

**Your
PAAS
Team:**

Dr. DC Lee
(Principal
Investigator)



**Dr. Angelique
Brellenthin**
(Data Manager)



Joey M. Saavedra
(Project Manager)



**Alberto Palmero-
Cantón**
(Study Coordinator)

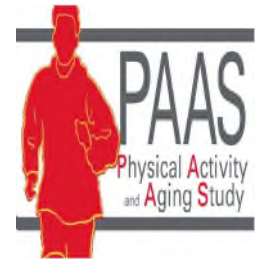


BK Song
(Study Coordinator)



Newsletter

Summer 2020



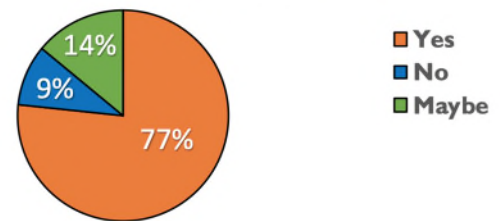
Dear PAAS participant,

We hope this newsletter finds you in good health and in high spirits. Although the impact of Coronavirus has proven to be most unexpected, we are not letting this unfortunate situation dampen our resolve!

We were forced to halt all human research in the department as a result of the current pandemic. While we cannot yet confirm when PAAS will re-start, we are working diligently in preparation for the eventual return of the study. Part of this process involved the implementation of a survey to determine if our participants were comfortable returning to PAAS this summer. The questionnaire was e-mailed in May to over 800 PAAS participants. As the pie-chart illustrates below, an overwhelming majority of participants indicated a willingness to return, which was a proud moment for the research team.

We plan to send you another survey before re-starting PAAS to assess any changes in opinion as the pandemic situation improves with time. Please keep an eye on your e-mails as further information becomes available. Until then, stay active and stay well!

Would you be willing to participate THIS summer?



Hail and Farewell

The 2019/2020 academic year saw two new members join the PAAS research team: Mr. BK Song and Mr. Alberto Palmero-Cantón. Originally from Seoul, South Korea, BK joins the team as a Postdoctoral Scholar and Study Coordinator. His research focuses on the relationship between physical activity and digestive health. Alberto joins us as a Master's student from his homeland of southern Spain, having graduated in 2019 with his Bachelors in Exercise and Sports Science from the University of Granada; he too serves as a Study Coordinator.

And finally, the lab bid farewell and good luck to Ms. Leidys Gutiérrez. You may remember seeing Leidys on Tuesday mornings during your arterial stiffness assessment. Leidys graduated with her Master's degree in Kinesiology after successfully defending her thesis based on data obtained exclusively from PAAS. Your participation in the study makes a difference in more ways than one!



Leidys Gutiérrez

PAAS publication summaries

As you know, information gathered from your participation in PAAS is used to answer questions about how physical activity influences healthy aging. It is our honor to announce that our findings have resulted in the publications of three scientific research papers. Below are summaries of these papers (click each link to see the scientific abstract):

Paper 1: “Physical Activity and Sarcopenia in Older Adults”.

Sarcopenia is the age-related decline in muscle mass and strength, which is associated with increased risk of osteoporosis, type 2 diabetes, falls, decreased quality of life, loss of independence, and premature mortality. In this study of 304 older adults, we found that participants who were physically active (measured by a pedometer), who maintained higher levels of cardiorespiratory fitness (measured by 400-meter walk test), who maintained higher muscular strength (measured by one-repetition maximum chest and leg press), and who limited their overall sedentary time (measured by survey) demonstrated a lower prevalence (i.e. lower occurrence) of sarcopenia. We also found that older adults who were both active and fit, active and strong, and fit and strong had almost 0.1 times lower odds of having sarcopenia.

Published in ‘Aging – Clinical and Experimental Research’ (2019) – [Click here to see the abstract.](#)

Paper 2: “Cardiorespiratory Fitness and Muscular Strength on Arterial Stiffness in Older Adults”.

A natural consequence of aging is the thickening of blood vessel walls (particularly the walls of arteries such as the aorta). Arterial stiffness is known to increase the risk of cardiovascular diseases such as heart attack and stroke in older adults, but this risk might be reduced by exercise and physical activity. In this study of 405 older adults, we found that participants who were fit (measured by 400-meter walk test) or strong (measured by maximal handgrip strength) had approximately 0.5-0.8 times lower prevalence of abnormally high arterial stiffness (≥ 10 meters/second of carotid-femoral pulse wave velocity) compared to unfit or weak participants. Also, older adults who were both fit and strong showed 0.46 times lower odds of having high arterial stiffness compared to unfit and weak participants. These findings suggest that being fit and strong may be protective against cardiovascular disease by lowering arterial stiffness in older adults, although prospective studies are warranted.

Published in ‘Medicine and Science in Sports and Exercise’ (2020) – [Click here to see the abstract.](#)

Paper 3: “Validation of a Multielectrode Bioelectrical Impedance Analyzer with a Dual-Energy X-Ray Absorptiometer for the Assessment of Body Composition in Older Adults”.

Body composition (e.g. muscle and fat mass) can tell us a lot about a person’s risk of chronic diseases. For instance, a high body fat % is associated with an increased risk of type 2 diabetes and cardiovascular disease. There are a number of ways to estimate body composition. DEXA (Dual-Energy X-Ray Absorptiometry) is considered one of the most accurate and reliable measurements of body composition, but the device is expensive and produces a small amount of radiation. A less expensive, more straightforward and safer method of estimating body composition is through BIA (Bioelectrical Impedance Analyzer). This study compared the validity of the BIA machine against the DEXA machine, and found high correlations between the two (although BIA slightly over-estimated fat-free mass and slightly underestimated body fat % compared to DEXA). We were able to construct a mathematical prediction equation that corrected for these inaccuracies. This equation can now be applied to future BIA studies, especially in older adults, which means the BIA method can be used for widespread screening of body composition at a lower cost compared to DEXA.

Published in the ‘Journal of Aging and Physical Activity’ (2020) – [Click here to see the abstract.](#)

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[Click here for Iowa-specific updates about Coronavirus](#)

[Click here for physical activity recommendations for older adults](#)