ISPAH News

The Monthly Newsletter of ISPAH

APRIL 2019

in this issue

Behavioral Correlates of Muscular Fitness in Children and Adolescents: A Systematic Review
This article reviews the current evidence on associations between muscular fitness and physical activity, sedentary behaviors, and sleep in children and adolescents.

For the original journal article click here.

Why do self-report and criterion measures of physical activity differ so much?
This article examines a possible explanation for discrepancies in estimated moderate-vigorous physical activity from self-report and criterion measures.

For the original journal article click here, and read our guest commentary on the topic, by Elroy Aguiar, on page 4.

Public Health England publishes air pollution evidence review.
Air pollution is the biggest environmental threat to health in the UK, with between 28,000 and 36,000 deaths a year attributed to long-term exposure. This review informs local and national government on actions to improve outdoor air quality and health.

Read more here.

GB cyclists front #ONEINAMILLION campaign to boost women's cycling by 1 million by 2020
Laura Kenny, Lizzie Deignan, Sir Chris Hoy, Elinor Barker and Joanna Rowsell Shand are just a few of the world and Olympic cycling champions to join a host of 'real women' in backing a long-standing campaign which aims to narrow the vast gender cycling gap and get one million more women on bikes by 2020.

Read more here.

ACLS Heart Healthy Guide to Preventing Obesity
Pacific Medical Training provide a useful guide to preventing obesity, including: Providing Healthy Eating Experiences, Teaching Healthy Eating Habits, Promoting Physical Activity, and Providing Emotional Support.

Read more here.

MEMBER PROFILE

NAME: DR MING-CHUN HSEUH

JOB TITLE: ASSISTANT PROFESSOR

LOCATION: NATIONAL TAIWAN NORMAL UNIVERSITY, TAIWAN

MAIN ROLE? My job focuses on designing physical activity strategies to contribute to population health, especially in the context of super-aged societies. Based on my sport specialty, I also teach Boxing and PE.

MAIN INTERESTS? My research is primarily in the area of physical activity, sedentary behaviour and health outcomes, with a particular focus on: understanding the relationship of these behaviours' correlate factors, health outcomes, and evaluating interventions to reduce sedentary behaviour among older adults.

2 THINGS YOU'D ADVOCATE FOR IN YOUR COUNTRY? (1) To characterize physical activity profiles in a rural community in Taiwan and to identify knowledge gaps on this issue in the country and, (2) to develop longer-term strategy to reduce occupational sitting and health risk in laboring population.

NEXT BIG THING IN PHYSICAL ACTIVITY? Application of artificial intelligence (AI) technologies to physical activity promotion is a critical topic in the era of technology-promoted health.

FAVORITE PHYSICAL ACTIVITY? Boxing and Surfing

You can get in touch by emailing Ming-Chun at boxeo@ntnu.edu.tw
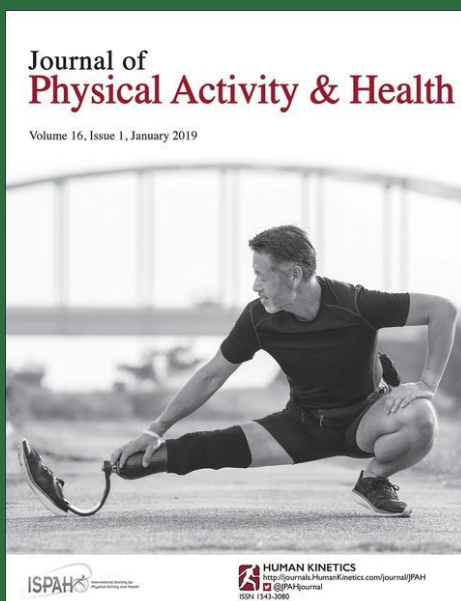
JPAH EDITOR' S PICK

Professor Loretta DiPietro shares her pick from the April issue.

Loy, S. 3 WINS Fitness: Sustainable, Affordable, and Scalable Fitness Program for the Next Generation

"Described in this Commentary is a scalable, community-engaged health promotion strategy that relies on exercise science students. I've been waiting my entire public health career to see the science of exercise and physical activity translated and scaled up to the community level so elegantly and effectively. The cultural wave of change in how communities adopt an active lifestyle begins now with 3WINS Fitness!"

COMMENTARY

Can we really accurately measure physical activity?

By
Elroy Aguiar

Self-report measurement of physical activity (PA) is widely used in research and has underpinned the development of PA guidelines. However, self-report measures often produce estimates of moderate-to-vigorous physical activity (MVPA) that differ largely when compared to accelerometer-based measures. There is continued debate regarding which method produces the "true" estimate of PA. Indeed, there are limitations to both methods that may introduce small-to-large amounts of error in estimates of MVPA time. These include: 1) social desirability bias in self-report measures; 2) choice of accelerometer, wear location and data processing methods; and 3) epoch length, which may apply to both self-report and accelerometer methods.

This article introduces the "cutpoint bias hypothesis" as an additional potential source of error. The authors suggest that the intra- and inter-variability in energy expenditure for a given task introduces substantial potential for misclassification of MVPA time. This is particularly problematic given that many activities seem to cluster around 3 METs, the commonly-held threshold for MVPA.

To evaluate the impact of cutpoint bias, the authors use time-use recall data from 2210 Australasian children and adults (16-93 years of age). Specifically, they compared unadjusted estimates of MVPA with adjusted models that included empirically derived amounts of intra-and inter-individual variability (noise) to examine the impact on MVPA time. The unadjusted amount of MVPA was reported to overestimate "true" MVPA by

21-31 min/day (19-32%) compared to the adjusted models. Based on the findings of this simulation study, the authors question the use of a MVPA cutpoint at 3 METs for which many activities of daily living are clustered around.

Furthermore, the authors suggest that their findings may impact the way that researchers currently implement and interpret intensity cutpoint analyses. For example, from a practical standpoint, this level of overestimation could translate to higher levels of false positive classification when assessing compliance with PA guidelines. That is, individuals may be classified as having met MVPA guidelines (≥150 MVPA/week) based on survey responses, when in fact they did not.

In summary, it is important to consider the limitations of PA measurement methods and the potential sources of bias that may impact on the interpretation MVPA estimates. Ultimately, there is no single tool or device that perfectly measures all forms and intensities of PA. As such, researchers should consider a combination of measures (e.g., self-report and accelerometer-derived measures) when developing new studies in order to obtain a set of measures that together may provide a more comprehensive picture of the "true" amount of PA.

Elroy Aguiar is a Senior Postdoctoral Research Associate at the University of Massachusetts Amherst

THIS MONTH'S ECN CORNER FEATURES AN INTERVIEW WITH MÉABH CORR

Méabh is currently a PhD student in Mary Immaculate College in Ireland and a member of the ISPAH Early Career Network. Méabh's research is part of the SOLE MATES Project and her work won the "Best Early Career Poster Presentation" at the 2018 ISPAH Congress in London.

Her poster is available here.

What do you feel is an important and helpful skill to have as an Early Career Researcher in this field? The ability to say no when needed. I think a lot of early career researchers can try take on too many tasks, sometimes to the detriment of their own work, so learning to say no when necessary is something I think is important. I'm still working on this one!

What is your background and current research? I'm a qualified Physical Education teacher and have always had a keen interest in sport. Through teaching experiences, I saw first-hand how many girls disengage from activity, and this is where my research interests stemmed from. My current research investigates physical activity promotion strategies for adolescent girls in different settings.

Have you found being part of an Early Career Network useful for your work? Definitely. Completing a PhD and being in the early stages of research can be very isolating but being part of a network of other early career researchers reassures you that we all experience similar struggles. Additionally, it is great to share ideas and get feedback from people in the same position as you.

Having won the ECN Poster award at the 2018 ISPAH Congress, what advice would you give to those presenting at conferences this year? My advice would be to avoid just simply reading your poster, try to provide more detail on your research in your presentation. People can read your poster in detail afterwards, or even better ask you some more questions, so try to avoid regurgitating what is already on the poster.

By
Joey Murphy, ECN Secretary

@JoeyJMurphy

Who does our network comprise of?

We are a self-defined group of Early Career professionals, inclusive of researchers and practitioners.

Who's involved with the ECN committee?

Click here find out more about who's involved in the

ECN committee

Interested in joining the committee? Get in touch at: ispahearlycareer@gmail.com

Join us!

ECN members are kept up to date with news about exciting events and webinars, and receive priority access to Congress Events which are often FREE for ISPAH ECN members.

To join you must be a current member of ISPAH. If you are already a member of ISPAH, but not an ECN member, then make sure to email: ispahearlycareer@gmail.com

ISPAH COUNCIL UPDATE

Agita Mundo is one of the official councils of ISPAH and is chaired by Professor Vicki Lambert (Exercise Science and Sports Medicine, University of Cape Town).

The Agita Mundo Network stimulates research and encourages the dissemination of information on the benefits of physical activity and the realisation of effective strategies to increase the physical activity level of the population. The network also supports the development of programs and networks of local physical activity and worldwide.
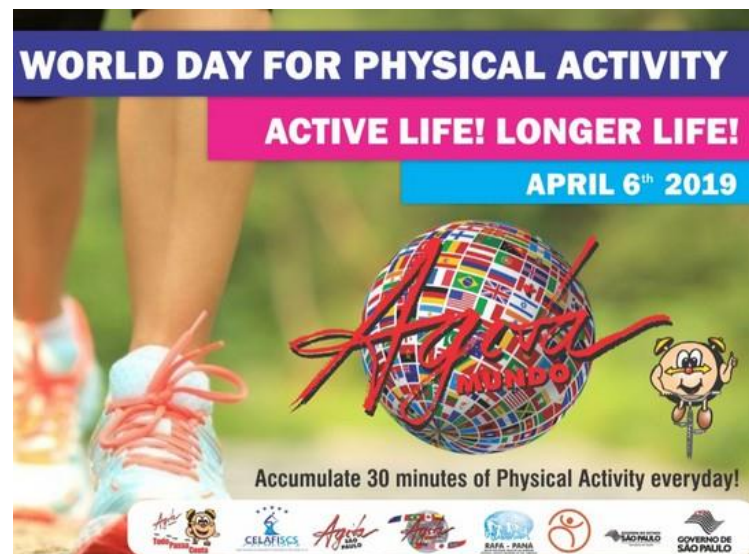
On April 6th, Agita Mundo celebrates World Day for Physical Activity!
Tweet us a picture of you being physically active using #physicalactivity and @ISPAH - we'll pick a winner to feature in next month's newsletter!

HAVE YOU SEEN...

...our new YouTube channel?

Featuring our Highlights from the ISPAH2018 Congress, previous webinars, and our ECN 'Ask the Expert' series...with more coming soon!

Subscribe now!

... these job opportunities?

- Professor of Sport Science at the University of Bern, Switzerland

- Research Fellow at the London School of Hygiene & Tropical Medicine, UK

- Postdoctoral Fellow at the University of Oslo, Norway

- Senior Lecturer/Lecturer at Northumbria University, UK

- Professor of Exercise Science, University of the Sunshine Coast, Australia

The International Society of Behavioral Nutrition and Physical Activity (ISBNPA) is pleased to invite you to participate in the 18th Annual Meeting in Prague, Czech Republic, from 4–7 June 2019.

The theme of #ISBNPA2019 is "Healthy People. Healthy Planet." The ISBNPA program will gather over 1300 scientific communications, with 4 keynotes (Andy Haines, Greet Cardon, Bruce Lee, and Barry Popkin), 2 Mid-Career Invited Talks, 55 symposia, oral and poster sessions, representing the best research in the field of behavioral change in nutrition, physical activity, sedentary behavior and sleep. ISBNPA meetings are known to provide a wealth of networking opportunities and are respectful of the principles of active and healthy meetings (e.g., we launched the standing applause initiative to break the sedentary time a decade ago).

For more information about ISBNPA, go to our website www.isbnpa.org.
Looking forward to meeting you at #ISBNPA2019.

ISBNPA-ISPAH Webinar

Heading to Prague for ISBNPA 2019, or perhaps Vancouver for ISPAH 2020? Wondering what the best tips and tricks are for getting the most out of a conference? Join this webinar to find out more from early, mid and senior researchers respectively. All speakers will consider what can be done before, during and after a conference to capitalise on the conference attendance.

28th May 2019 7:00 AM in London