

Journal of Extension

Volume 54 | Number 2

Article 1

4-1-2016

Physical Activity: A Tool for Improving Health (Part 3—Recommended Amounts of Physical Activity for Optimal Health)

Patrick J. Galloway

University of Arizona, amfranklin@email.arizona.edu

Nobuko Hongu

University of Arizona, hongu@email.arizona.edu

Recommended Citation

Galloway, P. J., & Hongu, N. (2016). Physical Activity: A Tool for Improving Health (Part 3—Recommended Amounts of Physical Activity for Optimal Health). *Journal of Extension*, 54(2), Article 1.

<https://tigerprints.clemson.edu/joe/vol54/iss2/1>

This Tools of the Trade is brought to you for free and open access by TigerPrints. It has been accepted for inclusion in Journal of Extension by an authorized editor of TigerPrints. For more information, please contact kokeefe@clemson.edu.

Physical Activity: A Tool for Improving Health (Part 3— Recommended Amounts of Physical Activity for Optimal Health)

Abstract

By promoting physical activities and incorporating them into their community-based programs, Extension professionals are improving the health of individuals, particularly those with limited resources. This article is the third in a three-part series describing the benefits of physical activity for human health: (1) biological health benefits of physical activity, (2) mental health benefits of physical activity, and (3) recommended amounts of physical activity for optimal health. Each part of the series is designed to help Extension professionals effectively integrate physical activity into community programs and motivate individuals to maintain an interest in being physically active during and after a program.

Patrick J. Gallaway
Research Assistant
gallaway@email.arizona.edu

Nobuko Hongu
Associate Professor,
Nutrition and Physical
Activity Extension
Specialist
hongu@email.arizona.edu

Department of
Nutritional Sciences
The University of
Arizona
Tucson, Arizona

Finding the Right Amount of Physical Activity

In the first two articles in this series, we explored the numerous benefits that physical activity (PA) provides for both biological/physical health (Gallaway & Hongu, 2015) and mental health (Gallaway & Hongu, 2016). Should Extension professionals, therefore, use their influence to encourage members of their communities to be as physically active as possible, in terms of both intensity and duration, for optimal health? Generally, more PA leads to more weight loss, but an appropriate formula for health is not that simple (Abdel-Hamid et al., 2014). Weight loss is generally an excellent goal, considering the nation's obesity epidemic, and Extension professionals have been finding effective ways of implementing PA into their programs, along with nutrition, to encourage weight loss (Jensen, 2013) and behavior change strategies (Gordon, 2002; Hongu, Kataura, & Block, 2011) and to help fight the obesity epidemic (Dunn et al., 2010, 2011). However, caution must be employed when encouraging the public to increase levels of PA. Participating in PA at an intensity level or for a duration that is not appropriate for one's level of experience can be dangerous and harmful. Although Extension professionals certainly should encourage PA, they also should explain the potential harmful effects of overexercising so that individuals will be able to find

a proper balance of PA that fits their schedules, goals, and baseline fitness levels.

Fitness Versus Health

It is a fairly simple concept that the more PA we do, the more "in shape" we become, particularly if we do specific exercises designed to improve different aspects of our physical fitness, such as running for cardiorespiratory fitness or weight lifting for muscular strength. Physical fitness has been defined as measurable attributes that relate to the ability to perform physical activity (Caspersen, Powell, & Christenson, 1985). This meaning generally has been used as the standard health-related definition for the past 30 years. But is being physically fit the same as being in good health? The most widely used definition for health is that put forth by the World Health Organization: "Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity" (World Health Organization, 1948, "Preamble to the Constitution"). If physical fitness is equivalent to health, it stands to reason that the most athletic among us also would be the most free of disease and infirmity *and* would experience the highest levels of physical, mental, and social well-being. However, as explained in subsequent sections of this article, research indicates that neither of those claims is quite true: Strenuous PA, while increasing one's level of physical fitness, can actually diminish aspects of health, as defined by World Health Organization.

Lighter Exercise and Reduced Mortality Rates

Although being physically active as compared to being sedentary significantly reduces all-cause mortality (Löllgen, Böckenhoff, & Knapp, 2009), overdoing it may reduce or even eliminate that advantage. In a recent study, those who did light (nonstrenuous) and infrequent (about 3 days a week) jogging had a significantly lower all-cause mortality rate than those who were sedentary *and* those who exercised more, with the group that did the most strenuous jogging having a mortality rate comparable to that of the sedentary group (Schnohr, O'Keefe, Marott, Lange, & Jensen, 2015). Although more research on overexercising certainly should be done, such studies help dispel the illusion that more PA is always better, and they reveal the confusion that can result from equating physical fitness with better health. Extension professionals would do well to keep recommending PA and incorporating it in their community programs but perhaps should avoid recommending PA that is too strenuous. In fact, it may be easier to motivate people to become physically active with this knowledge; most members of the public may find light PA less painful and more enjoyable, so it is important to disseminate the knowledge that even a small amount is good—and that it may, in fact, be better for them than doing more.

Everything in Moderation: Cardiovascular Risks of Excessive Endurance Exercise

Most PA, including exercise intended to improve cardiovascular endurance, is generally low-risk and beneficial. However, too much endurance exercise can strain the heart and actually increase the risk of cardiovascular disease. This situation happens because our bodies adapt to meet our needs. If a much higher output of blood to the body is needed frequently, as in the case of marathon runners over many years, the heart can actually remodel itself to meet that need, causing enlargement that

can lead to potentially fatal arrhythmias. Also, long-term marathon runners have higher arterial plaque formation, leading to accelerated atherosclerosis that also increases the risk of cardiovascular disease (Patil et al., 2012). Although Extension professionals should not discourage endurance training, they should possess knowledge of the risks associated with it and perhaps advise that PA be done in moderation for optimal health.

Conclusions

Only light amounts of PA are necessary to reap rewards. In fact, performing lighter rather than more strenuous PA appears in many ways to be more beneficial to health, particularly as the World Health Organization defines it. Extension professionals should take this information into account when integrating PA in their community programs and advising the public on how much PA is appropriate to obtain or maintain optimal health. This message may have the added effect of motivating sedentary people who are currently daunted by the misperception that only strenuous exercise can significantly improve health—a smaller, more attainable goal, if shown to be just as beneficial to their health, may be precisely what they need to get started.

References

- Abdel-Hamid, T., Ankel, F., Battle-Fisher, M., Gibson, B., Gonzalez-Parra, G., Jalali, M., . . . Murphy, P. (2014). Public and health professionals' misconceptions about the dynamics of body weight gain/loss. *System Dynamics Review*, 30(1–2), 58–74.
- Caspersen, C. J., Powell, K. E., & Christenson, G. M. (1985). Physical activity, exercise, and physical fitness: Definitions and distinctions for health-related research. *Public Health Reports*, 100(2), 126.
- Dunn, C., Kolasa, K., Vodicka, S., Schneider L., Thomas, C., Smith, C., & Lackey, C. (2010). Eat Smart, Move More, Weigh Less: A weight management program for adults. *Journal of Extension* [online], 48(1) Article 1TOT1. Available at: <http://joe.org/joe/2010february/tt1.php>
- Dunn, C., Kolasa, K., Vodicka, S., Schneider L., Thomas, C., Smith, C., & Lackey, C. (2011). Eat Smart, Move More, Weigh Less: A weight management program for adults—Revision of curriculum based on first-year pilot. *Journal of Extension* [online], 49(6) Article 6TOT9. Available at: <http://www.joe.org/joe/2011december/tt9.php>
- Gallaway, P. J., & Hongu, N. (2015). Physical activity: A tool for improving health (Part 1—Biological health benefits). *Journal of Extension* [online], 53(6) Article 6TOT9. Available at: <http://www.joe.org/joe/2015december/tt9.php>
- Gallaway, P. J., & Hongu, N. (2016). Physical activity: A tool for improving health (Part 2—Mental health benefits). *Journal of Extension* [online], 54(1) Article 1TOT9 Available at: <http://www.joe.org/joe/2016february/tt9.php>
- Gordon, J. C. (2002). Beyond knowledge: Guidelines for effective health promotion messages. *Journal of Extension* [online], 40(6) Article 6FEA7. Available at: <http://www.joe.org/joe/2002december/a7.php>
- Hongu, N., Kataura, M. P., & Block, L. M. (2011). Behavior change strategies for successful long-

term weight loss: Focusing on dietary and physical activity adherence, not weight loss. *Journal of Extension* [online], 49(1) Article 1TOT5. Available at: <http://www.joe.org/joe/2011february/tt5.php>

Jensen, K. D. (2013). Organizing a community "Biggest Loser" weight loss challenge. *Journal of Extension* [online], 51(2) Article 2IAW8. Available at: <http://www.joe.org/joe/2011february/tt5.php>

Löllgen, H., Böckenhoff, A., & Knapp, G. (2009). Physical activity and all-cause mortality: An updated meta-analysis with different intensity categories. *International Journal of Sports Medicine*, 30(3), 213–224.

Patil, H. R., O'Keefe, J. H., Lavie, C. J., Magalski, A., Vogel, R. A., & McCullough, P. A. (2012). Cardiovascular damage resulting from chronic excessive endurance exercise. *Missouri Medicine*, 109(4), 312–321.

Schnohr, P., O'Keefe, J. H., Marott, J. L., Lange, P., & Jensen, G. B. (2015). Dose of jogging and long-term mortality: The Copenhagen City Heart Study. *Journal of the American College of Cardiology*, 65(5), 411–419.

World Health Organization. (1948). Preamble to the Constitution of the World Health Organization as adopted by the International Health Conference, New York, 19–22 June, 1946; signed on 22 July 1946 by the representatives of 61 states (Official Records of the World Health Organization, no. 2, p. 100) and entered into force on 7 April 1948. <http://www.who.int/about/definition/en/print.html>

Copyright © by *Extension Journal, Inc.* ISSN 1077-5315. Articles appearing in the Journal become the property of the Journal. Single copies of articles may be reproduced in electronic or print form for use in educational or training activities. Inclusion of articles in other publications, electronic sources, or systematic large-scale distribution may be done only with prior electronic or written permission of the *Journal Editorial Office*, joe-ed@joe.org.

If you have difficulties viewing or printing this page, please contact [JOE Technical Support](#)