

Education

Ph.D. May 2013 Physical Activity Nutrition and Wellness, Arizona State University, Phoenix, AZ. Dissertation: Effects of Eight Weeks of High Intensity Interval Training on Blood Glucose Control, Endothelial Function, Blood Pressure Control, and Visceral Fat in Sedentary, Obese Adults. Advisor: Dr. Glenn Gaesser

M.Ed. 2006 Exercise Physiology, University of Virginia, Charlottesville, VA. Thesis: The Interrelatedness of Maximal Oxygen Consumption and Economy. Advisor: Dr. Glenn Gaesser

B.A. 2003 Kinesiology, Athletic Training, Point Loma Nazarene University, San Diego, CA. Distinctions project: Neuroticism, Extroversion, and Pain Perception in College Aged Athletes. Advisor: Dr. Leon Kugler

Peer Reviewed Manuscripts

Sawyer BJ, Tucker WJ, Bhammar DM, Ryder JR, Sweazea KL, Gaesser GA. Effects of High-intensity Interval Training and Moderate-intensity Continuous Training on Endothelial Function and Cardiometabolic Risk Markers in Obese Adults. *J Appl Physiol*. 2016; 121: 279–288,

Bhammar DM, Sawyer BJ, Tucker WJ, Lee JM, Gaesser GA. Validity of SenseWear® Armband v5.2 and v2.2 for Estimating Energy Expenditure. *Journal of Sports Sciences*. 2016; 8:1-9. 10.1080/02640414.2016.1140220

Sawyer BJ, Bhammar DM, Tucker WJ, Gaesser GA. Using a Verification Test for Determination of VO_{2max} in Sedentary Adults with Obesity. *Journal of Strength and Conditioning Research*. 2015; 29(12): 3432–3438.

Tucker WJ, Sawyer BJ, Bhammar DM, Jarrett CL, Gaesser GA. Physiological Responses to High-Intensity Interval Exercise Differing in Interval Duration. *Journal of Strength and Conditioning Research*. 2015; 29(12): 3326–3335

Tucker WJ, Bhammar DM, Sawyer BJ, Buman MP, Gaesser GA. Validity and reliability of Nike + Fuelband for estimating physical activity energy expenditure. *Sports Science, Medicine, and Rehabilitation*. 2015; 7:14. DOI 10.1186/s13102-015-0008-7

Sawyer BJ, Bhammar DM, Angadi SS, Ryder JR, Ryan DM, Sussman EJ, Bertman FMW, Gaesser GA. Heterogeneity of Fat Loss in Response to 12 weeks of Treadmill Walking in Women. Predictors of fat mass changes in response to aerobic exercise training in women. *Journal of Strength and Conditioning Research*. 2014; 29(2): 297-304.

Sawyer BJ, Stokes, DG, Womack, CJ, Morton, RH, Weltman A, Gaesser GA. Strength Training Increases Endurance Time to Exhaustion During High-Intensity Exercise Despite no Change in Critical Power. *Journal of Strength and Conditioning Research*. 2014; 28(3): 601-609.

Meckes N, Vezina JW, Herrmann SD, Sawyer BJ, Angadi S, and Ainsworth, BE. Oxygen Cost of Performing Selected Adult and Child Care Activities. *International Journal of Exercise Science*. 2013; 6(1):Article 3.

Sawyer BJ, Morton RH, Womack CJ, Gaesser GA. VO_{2max} May Not Be Reached During Exercise to Exhaustion Above Critical Power. *Medicine and Science in Sports and Exercise*. 2012; 44(8):1533-1538.

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Gaesser, GA, Angadi, SS, Sawyer, BJ. Exercise and Diet, Independent of Weight Loss, Improve Cardiometabolic Risk Profile in Overweight and Obese Individuals. *Physician and Sports Medicine*. 2011; 39(2):87-97.

Sawyer, BJ, Blessinger, JR, Irving, BA, Weltman, A, Patrie, JT, Gaesser, GA. Walking and Running Economy: Inverse Association with Peak Oxygen Uptake. *Medicine and Science in Sports and Exercise*. 2010; 42(11): 2122-2127.

Blessinger, J, Sawyer, B, Davis, C, Irving, BA, Weltman, A, Gaesser, GA. Reliability of the VmaxST portable metabolic measurement system. *International Journal of Sports Medicine*. 2009; 30(1): 22-26.

Book Chapters

Gaesser GA, Angadi SS, Sawyer BJ, Tucker WJ, Jarrett CL. (2014). Exercise and diet improve cardiometabolic risk in overweight and obese individuals without weight loss. In: *Glucose Intake and Utilization in Pre-diabetes and Diabetes: Induction of Cardiovascular Disease*, Watson & Dokken (Eds), Elsevier. 2014. Chapter 29.

Sawyer BJ, Angadi SS, Gaesser GA. Book Title: *Wellness Not Weight: Motivational Interviewing and Health At Every Size*. Chapter Title: *The Health Benefits of Physical Activity and Diet Independent of Weight Loss*. Cognella Academic Publishing. Aug. 28th 2013. Paperback ISBN: 978-1-62131-092-1

Recent Conference Presentations

June 2016: Poster presentation: National ACSM meeting Boston, MA. Body composition and physical activity maintenance one year after a 12-week exercise intervention in women

October 2015: **Invited Oral presentation:** SWACSM meeting Costa Mesa, CA. Biological variability in fat loss in response to exercise training

October 2015: Poster presentation: SWACSM meeting Costa Mesa, CA. Comparison of Blood Flow Characteristics During High Intensity Interval Exercise and Moderate Continuous Exercise

October 2015: Poster presentation: SWACSM meeting Costa Mesa, CA. Determining the Optimal Work Rate for Cycle Ergometer Verification Phase Testing in Males

October 2015: Poster presentation: SWACSM meeting Costa Mesa, CA. Determining the Optimal Work Rate for Cycle Ergometer Verification Phase Testing in Females

May 2015: **Oral presentation:** ACSM National Meeting, San Diego, CA. Sawyer BJ, Tucker WJ, Bhammar DM, Gaesser GA. Vigorous-Intensity Exercise Training Does not Alter Spontaneous Physical Activity Levels in Obese, Sedentary Adults.

May 2014: **Oral presentation:** ACSM Meeting Orlando, FL. Sawyer BJ, Bhammar DM, Tucker WJ, Gaesser GA. Effects of High-Intensity Interval and Continuous Training on Endothelial Function and Glucose Regulation in Obesity

Teaching Experience

August 2013 – Present: Associate Professor at Point Loma Nazarene University in the Kinesiology and Biology Departments. Courses taught: Exercise physiology lecture and lab, Human anatomy and physiology lecture and lab, Master's Course: Advanced/Clinical Exercise Physiology

August 2012 – December 2012: Arizona State University Teaching Assistant in the Exercise and

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Wellness Department. Courses taught: Exercise Testing Laboratory

August 2007 – June 2010: Point Loma Nazarene University Assistant Professor in the Kinesiology Department. Courses taught: Risk Management and Emergency Response, Exercise Physiology, Advanced Exercise Physiology, Athletic Training Practicum courses, and Pharmacology/Therapeutic Modalities

October 2006 – May 2006: California State University Fresno lecturer in the kinesiology department, Fresno, CA. Courses taught: Therapeutic Modalities, Injury and Illness Assessment I: Upper Extremity, Introduction to Athletic Training, Preliminary Athletic Training, Injury and Illness Assessment II: Lower Extremity (Lab), and Rehabilitation Techniques II (Lab)

January 2006 – July 2006: American Red Cross instructor for the University of Virginia, Charlottesville, VA. Courses taught: Adult, Child, and Infant Cardiopulmonary Resuscitation (CPR) and First-Aid

September 2005 – July 2006: American Red Cross instructor for the Red Cross of the Blue Ridge, Staunton, VA. Courses Taught: Adult, Child, and Infant Cardiopulmonary Resuscitation (CPR), First-Aid, Automated External Defibrillator (AED), and Blood-Borne Pathogens

January 2006 – June 2006: Substitute teacher for Albemarle County, VA public schools. Taught all subjects from sixth to twelfth grade

January 2006 – May 2006: Substitute teacher for Charlottesville city public schools, VA. Taught all subjects from fifth to eighth grade

Research Experience

Current research at PLNU including independent Summer research and student honors projects:

- Characterization of blood flow dynamics during high-intensity interval exercise compared to continuous exercise
- Determination of the best protocol for the verification phase of VO_{2max} test

August 2010 – June 2013: Research Associate for the Healthy Lifestyles Research Center at the Arizona State Poly-Technic Campus. Responsible for designing, coordinating, conducting, and analyzing multiple funded studies. Studies include:

- Dissertation: 8 Weeks of high intensity interval training for the improvement of blood glucose and blood pressure control, endothelial function, visceral adipose tissue, insulin sensitivity, blood lipids, LDL oxidizability, nitric oxide availability, and antioxidant capacity in sedentary, obese adults (20 subjects). Funded by Medtronic Diabetes Foundation and ASU internal research funding
- NIH funded Activity Monitor Study (RO1: ~ 300 subjects tested)
- 12-week supervised exercise intervention with 82 women funded by Reebok (testing EasyTone shoes). Supervised 7 graduate students
- Ability of exercise to ameliorate the negative effects of a high fat meal on artery function, blood glucose, and blood triglycerides
- Ability of exercise to protect against metabolic impairments due to a diet supplemented with high levels of sugar and fat
- The effects of intermittent high intensity exercise on blood glucose and blood pressure control
- The effect of vitamin D3 supplementation on endothelial function
- Product testing for Proctor and Gamble
- Product validation for Nike

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March 2007 – June 2010: Advisor and committee member for multiple Point Loma Nazarene University student honors research projects

September 2005 – January 2006: Master's Thesis: The Interrelatedness of Maximal Oxygen Consumption and Economy

May 2005 – July 2006: Research coordinator and lab technician in exercise physiology research. Coordinated research schedule, recruited subjects, assisted with history, physical, and consent process, conducted research, data processing, and data analysis.

September 2004 – May 2005: Research assistant for an exercise training study at the University of Virginia. The effects of high and low intensity exercise on abdominal visceral fat were investigated.

January 2004 – May 2004: Undergraduate research project: Neuroticism, Extroversion, and Pain Perception in College Aged Athletes

Professional Experience

August 2007 – June 2010: Director of Rehabilitation Services, Point Loma Nazarene University Sports Medicine Clinic. In charge of overseeing, supervising, and conducting all administrative and organizational duties of the clinic. Extensive policy writing and implementation. Provided on- and off-field injury prevention, management, assessment, care, and rehabilitation of athletic injuries.

March 2007 – June 2007: Associate Athletic Trainer Central Valley Coyotes Arena Football Club. Provided on- and off-field injury prevention, management, assessment, care, and rehabilitation of athletic injuries.

January 2007 – March 2007: Per-Diem Athletic Trainer Community Hospital (Fresno, Central, San Joaquin Memorial, and Clovis School Districts). Provided on- and off-field injury prevention, management, assessment, care, and rehabilitation of athletic injuries for all high schools around the Fresno area.

October 2006 – January 2007: Head Athletic Trainer for Fresno High School, Fresno, CA. Provided on- and off-field injury prevention, management, assessment, care, and rehabilitation of athletic injuries.

February 2004 – May 2004: Staff athletic trainer at Point Loma Nazarene University, San Diego, CA. Managed the university sports medicine clinic. Conducted on- and off-field prevention, management, assessment, care, and rehabilitation of athletic injuries for various collegiate sports. Supervised and mentored athletic training students.

April 2003 – February 2004: Season intern athletic trainer San Diego Chargers. Training room management: stocking supplies, cleaning, and practice preparation. Provided on- and off-field injury prevention, management, assessment, care, and rehabilitation of athletic injuries during practice and games. Supervised five summer interns. Traveled with team to games, being responsible for all medical supplies.

April 2002 - January 2003: Summer intern athletic trainer San Diego Chargers. Provided on- and off-field injury prevention, management, assessment, care, and rehabilitation of athletic injuries during practice and games.