

BIOGRAPHICAL SKETCH

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NAME: Byun, Wonwoo

eRA COMMONS USER NAME (credential, e.g., agency login): w.byun

POSITION TITLE: Assistant Professor of Health, Kinesiology, and Recreation

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)*

INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	Completion Date MM/YYYY	FIELD OF STUDY
Kyoungpook National University, Daegu, South Korea	B.S.	02/2003	Physical Education
Kyoungpook National University, Daegu, South Korea	M.S.	02/2005	Exercise Nutrition
Ball State University, Muncie, IN	M.S.	07/2007	Health Education
University of South Carolina, Columbia, SC	Ph.D.	05/2012	Exercise Science

A. Personal Statement**B. Positions and Honors****Positions and Employment**

2007 – 2013	Research Assistant, Children Physical Activity Research Group, University of South Carolina, SC
2012 – 2013	Clinical Assistant Professor, Clinical Exercise Program, Ball State University, IN
2013 – 2017	Assistant Professor, Health, Nutrition, and Exercise Science, North Dakota State University, ND
2017 –	Assistant Professor, Health, Kinesiology, and Recreation, University of Utah, UT

Other Experience and Professional Memberships

2005 –	Member, American College of Sports Medicine
2005 – 2007	Member, Indiana Public Health Association
2012 –	Ad hoc reviewer, Journal of Physical Activity and Health
2013 –	Member, American Heart Association
2013 –	Editorial board members, Science Postprint
2013 –	Ad hoc reviewer, Physiology & Behavior
2013 –	Ad hoc reviewer, Clinical Cardiology
2014 –	Member, American Public Health Association
2014 – 2016	Member, North Dakota Public Health Association
2014 –	Ad hoc reviewer, International Journal of Environmental Research and Public Health
2014 –	Ad hoc reviewer, Eating and Weight Disorders
2014 –	Ad hoc reviewer, Neuro Report
2014 –	Ad hoc reviewer, Health Education Journal
2014	Abstract reviewer, 142 nd American Public Health Association Annual Meeting and Exposition
2015 -	Editorial board members, Sports Nutrition and Therapy
2015 -	Editorial board members, Evidence-based Medicine & Public Health

- 2015 - Editorial board members, Austin Public Health
- 2015 - Editorial board members, Austin Journal of Nutrition & Metabolism
- 2015 - Ad hoc reviewer, Research Quarterly for Exercise and Sport
- 2015 - Ad hoc reviewer, The Journal of Early Adolescence
- 2015 - Ad hoc reviewer, Global Health Promotion
- 2015 - Ad hoc reviewer, American Journal of Preventive Medicine
- 2016 - Ad hoc reviewer, PLOS ONE
- 2016 - Ad hoc reviewer, Gait & Posture
- 2016 - Ad hoc reviewer, International Journal of Behavioral Nutrition and Physical Activity
- 2017 - Ad hoc reviewer, BMC Public Health
- 2016 – 2017 Abstract Reviewer, American Heart Association Scientific Session 2016 – Exercise, Physical Activity and Rehabilitation category
- 2017 - Lead Guest Editor, Biomedical Research International – Special Issue on Epidemiological Research in Physical Activity and Sedentary Behaviors
- 2018 Ad hoc reviewer, Journal of School Nursing

Honors and Awards

- 2010 Karen Hornbostel Memorial Award, American College of Sports Medicine Cancer Interest Group
- 2014 Involving Undergraduates in Research, College of Human Development and Education North Dakota State University, ND
- 2015 Exceptional Contributions as an Emerging Researcher, College of Human Development and Education North Dakota State University, ND

C. Contributions to Science

Through my research career, I have dedicated my research to: 1) understanding the levels of physical activity and/or sedentary behavior and how they independently and/or jointly influence the risk of obesity-related health outcomes in children, 2) exploring the factors at various levels (e.g., individual, environmental) influencing physical activity and sedentary behavior in children, 3) improving physical activity and sedentary behavior assessments in children, and 4) evaluating the evidence-based intervention strategies to modify physical activity and sedentary behaviors in children.

1. In the past seven years, I have gained extensive experience in physical activity and sedentary behavior-related observational studies as well as intervention studies. I was involved in multiple NIH funded (R01) large-scale observational and intervention projects to study physical activity, sedentary behavior, and health in children. I published several manuscripts relevant to this research area of my interest.
 - a. Pate RR, Mitchell JA, Byun W, Dowda M. Sedentary behaviour in youth. Br J Sports Med. 2011;45(11):906-913.
 - b. Byun W, Dowda M, Pate RR. Associations between screen-based sedentary behavior and cardiovascular disease risk factors in Korean youth. Journal of Korean medical science. 2012;27(4):388-394.
 - c. Byun W, Liu J, Pate RR. Association between objectively measured sedentary behavior and body mass index in preschool children. Int J Obes (Lond). 2013;37(7):961-965.
 - d. Byun W, Blair SN, Pate RR. Objectively measured sedentary behavior in preschool children: comparison between Montessori and traditional preschools. Int J Behav Nutr Phys Act. 2013;10:2.

2. I also have considerable background in assessment of physical activity, sedentary behavior, and energy expenditure using the state-of-the-art methods (i.e., Oxycon Mobile Indirect Calorimetry, ActiGraph Accelerometers, SenseWear Armbands, Fitbits, etc.). I am well-versed in designing, collecting, and analyzing physical activity data in both lab- and field-based settings. I've published several studies that contribute to improvements in measures of physical activity.

- a. Beets MW, Morgan CF, Banda JA, Byun W, et al. Convergent validity of pedometer and accelerometer estimates of moderate-to-vigorous physical activity of youth. *J Phys Act Health*. 2011;8 Suppl 2:S295-305.
 - b. Bornstein DB, Beets MW, Byun W, et al. Equating accelerometer estimates of moderate-to-vigorous physical activity: in search of the Rosetta Stone. *J Sci Med Sport*. 2011;14(5):404-410.
 - c. Ozemek C, Kirschner MM, Wilkerson BS, Byun W, Kaminsky LA. Intermonitor reliability of the GT3X+ accelerometer at hip, wrist and ankle sites during activities of daily living. *Physiological measurement*. 2014;35(2):129-138.
 - d. Addy CL, Trilk JL, Dowda M, Byun W, Pate RR. Assessing Preschool Children's Physical Activity: How Many Days of Accelerometry Measurement. *Pediatr Exerc Sci*. 2014;26(1):103-109.
 - e. Byun W, Beets MW, Pate RR. Sedentary behavior in preschoolers: How many days of accelerometer monitoring is needed? *Int J Environ Res Public Health*. 2015;12(10):13148-13161.
 - f. Byun W, Barry A. Energy Expenditure of Free-living Activities in 3- to 6-year-old Children. *Journal of Physical Activity and Health*. 2016; 13(6 Suppl 1):S3-6.
 - g. Byun W, Lee JM, Kim Y, Brusseau TA. Classification Accuracy of a Wearable Activity Tracker for Assessing Sedentary Behavior and Physical Activity in 3-5-Year-Old Children. *Int J Environ Res Public Health*. 2018; 15(4)
 - h. Byun W, Kim Y, Brusseau TA. The Use of a Fitbit Device for Assessing Physical Activity and Sedentary Behavior in Preschoolers. *Journal of Pediatrics*. 2018; (In press).
3. In addition to measurements of physical activity, another area of my research interest is physical activity epidemiology. I was able to take the lead on developing several manuscripts using large-scale data from population-based surveillance system (e.g., KNHANES) and prospective observational study (e.g., Aerobic Center Longitudinal Study) in adults. For instance, the Aerobics Center Longitudinal Study is an epidemiological observational cohort study which has tracked health behaviors and outcomes for more than 30 years in >80,000 participants. Research from this study has resulted in numerous publications on cardiorespiratory fitness, physical activity, and sedentary behavior in relation to various health outcomes. Under this line of research, I have published several peer-reviewed articles focused on health factors including physical activity, cardiorespiratory fitness, and obesity in relation to morbidity and mortality outcomes.
- a. Byun W, Sieverdes JC, Sui X, et al. Effect of positive health factors and all-cause mortality in men. *Med Sci Sports Exerc*. 2010;42(9):1632-1638.
 - b. Byun W, Sui X, Hebert JR, et al. Cardiorespiratory fitness and risk of prostate cancer: findings from the Aerobics Center Longitudinal Study. *Cancer epidemiology*. 2011;35(1):59-65.
 - c. Kim J, Byun W, Sui X, Lee DC, Cheng YJ, Blair SN. Heart rate recovery after treadmill exercise testing is an independent predictor of stroke incidence in men with metabolic syndrome. *Obesity research & clinical practice*. 2011;5(4):e267-360.

Complete List of Published Work in MyBibliography: (To be updated)

<http://www.ncbi.nlm.nih.gov/sites/myncbi/1fkk6964lOIQW/bibliography/47254603/public/?sort=date&direction=ascending>

D. Additional Information: Research Support and/or Scholastic Performance

Ongoing Research Support

Minnesota Beef Council Beef Protein Intake, Physical Activity, and Muscle Quality in Middle Aged-Men Role: Co-PI	Stastny, Hackney, Byun (PI)	6/2017 – 7/2018
National Cattlemen's Beef Association Beef Protein Intake, Physical Activity, and Muscle Quality in Middle Age-Women Role: Co-PI	Stastny, Hackney, Byun (PI)	5/2017 – 6/2018
North Dakota Beef Commission	Stastny, Hackney, Byun (PI)	7/2017 – 7/2019

The influence of animal-based protein and beef consumption on ability to perform functional activities, muscle quality, and bone mineral density among adolescent to older females

Role: Co-PI

University of Utah College of Health Research Pilot Grant Byun (PI) 11/2017 – 11/2018
Validation of Wearable Activity Monitors in Children
Role: PI

Completed Research Support

American Montessori Society Byun (PI) 6/2012

American Montessori Society Research Grant

Objectively measured physical activity and sedentary behavior in preschool children: Comparison between Montessori and traditional preschools.

Role: PI

NDSU/Health, Nutrition, and Exercise Sciences Byun (PI) 4/2014
Department of Health, Nutrition, and Exercise Sciences Seed Grant
Validation of Fitbit activity monitor in adults under free-living conditions
Role: PI

Sanford Health Hackney (PI) 7/01/2015 – 6/30/2017
Sanford Health – NDSU Collaborative Research Grant Program
Protein intake and muscular health with aging: Assessing Effect Modification by Increased Physical Activity
Role: co-PI