see an opportunity to prevail.

"People with a high implicit need for

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The Winning Advantage —Who's Got It?

achievement have learned to see a challenging task as a cue for mastery. Challenging tasks are perceived as potentially rewarding and not as threatening," explains Oliver Wolf, a professor of cognitive psychology at Ruhr-Universität in Bochum, Germany, and co-author of the study. "This mindset could influence appraisal processes during the perception of a challenging and stressful task."

The disparate need for achievement, the researchers suggest, is a function of whether or not individuals successfully mastered age-appropriate goals in childhood and so learned to enjoy challenges.

"Our work illustrates that these stress-buffering effects of the need for achievement go along with a reduced response of the stress hormone cortisol. The need for achievement thus appears to be a resilience factor," adds Wolf.

A recent study by behavioral economists in the Netherlands and Scotland, on the other hand, has found a biological basis for the degree of confidence or overconfidence men in particular experience during a challenging and uncertain task: overconfidence is associated with low levels of prenatal exposure to the male hormone, testosterone, and confidence with high levels of exposure. The team's findings are published in the February 2014 *CenTER Discussion Paper Series.*

The study builds on a growing body of literature that is investigating the long-term outcomes in males of prenatal exposure to either high or low levels of testosterone. In 1998, prenatal testosterone exposure levels were linked to a biological marker in men, the ratio of index finger length to ring finger length (2D:4D). A lower 2D:4D ratio is believed to indicate high levels of prenatal testosterone exposure, and a higher 2D:4D ratio, with low levels of prenatal testosterone exposure. Confidence, the researchers suggest, provides a competitive advantage, while overconfidence undermines the chances of success.

In the study 255 individuals—male and female—were asked after a short practice period to estimate the level of success they were likely to have in performing a challenging puzzle. Success in the challenge was financially rewarded, so subjects had incentive to perform at peak ability. The researchers found that males with a higher 2D:4D ratio (lower prenatal testosterone exposure) were consistently overconfident, and their performance fell shy of their self-predicted success.

"In this context, we find that men with high prenatal testosterone exposure are less likely to have overconfidence bias (to set unachievable goals), which in turn helped them to earn higher experimental earnings."

Prior studies have linked lower 2D:4D ratio in men with better performance in competitive sports. These findings suggest that this isn't necessarily the result of higher prenatal testosterone exposure promoting male fighting and competitiveness.

"In our experimental setting, there is no fighting or tournament involved. The earnings in our experiment depend only on individual absolute performance and on performance relative to the goal a person sets for himself," points out Patricio Dalton, an assistant professor of economics at Tilburg University in the Netherlands and lead author of the study.

Dalton believes athletes who set lower expectations in uncertain situations are likely to improve their performance, because they are able to harness their performance anxiety.

"Believing that I am not better than I actually am, may be a good strategy to avoid the temptation to "coast" or "slack" when I am performing. In other words, considering the possibility of failure may motivate higher e ffort to avoid that possibility, and it is a rational strategy to follow inasmuch it increases performance. In our paper, we show that men with higher prenatal testosterone exposure are more likely to behave in a way that is consistent with this "defensive pessimism" strategy.

So, how did the women fare in terms of confidence levels relative to performance? The 2D:4D ratio did not predict either confidence or overconfidence in women. Overall, the women in the study expressed less confidence than the men in the study. Other studies have shown another difference between how the two sexes frame high-stakes competitions: women are more prone to judge their own competitive performance against personal bests, rather than solely against wins or losses.

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Caution Light Blinking for Marathon Runners?

and be maximized after the first 40-60 minutes, and more prolonged endurance training, such as exercise endurance training in marathon runners and triathletes, improves athletic performance and burns calories, but does not typically promote additional health benefits and as we have pointed out, may cause harm including greater risk of coronary artery disease." Precisely why marathoners present with indications of cardiovascular disease yet sudden cardiac deaths in marathons remain fairly low (.54 per 100,000 participants) has yet to be explained. McCullough and Lavie suggest that the atherosclerosis that forms in marathoners, unlike what forms in sedentary individuals, may in some way "be protected against instability and myocardial infarction."

Full report at Schwartz, R.S. et al. (2014). Increased coronary artery plaque volume among male marathon runners. *Missouri Medicine,* March/April, 85-97 KT

-SJH

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Wii Fit Not So Fit

aerobic exercises did meet the minimum criteria of 3 MET for moderate activity. The Wii Sports games fared a little better: Tennis and baseball averaged 3 METs. The highest MET score came from boxing—just over 4 METs. However, none of the Wii Fit activities or sports would be considered vigorous intensity on the MET scale. Based on research to date, the energy expenditure of any type of activity-based video game still ranks far below the intensity level created by playing the actual sport or performing the physical activity simulated in the game. There is no substitute for the experience you get in the gym or on the court. But Wii Fit does appear to hold some promise for the chronically ill. Researchers from the West German Centre for Diabetes and Health, for example, examined the effects of Wii Fit activity games on the health of type 2 diabetes patients and found that exercising 30 minutes a day with the equipment improved the HbA1c blood sugar levels, weight, and quality of life of type 2 diabetes patients as much as standard medical care for the disease. However, as often is the case with other studies, there was a significant dropout rate from the Wii Fit group over the life of the 12-week study. Seniors also may benefit most from the Wii Fit exercise system. Caroline Ketcham, an assistant professor at Elon University and lead author on a research study presented to the Society for Neuroscience in 2010, tested the balance of seniors after they worked an hour a day with the system's balance-based activities. She found that after only a few sessions, the seniors improved their balance scores significantly and also lowered their "Wii age" (which is primarily based on balance tests) by 8 years. "Older adults would greatly benefit from balance training in their daily routines, and Wii Fit is an affordable and effective too to use in their homes," Ketcham wrote. University of Illinois psychology professor Arthur Kramer has studied the effects of strategic video games on the cognitive skills of senior citizens. While Kramer's research helped participants improve specific skills, there was not a broad transfer to cognitive function in other areas. Kramer said the best proven method for a broad-transfer improvement in all cognitive areas is basic aerobic exercise, such as walking. So while activity-based video games might seem promising at first, long-term use seems unlikely, especially in youth, and long-term health benefits are unlikely to be realized without adding more high-intensity activity to an exercise routine. KT

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Book Review

health or even spiritual reasons. Eventually sporting goods manufacturers and marketers found ways to develop the business side of running, enticing people to purchase running shoes and warm-up suits.

The final chapter examines the 1980s with a particular emphasis on the fitness culture and health clubs. An interesting aspect of this fitness segment involved passive exercise and weight loss initiatives aimed at women—techniques such as massage, the shake-away chair, and the steam cabinet promoted as methods of weight loss and figure control. Individuals like Arnold Schwarzenegger helped promote and legitimize strength training and the muscular body for straight men. The fitness industry grew exponentially during this period, although some of these efforts were neither solid business ventures nor ethical in nature.

In her epilogue, McKenzie points toward the future of fitness, noting that current movement forms such as yoga and Pilates expand fitness offerings but often become targets for the wealthier population and commercialization. Part of her concern is that the fitness culture largely promotes activity in a serious vein (strikingly similar to the American College of Sports Medicine promotion of Exercise Is Medicine), removing an aspect of pleasure or meaning from its benefits.

The book is impressively documented and researched. Scholars in sport studies and American studies will benefit from the extensive notes and bibliography. To make her case, McKenzie draws from a variety of sources: kinesiology periodicals such as *Journal of Health, Physical Education, and Recreation* and *Journal of Sport History;* popular press publications such as *Cosmopolitan* and *Ladies' Home Journal;* the presidential papers of Dwight D. Eisenhower and other papers at the National Archives; and resources reflective of diverse media outlets in terms of race (*Milwaukee Defender* and *Baltimore Afro-American*) and sexuality (*Gay Macho* and *Advocate*). Throughout the book, the author pays close attention to both gender and class differences. As fitness campaigns mounted, for example, most efforts typically targeted the white population, excluding the rest of the citizenry.

Throughout the book, McKenzie sheds light on intriguing aspects of the fitness culture. She explains that during the 1960s physicians were not in unison with respect to recommending exercise and were very unclear about exercise prescription. Those individuals who developed exercise promotion programs for adults were not trained physical educators but rather "well-meaning amateurs and less well-meaning hucksters" (p. 84). Overall the book provides plenty of strengths without room for much quibbling. The chapter focused on the jogging movement serves as a representation of fitness trends in the 1960s and 1970s, but this choice does not leave room for in-depth descriptions of other fitness activities. The author largely focuses on individual fitness activities such as jogging, aerobics, and bodybuilding. Subsequent studies would benefit from examining trends in adult league participation or youth sport leagues. In sum, *Getting Physical* helps delineate the place of fitness culture within American society. The book will inform general readers interested in American culture or physical fitness as well as kinesiology scholars and students hoping for a sociocultural glimpse into the disciplinary past. KT

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