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Eight Countries Come to Consensus on Physical Activity for Children

By Penny McCullagh, PhD, KT Editor

In April 2016, 24 prominent researchers from a variety of disciplines and subdisciplines in kinesiology from 8 countries came together in Denmark. The purpose was to review evidence-based research and come to a consensus on youth fitness, health, cognitive functioning, engagement, motivation, psychological well-being, and social inclusion. In addition, the group suggested some strategies for implementation. They created four thematic areas with specific recommendations in each category. The themes and an example of one of the statements from each category are outlined here.

Fitness and Health

Cardiorespiratory and muscular fitness levels in children and youth are strong predictors of future cardiometabolic disease, such as coronary artery disease and diabetes mellitus.



Cognitive Functioning

Time spent away from academic lessons in favor of physical activity has been shown not to compromise scholastic performance in children and youth.

Engagement, Motivation, Psychological Well-Being

Physical activity-based positive youth development programs that have an

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intentional curriculum and deliberate training are effective at promoting life skills (e.g., interpersonal, self-regulation skills) and core values (e.g., respect and social responsibility) in children and youth.

Social Inclusions and Physical Activity Implementation Strategies

Social inclusion can be promoted by providing equal access to opportunities in physical activity and sport settings regardless of young people's social, cultural, physical, and demographic characteristics.

I was alerted to this article on a friend's Facebook page, and was interested in how the group came together. I learned their ultimate goal was preparing this consensus statement. I contacted the corresponding author, Professor Peter Krustrup, at the University of Copenhagen and learned the following:

What was the impetus for bringing together your team of experts to develop a consensus statement?

We have many years of experience with collaboration among a variety of scientific disciplines. We are running several small- and large-scale RCTs with all disciplines. We also have experience in organizing multidisciplinary congresses, such as the World Congress on Science and Football last year. Thus it is natural for us to gather

international top-level researchers at a consensus conference. We did it due to a desire to improve youth health, well-being, and social inclusion. And we did it now because of a lot of important research has been done in this field over the last 5 years.

What are your hopes about how this statement will be used and by whom?

We hope that the consensus statements and the 25 recommendations can contribute to successful implementation of physical activity in schools and sport club settings around the globe. The 25 recommendations include best-practice examples of testing procedures, training concepts, and development programs that are evidence-based and ready to be used for large-scale implementation. We believe that the consensus statement will provide public health policymakers around the globe with up-to-date evidence on the importance of physical activity for children and youth and what can be done to create adherence to a physically active and healthier lifestyle.

What were some of the challenges in bringing together these experts and reaching a consensus?

There are a lot of logistical challenges

related to such an event, gathering busy scientists from all over the world for a three-day consensus conference. However, the congress itself was a very positive experience. A lot of presentations, fruitful discussions, and hard work to reach consensus statements and recommendations that we could agree on. The collaboration regarding the write-up of the consensus statement article and the consensus statement brochure has also been excellent.

Any other thoughts you would like to share?

We are happy to organize a similar conference three, four, five years from now!

It will be interesting to follow this up in say four or five years and see the impact of the consensus statement.

Bangsbo, J., Krustrup, P., Duda, J., et al. (2016). The Copenhagen Consensus Conference 2016: Children, Youth, and Physical Activity in Schools and During Leisure Time. *British Journal of Sports Medicine*. doi: 10.1136/bjsport-2016-096325.

Read more in *BJSM* and also in our Consensus Conference Brochure: Bangsbo et al. 2016, Krustrup et al. 2016, Larsen et al. 2016, Ørntoft et al. 2016, Fuller et al. 2016.

PRESIDENT'S COLUMN

AKA Leadership is Working to Build the Future of AKA

By Mary Rudisill, AKA President



Mary Rudisill

The American Kinesiology Association has been working to serve its membership this year. We are proud of what we have accomplished.

Recognizing Leaders in Kinesiology. This year we continued to

recognize outstanding student leaders in our field by awarding institutional and national scholars at the bachelor's, master's, and doctoral levels. This year the association also created an AKA Distinguished Leadership award and recognized three leaders in our field representing bachelor's-, master's-, and doctoral-granting institutions. AKA is proud to recognize leaders in our field who are advancing their own programs as well as our academic discipline.

CIP Changes to NCES. AKA and the National Academy of Kinesiology proposed recommendations for revisions to the CIP codes related to the field of kinesiology. These recommendations were formally

endorsed by the National Association of Kinesiology in Higher Education (NAKHE) and the associated professional organizations of the National Athletic Trainers' Association (NATA) and the North American Society for Sport Management (NASSM). These proposed changes have been submitted to the National Center for Education Statistics (NCES) technical review panels who will be studying potential changes to the CIP codes for 2020. The recommendation included seven potential revisions of CIP-2010 to more accurately describe the academic discipline of kinesiology and its related professions. In the proposal there were no recommendations to change the descriptions of CIP-2010, but it was recommended to change titles and the cross-references to kinesiology-related CIP codes. Three name changes of CIP codes at the two-, four-, and six-digit level were recommended as well as four suggested changes in cross-referencing to indicate similar academic programmatic CIP codes. Keeping the current overall CIP structure will allow kinesiology departments that are housed in most all academic colleges in universities to retain their current

CIP codes yet facilitate the recognition and collaboration within this area of the academic study of human movement. If you would like to learn more about the proposed changes, please visit the AKA website to see the CIP proposal.

Fall 2016 AKA Survey on Diversity and Inclusion. During the fall of 2017 AKA will be conducting its annual survey. This survey will focus on quantifying diversity and inclusion in our own discipline. Our goal is to use these data to better inform practice and intervention and to develop and promote diversity and inclusion in the leadership of kinesiology. We hope that you participate in this critical survey.

Resources for Our Members. We encourage our members to take advantage of all our resources. Check out our website to learn more (go to www.americkinesiology.org). This year we have continued to update our website. We have added scholarly papers, the new AKA salary survey, diversity and inclusion updates and information, upcoming events related to kinesiology and affiliates, and much more.

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Learn more about *Kinesiology Today*, an exciting e-publication with news, editorials, and stories related to our field, as well as Kinesiology Review, a scholarly journal for professionals in our field. While visiting the website, take time to see this year's AKA award winners. AKA also offers educational webinars throughout the year. Members can participate in these webinars free of charge and can view these webinars on our website.

From Pro Baseball to a 100-Miler

The Western States 100 is a prestigious long-distance race that starts in Squaw Valley, California, and climbs from 6,000 feet to 15,540 feet before descending 22,970 feet into Auburn. Racers must complete the trail (old gold miners' trail) in less than 24 hours to win an award. The first race was in 1955, and the goal was to see if horses could finish the trail in 24 hours. Then in 1974 Gordy Ainsleigh decided to see if he could run the trail; he did so in 23 hours 42 minutes. Since that time the race has grown and an extensive lottery system with qualifying times is now

2017 AKA Workshop Planning. AKA is planning an exciting program for our upcoming 2017 AKA Leadership Workshop. The theme of the workshop is Advantages and Challenges of Partnerships and Relationships. The planning committee is working on ensuring that all attending, whether from a two-year, bachelors, master's, or doctoral granting institution, will find the topics and discussions applicable. There will be two preworkshops; one focuses on the future of athletic training education with Russ

Richardson, chair of the NATA's Executive Committee for Education. The other workshop focuses on leadership training and professional development for kinesiology students. Please join us January 26 to 29, 2017, in Dallas, Texas, for this workshop and opportunity to learn about successful leadership strategies from colleagues.

AKA is proud to serve as a resource for kinesiology leaders and our field. Let's all work together and bring about positive change and advance our academic discipline.

in place for those who desire one of the 350 or so slots available. (Check out the website for details.)

Eric Byrnes was a professional baseball player for 11 years before retiring in 2010. In June 2016 he ran 100 miles in the Western States 100. This is not his first ultramarathon. He has been participating in long-distance races and triathlons for a few years. It has been suggested that he may be the only athlete who has moved from a professional team sport to ultrarunning.

Byrnes was interviewed by James Raia for runningcompetitor.com, who asked him, "What was your first competitive experience like in endurance sports?" Byrnes answered, "I got into it on a dare from three junior high

school friends. They were going down to do the Pacific Grove's sprint triathlon. Basically, they dared me to show up and do it. I showed up with my surfing wetsuit, my beach cruiser, and board shorts. I went out there and completely got my ass kicked by 14-year-old girls. That was a big eye-opener."

He has come a long way. He finished the race this year in 22 hours 50 minutes 5 seconds, placing 73rd.

Western States 100-mile endurance run. (N.d.). www.wser.org.

Raia, J. (June 22, 2016). Q&A: Ex-MLB Star Eric Byrnes to take on Western States 100. http://runningcompetitor.com/2016/06/trail-running/career-change-eric-byrnes-goes-from-pro-baseball-to-competitive-ultrarunning_152217.

Don't Burn Those Bras: Breasts May Influence Female Participation in Sport

A recent study noted that girls' participation in physical activity is known to be lower than boys' participation. Of course, there are many ideas about why this might occur, especially at puberty. In 2015 some initial research by Burnett and colleagues suggested that, for females, breasts were the fourth-greatest barrier to physical activity participation but found educating females about breast health may reduce these barriers.

Scurr and colleagues wanted to follow up on this initial research noting that independent movement of the breasts during exercise may lead to sagging and embarrassment and may even change the function of movement. They also note that girls may not like the idea of changing into a sports bra and may not know about how to get properly fitted. Their goal was to learn more about the influence of breasts on adolescent girls in the United Kingdom.

To find out more about the topic, the researchers conducted focus groups. Based on the data, they developed a six-part survey that was administered to 2089 girls in the

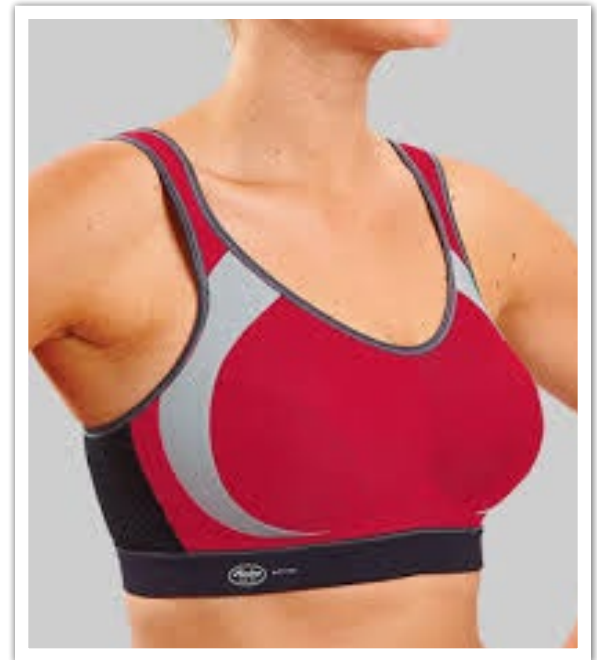
UK aged 11 to 18 years. Of these girls, 46% reported that breast size influenced their participation, and this increased to 63% for large-breasted girls. Of the population, 73% reported a least one breast-specific concern in relation to physical activity participation. Also 87% wanted to know more about breast development and more about the proper use of sports bras. Only 10% reported that they always wore a sports bra.

This new line of investigation suggests that females may need more education to help them figure out how to be comfortable in their skin and attire while playing sport and exercising.

-PMc

Burnett, E., White, J., & Scurr, J. (2015). The influence of the breast on physical activity participation in females. *Physical Activity and Health*, 12, 588-594.

Scurr, J., Brown, N., Smith, J., Brasher, A., Risius, D., & Marczyk, A., (2016). The influence of the breast on sport and exercise participation in school girls in the United Kingdom. *Journal of Adolescent Health*, 58(2), 167-173. doi: <http://dx.doi.org/10.1016/j.jadohealth.2015.10.005>.



Are Standing Desks Living Up to the Hype?

By Amy Rose, KT Staff Writer

Standing desks have been a popular trend over the last decade for sedentary workers trying to ward off the ill effects of sitting throughout the day. Physical inactivity for long periods is widely proven to increase the risks of heart disease, obesity, and overall mortality. But recently studies have been looking at the actual energy expenditure of merely standing at a desk compared to other possibly more effective interventions to get people out of their seats.

A 2015 study by Creasy, Rogers, Byard, Kowalsky, and Jakicic at the Physical Activity and Weight Management Research Center at the University of Pittsburgh found very little change in energy expenditure between sitting and standing. The study found that participants burned only an extra 8 or 9 calories an hour by standing rather than sitting. The highest expenditure occurred during the transition from the sitting to standing positions. Participants were specifically told not to move around once they were standing. "It seems people may have oversold the benefits of standing desks," said lab director John Jakicic. "Standing desks are not going to solve the world's obesity problem."

Another group of researchers at the University of Essex Centre for Sports and Exercise Science (Carter, Jones, & Gladwell, 2015) found that short bouts of calisthenic exercise (including squats and lunges) had the greatest increase in energy expenditure and heart rate response compared to standing and walking. Calisthenics also produced a higher energy expenditure and elevation of heart rate during the recovery time compared to the other two activities. "Calisthenics may be a time efficient method to break up sedentary time without individuals leaving their work environment," the University of Essex study said.

Standing may be a good start, but how do we get people to take the next step and start moving? Based on their study, the University of Pittsburgh group is beginning new studies on interventions that may have a larger effect on workers' health and energy expenditure during the work day. Renee Rogers has begun a second study at the Physical Activity and Weight Management Research Center, which involves text and e-mail reminders with instruction to do specific movements during the day. "If we get people to do small bouts



of movement, then hopefully we can get them to do longer bursts of movement eventually," Rogers said. The reminders are also educational; many have instructional videos and healthy reminders to ensure participants do the exercises correctly. However, standing-desk users take heart: There are definite benefits for those who use

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the desk for reasons other than weight loss and burning calories. Long-term standing-desk users seem to be generally happy with their use of the desk alternative. Josh Stone has used a standing desk almost exclusively since 2008. "I sit only during meetings, and rarely will I sit at my desk," said Stone. At one time, Stone worked for a workers' compensation business in California. A service of that business was offering ergonomic assessments and interventions for individuals who had work-related musculoskeletal disorders. Stone said, "Many times a standing desk was a solution for those suffering from carpal tunnel syndrome, chronic head or neck pain, and low back pain." Other standing-desk users have reported

improvement in their posture, better blood circulation, and increased alertness during the day. Doug Fink has used his standing desk for six to seven hours a day for a year and a half. "Once you get used to thinking on your feet, a standing desk can help you concentrate and fight through the tiredness and slumping that sitting causes throughout the day," he said. Others choose to use the desk for only a few hours a day but still report benefits. Assistant marketing director Sue Outlaw attempts to use her standing desk about half of her working day. Outlaw says, "The standing desk allows for better posture, better ergonomics, stretching, and stronger back and legs. I'm more inclined to take a

short walk if I'm already standing!"

While standing desks may not be the ultimate cure for the ailments of sedentary workers, it is definitely a step in the right direction and a beginning point for researchers to examine more ways to get us on our feet and moving toward better health.

Creasy, S.A., Rogers, R.J., Byard, T.D., Kowalsky, R.J., & Jakicic, J.M. (2016) Energy expenditure during acute periods of sitting, standing, and walking. *Journal of Physical Activity and Health*, 13(6), 573-8. doi: 10.1123/jpah.2015-0419.

Carter, S.E., Jones, M., & Gladwell, V.F. (2015) Energy expenditure and heart rate response to breaking up sedentary time with three different physical activity interventions. *Nutrition, Metabolism and Cardiovascular Diseases*, 25(5), 503-9. doi: 10.1016/j.numecd.2015.02.006.

If You Want to Remember Things, Get Away From Your Desk and Start Moving

In a recent report in *Current Biology*, researchers conducted a study on 72 participants to determine the effect of exercising on memory. Participants performed high-intensity cycling for 35 min-

utes either immediately after a memory task or 4 hours after the memory task, or they did no exercise at all. The increase in memory for those who exercised 4 hours after the memory task was about 10 percent higher than it was in the other groups. The researchers suggest that exercise might be appropriately used in educational and clinical settings.

Van Dongen, E.V., Kersten, I.H.P., Wagner, I.C., Morris, R.G.M., & Fernandez, G. (June 2016). Physical exercise performed four hours after learning improves memory retention and increases hippocampal pattern similarity during retrieval. *Current Biology*. doi: <http://dx.doi.org/10.1016/j.cub.2016.04.071>

Exercise Shown to Reduce Risk in 13 Cancers

By Patrick Wade, KT Staff Writer

In a survey of 1.44 million people, researchers at the National Cancer Institute have found that leisure-time physical activity lowers the risk of cancer by 20 percent or more.

The researchers looked at data pooled from U.S. and European surveys and found that participants who exercised the most during their free time (those in the 90th percentile) lowered their risk in 13 of the 26 types of cancer studied compared to those in the 10th percentile. That is according to their study, “Association of Leisure-Time Physical Activity With Risk of 26 Types of Cancer in 1.44 Million Adults,” published in the May issue of the *Journal of the American Medical Association*.

And particularly interesting, said lead author Dr. Steven Moore in an interview with *Kinesiology Today*, is that the more the survey participants exercised, the lower their risk for cancer became. Those who exercised at two to three times the minimum recommended levels had lower risk than those who completed only the minimum recommendations.

“Although some risk factors for cancer, such as heritable genetic mutations, are difficult if not impossible to control, others involve lifestyle factors that people may be able to

change in order to reduce their chance of developing cancer,” Moore said. “Physical activity during leisure time is known to reduce risks of heart disease and all-cause mortality as well as risk of colon, breast, and endometrial cancers. However, less was known about whether physical activity reduces risk of other cancers.”

Exercise was shown to reduce the survey participants’ risk of esophageal cancer by 42 percent, by 27 percent in liver cancer, and by 26 percent in lung cancer. The data also showed risk reduction of 10 to 23 percent for kidney, stomach, endometrial, colon, head and neck, rectal, bladder, and breast cancers as well as myeloid leukemia and myeloma.

Furthermore, the associations between reduced cancer risk and physical activity remained even after the researchers adjusted for body mass index. Obesity is a known risk factor for cancer, but even the heavier survey participants were less likely to develop cancer if they were more active. The same was true for smokers.



Increased physical activity actually increased the risk of melanoma in the survey, probably because most people exercised outside, the researchers say. That finding is a good promotion for sunscreen.

There also was a weak association between physical activity and a higher risk for prostate cancer in men, but Moore said there is no known biological rationale to explain the phenomenon. He suggested it may be linked to screening.

“Men who are physically active are more likely to be screened for prostate cancer and therefore more likely to be diagnosed

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with indolent prostate cancer,” Moore said.

Three more cancers were borderline statistically significant, Moore said, but the researchers aren’t sure why physical activity was not associated with lower risks in the other cancers they studied.

“We do not know why they had no associations,” Moore said. “The cancers in this group are quite biologically distinct, and there does not seem to be a single underlying etiology.”

Moore said there may be three metabolic factors at play between physical activity and its association with a reduced risk for those 13 cancers: Activity can affect sex steroids (estrogens and androgens), insulin and insulin-like growth factors and proteins involved with both insulin metabolism and inflammation (adipokines). Researchers are looking for more information on those links.

The biggest takeaway, Moore said, is that the study confirms that physical activity is a key component of cancer prevention and control and that it even has cancer risk reduction benefits in people who are overweight or who have a history of smoking.

“Our study points to physical activity as a part of a healthy lifestyle and prevention of several cancer types,” Moore said.

Moore, S.C., Lee, I., Weiderpass, E., & Campbell, P.T., et al. (2016). Association of leisure-time physical activity with risk of 26 types of cancer in 1.44 million adults. *JAMA Internal Medicine*, 176(6), 816. doi: 10.1001/jamainternmed.2016.1548.

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Status of Women in Coaching: Is There Bias?

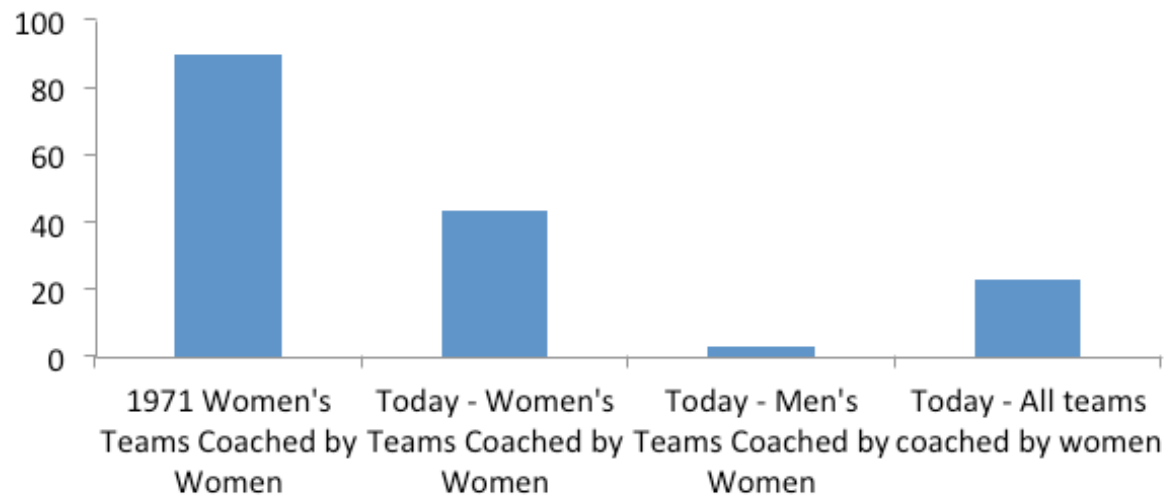
In June 2016, the Women's Sports Foundation (WSF) released a study titled "Beyond X's and O's: Gender Bias and Coaches of Women's College Sports." Deborah Larkin, CEO of the foundation started by Billie Jean King, notes that despite the growth in women's sport post-Title IX, there has not been a growth in number of female coaches. The status of female intercollegiate coaches is shown in this graph:

The research commissioned by WSF was conducted by Don Sabo (Director of the Center for Research on Physical Activity, Sport and Health of D'Youville College), Philip Veliz (Institute for Research on Women and Gender of University of Michigan), and Ellen Staurowsky (department of sport management at Drexel University). Finally, Donna Lopiano, CEO of Sports Manage-

ment Resources, provided a detailed set of policy recommendations. The research addressed five issues:

- Document the experiences and views of coaches of women's sports.
- Assess employment issues.
- Educate about the barriers that female coaches face.
- Provide data for a better understanding of the issues.
- Help foster nondiscriminatory work environments.

Status of Women Intercollegiate Coaches



Current coaches ($N = 2,219$), of which 77.5 percent were full-time, and former coaches ($N = 326$), of which 57.1 percent were full-time, completed online surveys. The report has extensive demographic data on the coaches including salaries, race, age, years of experience, sexual orientation, and income. Readers are referred to the report, which provides information in easily readable graphs.

The next part of the survey addressed issues related to gender equity and Title IX. Only about half of the coaches surveyed perceived that men's and women's

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sports received equitable resources on their campus. When asked if they felt that male and female coaches were managed similarly on their campus they reported a distinct difference between male and female coaches. Only 5 percent of male coaches in contrast to 31 percent of female coaches thought men were favored over women. When asked how they felt about raising issues related to Title IX, 31 percent of female coaches thought they would risk their jobs compared to 20 percent of male coaches. In terms of race issues, the numbers are more welcoming since 77 percent of the females and 86 percent of the males felt comfortable bringing forward issues of race and ethnic discrimination. When asked about sexual orientation, 36 percent of females and 24 percent of males were not comfortable addressing these issues outside their departments. Although no questions on the survey directly addressed reverse discrimination (i.e., males were disadvantaged), a host of males in the open-ended responses thought they were often overlooked for jobs in favor of females who had less experience.

A set of survey questions addressed issues related to professional advantage. Of the total negotiated salary increases, 54

percent believed it was easier for men to be promoted. However, when they examined this issue more closely, they found that 80 percent of the women and only 33 percent of men thought men were advantaged in terms of getting top-level jobs. These findings were consistent with several other questions related to gender advantage.

Other sections of the report addressed professional concerns of coaches, issues related to involvement in the workplace, and job security. Readers are asked to review the extensive report to get further details on these issues.

In their conclusion, the authors suggested the following in addition to many others:

- Gender bias is a common feature of the athletic and campus workplace and almost one-third of female coaches are afraid to raise Title IX concerns on their campuses.
- Workplace experiences for women often differ from those of their male counterparts.
- More females than males identified discriminatory practices.
- Coaches are more willing to bring up Title IX issues with their department than with campus administrators.

The report ended with a detailed section on **evidence-based policy recommendations**. This section had 13 recommendations in the following categories:

- Compensation
- Hiring and promotion practices
- Fair (nondiscriminatory) treatment
- Title IX equity requirements
- Sexual orientation and gender identity issues
- Involvement in the workplace
- Governance

The recommendations are detailed and prescriptive. If an athletic program is interested in doing some strategic planning and would like some documentation to help mold their plan, they may want to take advantage of this detailed report.

-PMc

Beyond X's and O's: Gender bias and coaches of women's college sports. 2016. www.womenssportsfoundation.org/home/research/beyond-xs-and-os/beyond-xs-and-os-report.

2016 AKA Jerry R. Thomas Distinguished Leadership Award Winners

After discussion about the importance of AKA in helping individuals further their leadership skills, and on a recommendation from the Executive Committee, Duane Knudson, past president, took the lead to help create the AKA Leadership Awards. The goal was to recognize outstanding administrative and leadership performance in administrative units at member institutions, and Duane is pleased to announce the 2016 Leadership Award winners at each level of institutional membership:

Bachelor's Degree Granting Department Award

Kent Adams,
California State University Monterey Bay

Master's Degree Granting Department Award

Dr. Mi-Sook Kim,
San Francisco State University

Doctoral Degree Granting Department Award

Dr. Karl M. Newell,
University of Georgia



Kent Adams

leadership has been instrumental in creating the first degree programs, hiring and mentoring faculty and students, acquiring facilities, and creating a respected department with the third-largest enrollment on campus. Dr. Adams leads by example through outstanding teaching and research productivity in strength and conditioning. Students, faculty, and external partners are drawn to his inspirational leadership.

Dr. Kent Adams is the recipient of the 2016 AKA Distinguished Leadership Award for undergraduate-level institutions. Dr. Adams has led the kinesiology department at California State University at Monterey Bay since 2010. His



Mi-Sook Kim

of Graduate Studies at San Francisco State University. Under her leadership the department has dealt with extraordinary demand and program impact. She led the top curriculum revision proposal in a university-wide curriculum revision funded by the Teagle Foundation. Dr. Kim's contributions to the department are extensive in each of the six leadership criteria for the award. Most noteworthy contributions include a university-wide Causeway Initiative through a Keck Foundation Grant to improve progress in pre-health professions majors, new and expanded research facilities, numerous program efficiencies, and improved collaboration within the department, with external partners and other CSU kinesiol-

Dr. Mi-Sook Kim is the recipient of the 2016 AKA Distinguished Leadership Award for masters-level institutions. Dr. Kim has led the department of kinesiology since 2012 and is the newly appointed associate dean of the Division

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Karl M. Newell

ogy departments.

Dr. Karl M. Newell is the recipient of the 2016 AKA Distinguished Leadership Award for doctoral-level institutions. Dr. Newell has led two kinesiology departments to top rankings of doctoral programs

in the field. He has built a culture of collaboration and transdisciplinary research that have advanced these departments and the field. He is president of the National Academy of Kinesiology and associate dean of research in the College of Education at the University of Georgia. Dr. Newell has made substantial contributions to the field of kinesiology through extensive and influential publications in motor behavior as well the development of the modern mission and scope of kinesiology.

Thomas Honored with Naming of Leadership Award



Jerry R. Thomas

Jerry R. Thomas

Naming the AKA Distinguished Leadership Award in honor of Jerry R. Thomas is well-deserved considering his outstanding contributions to AKA as its inaugural President and more broadly to the field of kinesiology. He has held leadership positions as the department chair at three universities (Louisiana State University, Arizona State University, and Iowa State University) and the Dean of Education at the University of North

Texas. Naming this award in recognition of his contributions throughout his career serves not only as an honor for Jerry but also enhances the significance of the award. He is a recognized leader and researcher, and is well-known across the United States and throughout the world. He is the author of more than 200 research and professional publications, books and book chapters, including the best-selling graduate textbook, *Research Methods in Physical Activity*, which is in its fifth edition and has been translated into six languages. His research on motor development examines cognitive factors, expertise and gender differences in children's motor skills.

Technology

Reducing the Drag

A recent article in *Women's Running* describes efforts by Nike to enhance the aerodynamics of track and field athletes. If you look carefully at the red, white, and blue stripes on the athlete uniforms, you will also see some small spikes, called Nike Aeroblades. The idea of these is based on Newton's third law: for every reaction there is an equal and opposite reaction. The primary idea is that these little spikes will reduce drag. They will be placed on the uniforms as well as on the bodies, so watch for them. Nike has attempted to produce technology in previous Olympics to help performance, but they suggest that testing on the Aeroblades is better. Watch for the results in Rio.



Team USA Using Technology

A report from May 26, 2016, reveals some of the technology being used by the U.S. team for the upcoming Rio Olympics. This information was shared at the first Olympic Media Day held at the Olympic Training Center in Colorado Springs. Lots of wearable technology seems to be the norm for many teams. For example, the U.S. boxing team is wearing technology that tracks the number and speed of punches, and the feedback is used for training purposes. Olympic marathoners are wearing patches to measure sweat and are even ingesting small pills that will record body core temperature. The hope is that this technology will provide advantages for the Olympic competitors.

Mastrangelo, A. (May 26, 2016). Team USA using cutting-edge technology to train for Rio. <http://woodtv.com/2016/05/26/team-usa-using-cutting-edge-technology-to-train-for-rio>.

It's All in the Name!

Javelin is Canada's leading provider of Solidworks mechanical and electrical design software and Stratasys 3-D printers for Canadian designers and manufacturers. This is not a company that readily identified with the sport of javelin throwing until they decided to provide support for Canadian javelin thrower Liz Gleadle. Gleadle was a kinesiology major at University of British Columbia and placed 12th at the London Olympics in 2012. At the 2015 Pan Am Games in Toronto she made a last throw of 62.83 meters to win the gold. It was that moving performance that caught the attention of Canadians and the interest of Javelin Technologies managing director John Carlan. According to a statement on the company's website, "At first, it was just the 'javelin' connection that made me curious," Carlan says. "When we dug a little deeper, we found that our values really matched up—be the best that you can be, rely on training and technique, dare to be different. Once we talked to Liz, and found her to

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be a genuinely terrific person, the deal was done. We had to throw our support behind her.” Javelin’s brand is Aim High, and that brand will be used to connect the company with Liz.

Gleadle says the parallels between achievement in business and in sport are clear. Success is not achieved alone, even in what appears to be a solo sport. “While the athlete is the one in the spotlight, it takes an entire team to get her there.” She will work with design experts to create an insert for her equipment case and some physiotherapy applications for muscle tension. The company also has simulation experts who will study the mechanics of her throw. Good luck, Liz.

Read more at http://womensrunning.competitor.com/2016/07/race-pace-jess/a-look-at-the-technology-behind-the-track-olympic-uniforms_61804#xaWWpscSbWDgBJQW.99

Aussies’ Green and Gold Have Hidden Helpers

The Australian Olympic team worked with adidas and a technology called Climachill to help counteract the negative impact of heat and humidity when the athletes get to Rio. These garments help reduce the athlete’s body temperature. The company has had this technology for a while but through testing is attempting to enhance

its effectiveness. The uniforms will have 3-D cooling spheres on the neck and back. There will also be new footwear that boosts efficiency and will be worn in six sports. You can own some of this high-tech gear available on the adidas website.

adidas unveils Rio 2016 Australian Olympic uniforms. (April 19, 2016). <http://rio2016.olympics.com.au/news/adidas-unveils-rio-2016-australian-olympic-uniforms>.



Reuters/David Gray

Pregnant Moms Working Out: Does It Lead to Exercising Offspring?

A recent study published in *FASEB Journal* (Eclarinal et al.) suggests that exercising during pregnancy causes metabolic changes in offspring that may lead to higher exercise rates in later life. Although the study was done with mice, it might have some implications for humans. Previous research in humans demonstrates that activity seems to run in the family: parents who are active and model this behavior tend to have children who are involved in physical activity. While the findings can be interpreted through various psychosocial theories, there is also the desire to demonstrate whether there are biological underpinnings to these findings. Of course in our “gene a day” mentality, some suggest we may have a gene that predisposes us to exercise.

To help test this notion, the researchers took a sample of female mice and allowed them to exercise on a treadmill. Mice like to run, and they do a lot of it if given the chance. After a week of this routine they were paired with males and then they became pregnant. During pregnancy half the mice were in cages with an unlocked door to a running wheel and half were in cages with locked doors to the running wheels

(they could still see the wheels). After the babies were big enough, they were moved to their own cages (but were not allowed to see their mothers and their mothers’ running behavior). Since I study observational learning, this was an important experimental procedure to consider. During childhood, the mice in the two groups did not display much difference in their exercise. However, as they moved into adolescence, the mice with active moms also became more active and also had more weight loss. Gretchen Reynolds in a *New York Times* article suggested, “In essence, baby mice with active moms had literally been born to run.”

Well, I believe this last statement to be true from a case study of one: myself. I got pregnant in 1978. At the time I was a distance runner (ran lots of 10Ks and a couple half marathons and even did the Avenue of the Giants Marathon in May 1978 when I was just a few weeks pregnant). I also swam about 5 days a week in a masters swim program under coach Dave Scott so was easily putting in a couple thousand yards a day. I continued to run until my last Turkey Trot road race in November and swam until the day before my daughter Makaila was born in January 1979.



When I became pregnant I was a Kaiser patient and I asked the receptionist at the desk which of the OB doctors exercised. She told me about one who ran every day, so I chose him as my physician. At that time I was a faculty member at UC Davis where I was surrounded by researchers, but not a lot was known about exercise and pregnancy. However, I decided on my own that exercise would be good for my baby. During my pregnancy one of the exercise physiologists, Rudy Dressendorfer, wanted to do a study on fetal heart rate response to exercise. I agreed to participate. I am not sure how tight informed consent was at that time, and in the 1970s it was rarely reported in research write-ups. (I recently became

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interested in this topic, and you will see an upcoming article on it.) I agreed to have my baby's heart rate monitored while I exercised on an incumbent bike. I recall that the sound of our heartbeats came through the speaker so everyone in the lab could hear them. The findings indicated that mother's heart rates increased to 80 percent of max but fetal heart rates increased by fewer than 10 beats per

minute. Since this early study there is now considerable research available on exercise and pregnancy. So read on, women, and interact with your health care professionals to let them know the importance of physical activity in your life. I am now a grandmother, and my daughter continued to exercise throughout her pregnancy, so we will see if the pattern continues. -PMc

The Olympics May Not Be All Roses

According to the International Olympic Committee: "OLYMPISM IS A PHILOSOPHY OF LIFE, EXALTING AND COMBINING IN A BALANCED WHOLE THE QUALITIES OF BODY, WILL AND MIND. BLENDING SPORT WITH CULTURE AND EDUCATION, OLYMPISM SEEKS TO CREATE A WAY OF LIFE BASED ON THE JOY FOUND IN EFFORT, THE EDUCATIONAL VALUE OF GOOD EXAMPLE AND RESPECT FOR UNIVERSAL FUNDAMENTAL ETHICAL PRINCIPLES."

However, the Olympic ideal does not always lead to positive outcomes. Some argue that the games are all about the athletes and sport but if you follow activist writers such as David Zirin – you will be lead to follow a different path. In his recent article published on August 1, as the Opening Ceremonies in Rio were on the horizon you will find a story about many Brazilians

who wish the games had never come to their country. His ideas are chronicled in his book *Brazil's Dance With the Devil*.

In recent months we have heard stories of disease, filthy waters, and possible attacks on Olympic sites. When Brazil won the bid to host, the country was in a different economic state than today. Since that time oil prices fell dramatically, the President of Brazil was impeached and two Brazilian skydivers fell to their death while attempting to form the Olympic rings. Amid these events, over 75,000 citizens have been displaced from their homes to make way for the games. The tragic stories go on. So while we sit and watch our favorite athletes and teams strive for the gold, we should also think of and follow the trail the Olympics will leave in Rio. - PMc

<https://www.olympic.org/the-ioc/promote-olympism>

Zirin, D. (2016). The Last Dance: On Heading to Olympic Rio. *The Nation*. August 1. <https://www.thenation.com/article/the-last-dance-on-heading-to-olympic-rio/>

Dressendorfer, R.H. (1980). Fetal heart rate response to maternal exercise. *Physician and Sports Medicine*, 8, 91-94.

Eclarinal, J.D., Zhu, S., Baker, M.S., Piyarathna, D.B., Coarfa, C., Fiorotto, M.L. Waterland, R.A. (2016). Maternal exercise during pregnancy promotes physical activity in adult offspring. *FASEB Journal*, 30(7), 2541-2548. doi: 10.1096/fj.201500018R.

It Is Tough to be a Female Athlete?

Claire Landsbaum analyzes media reports and finds that many female athletes do not receive full credit for their accomplishments. For example when Hosszu won a gold and broke the world record in the 400 IM in swimming, the media gave credit to her husband sitting in the stands. When Cogdell-Unrein wins a bronze in trap shooting the media focuses on her husband's training schedule with the Bears. Then when the US Women were overwhelming successful in gymnastics, a commentator remarked that the laughing girls looked like they were visiting at a mall. - PMc

Landsbaum, C. (2016). The Media's Olympics Coverage Reminds Us Just How Taxing It IS to be A Female Athlete. *Everyday Sexism*, August 8, 2016, 1:26 pm. http://nymag.com/thecut/2016/08/female-athletes-at-the-olympics-face-sexism.html?mid=facebook_theclublog

Pilot Study Suggests Exercise May Help Cognitive Impairment in MS

By Patrick Wade, KT Staff Writer

Researchers say a small study indicates that an exercise regimen may benefit multiple sclerosis patients who have cognitive impairment as a result of the disease. Dr. Brian Sandroff said in an interview *with Kinesiology Today* that he and other researchers at the Kessler Foundation and the University of Illinois at Urbana-Champaign have long suspected that exercise may ease cognitive impairment in multiple sclerosis patients, but there is not yet sufficient data to prove it.

His 12-week, 10-patient survey suggests that physical activity is an effective treatment for cognitive impairment in MS patients, and he said his team intends to pursue research that they hope can help people who have cognitive symptoms related to the disease. The team intends to publish their data this summer.

According to the National Multiple Sclerosis Society, MS remains a seldom-understood disease that affects the central nervous system and may be triggered by an environmental factor that affects people who are genetically predisposed to the disease. It can subject those who have the disease to various symptoms,

including blurred vision, loss of balance, slurred speech, paralysis, and problems with memory and concentration. It is estimated that more than 2.3 million people worldwide have the disease.

"In people's MS, cognitive impairment is very prevalent and very impairing," Sandroff said. It's also poorly managed, he added. About half of all MS patients will have some difficulty with the thinking and reasoning processes, according to the National Multiple Sclerosis Society. And, to this point, the only treatment has been cognitive rehabilitation. The National Multiple Sclerosis Society suggests cognitively impaired patients use memory aids like checklists, repetition, and word associations.

Sandroff believes there may be a better way. For years, his team has been studying a wealth of information that suggests routine physical activity has cognitive benefits in various populations. "In older adults, exercise has cognitive benefits," he said. "Why not MS?"

To test the theory, the team recruited 10 female MS patients. Five were put on a 12-week progressive exercise regimen while the other 5 were placed on a wait

list to receive the regimen after the initial study. The exercise group started with low-intensity bouts of walking for 15 to 20 minutes three days per week. By the end of the 12 weeks, they progressed to 30 to 40 minutes of more vigorous walking sessions. The workouts were very consistent with American College of Sports Medicine recommendations, Sandroff said. During the course of the study, researchers examined the patients' cognitive processing speed and executive function.

The exercise regimen has large effects on cognitive speed and cardiorespiratory fitness, and the two factors seem to be associated with each other, Sandroff said. That is, those patients who demonstrated the most pronounced change in physical fitness also had the most significant changes in cognitive speed. Sandroff still warns that the work was a small study, and more research is required before his team can claim statistically significant results. But they are nonetheless excited.

"This is just an exciting little pilot study that demonstrates what we think might work can work," he said. The research team plans to launch a larger study with

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more patients. Until then, Sandroff believes that physical activity might deserve some more attention as an effective treatment for MS patients with cognitive impairment. “We’re not quite there yet, but we’re on the way,” he said.

Ault, A. (2016, June 8). Treadmill walking improves cognition in MS. www.medscape.com/viewarticle/864528.

Multiple Sclerosis FAQs. (n.d.). www.nationalmssociety.org/What-is-MS/MS-FAQ-s.

Pop Warner Football and US Soccer Heading the Research

Over the last decade there has been a host of research examining the high incidence of concussion in professional sports. Sadly, the concern has extended to youth sport. In fact, the summer 2015 issue of KT as well as the winter 2016 issue contain articles about head injuries in sport. It appears as though at least some organizations have taken note of the research.

Another report published June 10 in *Pediatrics* by physicians Bryan and Kuluz estimates that at least 2 million children get concussions every year, and this estimate

might be low. They also suggest that many of these injuries are not seen in emergency rooms and that some may be miscoded and therefore go unnoticed. Kuluz said, “Parents should suspect a concussion after a head injury when their child is acting different in any way, when they are dazed or confused or dizzy—even if it’s short-lived.”

On May 12 on their website, Pop Warner announced that they would be the first national organization to eliminate kickoffs. Their goal is to eliminate full-speed contact in games as well as reduce contact time to 25 percent% of practice. They will start with the younger teams and reanalyze the effectiveness at the end of the season and then determine whether they will include older age groups in their decision. In the last few years they have made other changes to the game in an attempt to eliminate injury.

Pop Warner becomes first national football organization to eliminate kickoffs. May 12, 2016. www.popwarner.com/About_Us/Pop_Warner_News/kickoff_rule_s1_p6002.htm.

A recent article in *JAMA Pediatric* suggests that US Soccer concussion policy is also headed in the right direction.

On November 9, 2015, the US Soccer Federation, US Youth Soccer Association, American Youth Soccer Organization, US Club Soccer, and California’s Youth Soc-

cer Associations (collectively referred to hereafter as US Soccer) issued a joint statement announcing the soon-to-be-released comprehensive campaign for safety in youth soccer, a sport that has grown dramatically in the past four decades. The sweeping initiative comes on the heels of a 2014 lawsuit, eliminating heading soccer balls for youth players younger than 10 years and limiting the practice of heading for children ages 11 to 13 years.

Yang, Y.T., & Baught, C.M. US Youth Soccer concussion policy heading in the right direction. (2016). *JAMA Pediatric*, 170(5) 413-414. doi:10.1001/jamapediatrics.2016.0338.

AKA News

By Amelia Lee, Executive Director

Newly Elected Officers

The Board of Directors has elected new AKA officers based on a slate of candidates recommended by the Executive Committee. New officers are Jason Carter, president-elect, and Melinda Solmon, junior member at large. Terms for the new officers begin after the 2017 workshop in Dallas.



Jason Carter

Jason Carter is chair and professor in the department of kinesiology and integrative physiology at Michigan Technological University. He has received millions in funded research, has an impressive publication record, and is

a highly regarded professional in kinesiology. Jason has been on the AKA Board of Directors since 2010, has served as chair of the Membership Standing Committee, and is currently senior member at large on the Executive Committee. Last year he was junior member at large. He has made many

contributions to the AKA over the years and is a valued leader in the organization.



Melinda Solmon

chair of the Awards Committee. She was inducted into the American Academy of Kinesiology and Physical Education as an active fellow in 2006 and completed a four-year term as the coeditor for the *Journal of Teaching in Physical Education* in 2008. She has published more than 50 peer-reviewed articles and made more than 100 research presentations at national meetings.

Melinda Solmon is the Roy Paul Daniels professor and director of the School of Kinesiology at Louisiana State University. She has served on the AKA Board of Directors since 2012 and has made many contributions including

AKA and the National Physical Activity Plan Alliance

Wojtek Chodzko-Zajko, the AKA representative to the NPAP Alliance, reports that after the release of the new National Physical Activity Plan in April a series of webinars was organized to highlight the revisions and discuss the continued importance of the plan. Topics included a look at the 2016 state report cards and the 500 Cities Project. Find out more about physical activity initiatives in the news at www.physicalactivityplan.org. The AKA is also assisting the NPAP Alliance to develop responses to frequently asked questions about the benefits of physical activity that are designed to be shared with members of the public and representatives of the media. These FAQs will be posted on the NPAP website in the near future.

EDITOR'S ONE CENT'S WORTH

Let's Make KT Grow Together*By Penny McCullagh, KT Editor*

Penny McCullagh

Well, it is summer 2016 and I am now on my fourth issue of *KT* and still finding my way around. One of my major goals is striving to enhance the readership of *KT*. Of course it has to be something people want to read, so I am still working on finessing that. I want to expand to social media and am working on that as well with the help of techie colleagues and friends. I also want to continue to support intra- and interdisciplinary research, teaching, and service activities, which has always been a professional goal for me in kinesiology. Continuing to interview knowledgeable folks about topics of interest in kinesiology is of high interest as well. So if you have ideas on any of the following topics, please contact me:

Give me an example of intra- or interdisciplinary research, teaching, and service in your department.

Tell me about exciting new research in your department that I could highlight in *KT*. I would prefer to highlight researchers from AKA member departments

I would like to do a future story on informed consent and human subject research. If any of you have an interesting story (you can remain unnamed), I would love to hear it so I can incorporate into the story. Maybe there are some interesting ones from the early days in our field!

I would like to thank Shirl Hoffman, who continues to send me leads. Please share *KT* with your students and parents of students. It is a good way for them to get an idea of the breadth of kinesiology.

I hope you still get a few days of summer by the time you read this. Contact me at kintodayaka@gmail.com.

2017 Leadership Workshop

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