

June 2023

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Education

- 2010 Ph.D., Human Bioenergetics, Ball State University, Muncie, IN
Dissertation Title: Skeletal Muscle Health and Function in Lifelong Endurance Trained Octogenarians
- 1997 M.S., Athletic Training, Indiana State University, Terre Haute, IN
Research Project Title: The Effect of Contrast Therapy on DOMS Induced Muscle Pain and Loss of Function
- 1996 B.A., Physical Education, Asbury College, Wilmore, KY

Professional Experience

- 2018 – present Full Professor, KIN; Taylor University, Upland, IN
- 2018 – present Co-director/Founder Invitation Health and Wellness Program
- 2012 – present Associate Professor, KIN; Taylor University, Upland, IN
- 2012 – present Coordinator of Exercise Science Semester Abroad; Cuenca, Ecuador, Taylor University, Upland, IN
- 2010 – 2018 Exercise Science Program Director; Taylor University, Upland, IN
- 2010 – 2012 Assistant Professor, PHP; Taylor University, Upland, IN
- 2007 - 2010 Graduate Research Assistant, Human Performance Laboratory; Ball State University, Muncie, IN
- 2006 - 2019 Fit into Health Adult Fitness Program Director; Taylor University, Upland, IN
- 1998 - 2010 Instructor/Assistant Professor of PHP; Taylor University, Upland, IN
- 1998 - 2007 Assistant Athletic Trainer; Taylor University, Upland, IN
- 1997 - 1998 Assistant Professor/Assistant Athletic Trainer; Methodist College, Fayetteville, NC

Publications

Gaesser, V., Maakestad, W., **Hayes, E.**, Snyder, S. **Motivational Coaching Improves Intrinsic Motivation in Adult Fitness Program Participants.** *International Journal of Exercise Science* 13(5): 1167-1178, 2020.*

Estes, B., Thrush, D., Malinowski, A., Piacentini, M., Salley, E., Degenkolb, T., **Hayes, E.** **The Effect of High Intensity Interval Run Training on Cross-sectional Area of the Vastus Lateralis in Untrained College Students.** *International Journal of Exercise Science* 10(1): 137-145, 2017.*

Cleary, K., Fenstermacher, S., Kiedrowski, B., Hayes, B., Auell, O., Chow, C., **Hayes, E.**, King, D. **The Effects of Acute Exercise and Meat Fasting/Feasting on Urinary 3-methylhistidine by Liquid Chromatography - Mass Spectrometry,** *Journal of Undergraduate Chemistry Research*, 14, 36-39, 2015.*

Trappe, S., **Hayes, E.**, Galpin, A., Kaminsky, L., Jemiolo, B., Fink, W., Trappe, T., Jansson, A., Gustafsson, T., Tesch, P. **New Records in Aerobic Power Among Octogenarian Lifelong Endurance Athletes.** *JAP*, 2013 Jan 1;114(1):3-10.

Luden, N., **Hayes, E.**, Minchev, K., Louis, E., Raue, U., Conley, T., Trappe, S. **Skeletal Muscle Plasticity with Marathon Training in Novice Runners.** *Scan J of Spt Med.* 2012 Oct;22(5):662-70.

Luden, N., **Hayes, E.**, Galpin, A., Minchev, K., Jemiolo, B., Raue, U., Trappe, T., Harber, M., Bowers, T., & Trappe, S. **Myocellular Basis for Tapering in Competitive Distance Runners.** *JAP.* 2010 Jun;108(6):1501-9.

Luden, N., Minchev, K., **Hayes, E.**, Louis, E., Trappe, T., Trappe, S. **Human Vastus Lateralis and Soleus Muscles Display Divergent Cellular Contractile Properties.** *Am J Physiol Regul Integr Comp Physiol.* 2008 Nov;295(5):R1598-8.

Abstracts/Poster Presentation

Pogue, K., Allan, G., Dungan, D., **Hayes, E.**, & Kendall, B. **Adherence to a lifestyle modification program: What can baseline differences tell us?** Indiana Physiological Society Annual Meeting, Indianapolis, IN, 2021.

O Winn, **E Hayes**, B Kendall. **Correlates Between Body Mass Index and Functional Fitness and Fall Risk in Pre-diabetic Patients.** Indiana Physiological Society Annual Meeting, Indianapolis, IN 2020.

M Holz, H Ewing, D Black, D King, **E Hayes.** **The Effect of Activity Level and Caloric Intake on a Brain-Health Protein, BDNF.** Midwest ACSM Chicago, IL 2019

Q Anderson, S Bergen, R Breuer, **E Hayes**, B Kendall. **Bouncing for Balance: Mini-Trampoline Training Reduces Fall Risk in Older Adults.** Midwest ACSM Chicago, IL 2019

Z Ham, J Noonan, D King, **E Hayes.** **Effect of Daily Physical Activity on Plasma BDNF and TNF-a levels.** Midwest ACSM, Grand Rapids, MI 2018

J Noonan, Z Ham, **E Hayes**, D King. **Effect of Daily Physical Activity on Plasma Ghrelin and Leptin levels.** Midwest ACSM, Grand Rapids, MI 2018

O Jones, M Starke, H Boy, **E Hayes**. **Acute Endothelial Function In Response to Consumption of a Fast Food Meal or Homemade Meal.** Midwest ACSM, Grand Rapids, MI 2017

D Young, A Sutter, J Adkins, S Wiese, **E Hayes**, and M Harber. **The Impact of Treadmill Workstation Use During the Workday on Risk Factors of Cardiovascular Disease.** MWACSM, Grand Rapids, MI, November, 2017

J Adkins, S Wiese, A Sutter, M Harber, **E Hayes**. **A Five Month Treadmill Workstation Intervention: Effect on Daily Step Counts, Cardiometabolic Risk Factors, Work Productivity, and Quality of Life.** Midwest ACSM, Fort Wayne, IN, 2016*

S Wiese, J Adkins, A Sutter, M Harber, **E Hayes**. **A Five Month Treadmill Desk Intervention: The Effect on Daily Step Counts and After Work Step Counts of University Employees.** Midwest ACSM, Fort Wayne, IN, 2016*

T Gaesser, W Maakestad, **E Hayes**, S Snyder. **Motivational Coaching Improves Intrinsic Motivation in Adult Fitness Program Participants.** Midwest ACSM, Fort Wayne, IN, 2016*

E Ivey, E Snyder, K Arvin, J Furrow, **E Hayes**, M Harber. **High Intensity Interval Exercise Acutely Reduces Central Blood Pressure and Peripheral Arterial Stiffness.** Midwest ACSM, Fort Wayne, IN, November 2015 & National ACSM, Boston, MA, 2016*

C Losey, D Thrush, A Malinowski, M Piacentini, & **E Hayes**. **High Intensity Aerobic Interval Training Stimulates Muscle Hypertrophy in Untrained Subjects.** Midwest ACSM, Detroit MI, November 2012 & National ACSM, Indianapolis, IN, 2013*

J Bagley, K Murach, **E Hayes**, A Galpin, K Minchev, T Gustafsson, P Tesch, S Trappe. **Skeletal Muscle Health in Elite Octogenarian Lifelong Endurance Athletes and Untrained Men: Part Two.** National ACSM, Indianapolis, IN, 2013

B Wilkerson, J Bagley, K Murach, **E Hayes**, A Galpin, B Jemiolo, T Gustafsson, P Tesch, S Trappe. **Skeletal Muscle Health in Elite Octogenarian Lifelong Endurance Athletes and Untrained Men: Part One.** National ACSM, Indianapolis, IN, 2013

J Kasper, D Johnson, **E Hayes**, & D King. **Muscle Fiber Typing By Identification of the Myosin Heavy Chain Using LCMS.** Experimental Biology Annual Conference, Boston, MA, 2013*

S Fenstermacher, K Cleary, B Kiedrowski, **E Hayes**, & D King. **Development of LCMS Method For Monitoring The Effects Of Meat Feasting, Fasting, And Exercise On Urinary 3-MH Levels.** Experimental Biology Annual Conference, Boston, MA, 2013*

E Salley & **E Hayes**. **Muscle Size Assessment With Panoramic Ultrasound: Measurement Reliability Among Varying Body Masses.** Experimental Biology Annual Conference, San Diego, CA, 2012*

R Graydon, J Krula, R Morris, D Thrush, & E Hayes. **Combined Training Elicits Greater Strength and Equal Hypertrophic Adaptations as Equal Volume Resistance Training.** Midwest ACSM; Indianapolis, IN, 2011*

E Hayes A Galpin, T Gustafson, P Tesch⁴, S Trappe. **Decreased Prevalence of Myosin Heavy Chain Hybrid Isoforms in Lifelong Endurance Trained Octogenarians.** National ACSM, Denver, CO, 2011

S Trappe, E Hayes, A Galpin, B Jemiolo, W Fink, T Trappe, L Kaminsky, A Jansson, T Gustafsson, & P Tesch. **New Records in Aerobic Power Among Octogenarian Endurance Athletes.** Integrated Biology of Exercise, Ft. Lauderdale, FL, 2010

N Luden, E Hayes, K Minchev, E Louis, U Raue, T Conley, S Trappe. **Skeletal Muscle Plasticity with Marathon Training in Novice Runners.** National ACSM, Baltimore, MD, 2010.

E Hayes, K Minchev, D Riley, V Vogel, M Gappa, B Kohn, D Costill, S Trappe. **Single Muscle Fiber Contractile Function of the Black Bear.** Integrated Biology of Exercise Conference V, Hilton Head, SC, 2008.

E Louis, N Luden, E Hayes, U Raue, B Jemiolo, and S Trappe. **Gene Expression Differs in Human Vastus Lateralis and Soleus Muscles in Response to Resistance Exercise.** Integrative Biology of Exercise V Conference, Hilton Head, SC, 2008

E Louis, N Luden, E Hayes, U Raue, B Jemiolo, and S Trappe. **Gender Comparison of Muscle Gene Expression in Response to Resistance Exercise,** Integrative Biology of Exercise V Conference, Hilton Head, SC, 2008

N Luden, K Minchev, E Hayes, E Louis, and S Trappe. **Human Single Fiber Physiology Differs Between Vastus Lateralis and Soleus Leg Muscles.** Integrative Biology of Exercise V Conference, Hilton Head, SC, 2008

T Conley, J Crane, J Dickinson, U Raue, N Luden, E Louis, E Hayes, B Jemiolo, M Harber, T Trappe and S Trappe. **Growth Response to Resistance Exercise: Influence of Exercise Device.** Integrative Biology of Exercise V Conference, Hilton Head, SC, 2008

T Conley, J Crane, J Dickinson, U Raue, N Luden, E Louis, E Hayes, B Jemiolo, M Harber, T Trappe and S Trappe. **Effect of Amino Acid Supplementation on Myogenic and Proteolytic Gene Expression Following Resistance Exercise.** Integrative Biology of Exercise V Conference, Hilton Head, SC, 2008.

N Luden, E Hayes, K Minchev, E Louis, S Trappe. **Single Fiber Physiology Differs Between Three Human Leg Muscles.** Experimental Biology Annual Conference, San Diego, CA, 2008.

K Olson, J Hyne, E Hayes. **Assessing the Need for and Feasibility of a Student Run Wellness Program.** Butler Undergraduate Research Conference, 2007.*

* Denotes undergraduate research projects

Presentations

Cardiovascular and Diabetes Coalition of Indiana Annual Summit – Keynote Speaker – February 2023

Indiana State Nutrition Action Committee (SNAC) Invited speaker - October 2022

Cardiovascular and Diabetes Coalition of Indiana regional meeting – Invited Speaker and Host - Fall 2022

Using Interdisciplinary Research Topics to Foster Collaborative Student Projects: Lessons Learned from Collaboration. SNAS Science Seminar, November 2013 – with Dr. Daniel King, Chemistry

New Ideas for the Core Curriculum. Colleagues College, August 2013

Invited Speaker. National ACSM Christian Fellowship Annual Luncheon, Indianapolis, IN, June 2013

Exercise is Medicine. Upland Community Church Men’s Breakfast, March 2012

Summer Research Presentation, CTLE Enrichment Luncheon, November 2011

Exercise is Medicine, Taylor University Well Day, April 2011

Skeletal Muscle Health With Aging: Insight From the Lifelong Exerciser, Mini-research Symposium, Karolinska Institute, Stockholm, Sweden, October 2009

Muscle Physiology, Whole Body to Gene, Taylor University Chemistry Dinner, April 2009

Awards and Recognitions

2021 Alumni Distinguished Professor of the Year Award

2015 Taylor University Teaching Excellence and Campus Leadership Award

Grant Submissions and Awards

\$16,000 IU Health - Home Health Care and Cardiac Rehab undergraduate pilot program. Funded

\$20,000 Indiana Department of Health – Heart Healthy Ambassador Self-Monitoring Blood Pressure pilot program. Funded

Role: Primary Author

\$300,000 Empowering Communities to Address Behavioral Health and Chronic Pain through Chronic Disease Self-Management Education Programs – Collaboration with IU Health – Not Funded

Role: Co-Investigator

\$8,013,000 Charting the Futures Lilly Endowment – Extending the Invitation: Strategic Collaboration for Rural Community Health Education. Invited for full proposal – Not funded
Role: Primary Author

\$1,000,000 Charting the Futures Lilly Endowment – Invitation Health and Wellness Program, Awarded September 2020.
Role: Primary Author

\$150,000 Grant County Community Foundation – Upstream Causes of Adult Obesity – Upland Area Greenways Collaboration – Not funded
Role: Primary Author

\$100,000 Sunlife Team Up Against Diabetes – Invitation Diabetes Prevention Program. Not funded
Role: Co-Author

\$9,600 FMUSS – Invitation: Patient Outcomes and Student Learning. Awarded March 2019
Role: Co-Investigator

\$10,000 FMUSS - The impact of treadmill workstations on employee health and productivity. Awarded March 2016.
Role: Primary Investigator

\$3,500 Women's Giving Circle – The impact of treadmill workstations on employee health and productivity. Awarded October 2015.
Role: Primary Investigator

\$4,000 FMUSS – Data reduction, analysis, interpretation, and manuscript preparation. Awarded Summer 2015.
Role: Co-Investigator

\$1,600 Provost CUR Grant - Curriculum mapping of research skills in the Exercise Science curriculum. Awarded Summer 2014.
Role: Primary Author

\$500 Foundational Core Mini Grant – Development of a new FC course for BIO-Premed majors: Exercise as Medicine. Awarded Summer 2014.
Role: Co-Author

\$8,444 Sustaining the Promising Futures; Faculty/Student Collaborative Grants - The effects of acute aerobic exercise and physical activity on muscle size as assessed by B-mode panoramic ultrasound – Awarded Summer 2014.
Role: Primary Investigator

\$34,000 Weaver Popcorn – Joint project to develop and implement corporate wellness program for Weaver Popcorn, Inc. September 2012 – Spring 2015.
Role: Primary Investigator

\$3,800 Women's Giving Circle Grant – Submitted fall 2012 in collaboration with psychology (statistical assistance) and physics engineering (completion of inertial ergometer). Awarded \$1800.

Role: Co-Investigator

\$196,000 NSF TUES Grant – Submitted May 2012 in collaboration with chemistry, biology, and psychology. Not Funded

Role: Co-Investigator

\$15,000 Indiana Space Grant Consortium –Submitted February 2012, Assessment of Muscleless using B-mode Panoramic Ultrasound. Not Funded

Role: Primary Investigator

\$5,000 Provost Mini-Grant for student travel to Experimental Biology Conference – Submitted August 2011 in collaboration with chemistry and biology. Awarded \$4000.

Role: Co-author

\$5,000 Women's Giving Circle Grant – Submitted fall 2011 in collaboration with psychology (statistical assistance) and physics engineering (inertial ergometer development). Awarded in full.

Role: Co-Investigator

\$20,000 CR&I Seed Grant – Submitted March 2011 in collaboration with chemistry to develop aging research and education collaborative research program. Awarded in full.

Role: Co-Investigator

\$500 Critical Thinking Skills Summer Mini Grant – Awarded Summer 2011

\$20,000 Provost Instrument Grant – Awarded fall 2010 for the purchase of a B-mode, diagnostic ultrasound.

Role: Primary Investigator

Current Research and Initiatives

1. *InVitATION – Inspire Vitality And Transformation In Our Neighborhoods*

This collaborative educational, research and community outreach program seeks to partner students pursuing careers in health care with the local health network to provide education and accountability for patients with risk factors for chronic disease seeking to make lifestyle changes. Partners include Reliant Health Care and IU Health, and Taylor University faculty including Diane Dungan, PhD, Erik Hayes, PhD, Brad Kendall, PhD, and Scott Fenstermacher, DPT.

Professional Activities

Memberships

American College of Lifestyle Medicine; 2022-present

American College of Sports Medicine; 2008 – present

American Heart Association; 2016

American Physiological Society; 2008 - 2014

National Athletic Trainer's Association; 1995 - 2007

Indiana Athletic Trainer's Association; 1998 – 2009

Certifications

National Athletic Trainers' Association Certified; August 4, 1996- December 31, 2013

Indiana Licensed Athletic Trainer; February 1998 - 2008
National Safety Council First Aid and CPR; 1998 - present
American Canoe Association Instructor; 2001-2006

Conferences and Professional Development

Indiana Physiological Society Annual Conference, Indianapolis, IN 2020*
 Indiana Physiological Society Annual Conference, Indianapolis, IN 2019*
 MWACSM Annual Conference, Grand Rapids, MI, 2018*
 MWACSM Annual Conference, Grand Rapids, MI, 2017*
 ACSM Annual Convention, Denver, CO, June 2017
 MWACSM Annual Conference, Fort Wayne, IN, November 2017*
 AHA Lifestyle & Epidemiology Annual Conference, Phoenix, AZ, March 2016
 ACSM Annual Convention, Orlando, FL, June 2014*
 Council for Undergraduate Research Conference, Lakeland, FL, April 2014
 ACSM Annual Convention, Indianapolis, IN, June 2013*
 Experimental Biology Conference, Boston, MA, April 2013*
 Experimental Biology Conference, San Diego, CA, April 2012*
 MWACSM Annual Conference, Indianapolis, IN, October 2011*
 ACSM Annual Convention, Denver, CO, June 2011
 Experimental Biology Conference, Washington D.C., April 2011
 Annual Midwest ACSM, Indianapolis, IN, October 2010*
 Integrated Biology of Exercise Conference V, Hilton Head, SC, September 2008
 Sports Nutrition and Exercise Workshop; Indianapolis October 2008*
 Annual ACSM Conference, Indianapolis, IN, May 2008
 Experimental Biology Conference, San Diego, CA, April 2008
 Adult Skeletal Muscle Symposium; Indianapolis, IN, July 2007
 CSCS online review course; 2006
 International Academy for Eating Disorders Conference, Indianapolis, IN, February 2006.*
 Exercise Etc., Exercise Programs for Older Adults; Indianapolis, IN, October 2005*
 Diet Revolution; Home study course 2004
 Strength Training for Seniors PACE workshop; Indianapolis, IN, April 2004*
 Foot Biomechanics Workshop; Indianapolis, IN, March 2004
 Low Back Injuries; Human Kinetics, Fall 2002
 ACA Instructor Update; Nantahala Outdoor Center, July 16, 2003
 Complementary and Alternative Medicine, Fort Wayne, IN, February 21, 2001
 The 6th Annual Sports Medicine Symposium for the Health Care Professional, Cinc., OH,
 March 2-3, 2001
 American Canoe Association Instructor Developmental Workshop, Madison, WI, May 18-
 20, 2001

* Denotes conferences or workshops in which I also took undergraduate students