

CURRICULUM VITAE

Elizabeth (Beth) Stone Norris
Doctor of Physical Therapy Program
Western Kentucky University:

Education:

Degree: Doctor of Philosophy
Institution: Seton Hall University, South Orange, NJ
Major: Health Science
Date Awarded: 5/2003

Degree: Master of Science
Institution: Springfield College, Springfield, MA
Major: Exercise Physiology
Date Awarded: 5/1990

Degree: Bachelor of Science
Institution: University of TN Center for Health Sciences, Memphis, TN
Major: Physical Therapy
Date Awarded: 12/1986

Degree: Bachelor of Science
Institution: Austin Peay State University, Clarksville, TN
Major: Chemistry
Date Awarded: 5/1985

Licensure Information/Registration Number

Tennessee #1574
Kentucky #006824

Certifications:

Graduate of Higher Education Leadership Institute Fellowship; American Physical Therapy Association. July 2017-July 2018.

Orthopaedic Clinical Specialist, American Board of Physical Therapy Specialties
Issued: 4/23/1996
Expires: 6/30/2026
MOSC Cycle 2 Certified

Experienced Registered Yoga Teacher at the 500 Hour Certification Level (ERYT-500)
Yoga Alliance
Issued: 6/26/2011
Expires: 7/16/2025

Employment and Positions Held: Academic

Department Chair

Professor (tenured)
Doctor of Physical Therapy Program
Western Kentucky University
Bowling Green, Kentucky
September 2019 to Present

Interim Department Head/Director

Associate Professor (tenured)
Doctor of Physical Therapy Program
Western Kentucky University
Bowling Green, Kentucky
July 2018 to September 2019

Associate Professor (tenured)

Doctor of Physical Therapy Program
Western Kentucky University
Bowling Green, Kentucky
July 2017 to July 2018

Associate Professor

Doctor of Physical Therapy Program
Western Kentucky University
Bowling Green, Kentucky
August 2013 to June 2017

Adjunct Faculty

Department of Health and Human Performance
Austin Peay State University
August 2012 to August 2013

Assistant Professor

Tenured and Promoted to Associate Professor 2011
School of Physical Therapy
Texas Woman's University
Dallas, Texas
August 2005-2011

Adjunct/Lecturer,

Department of Physical Therapy
Dominican College Orangeburg, NY
September 2001 to December 2001
September 1999 to May 2000

Employment and Positions Held: Clinical

PRN Physical Therapy
Five Star Rehabilitation and Wellness
Clarksville, TN
June 2016 to May 2018

PRN Physical Therapist
Select Physical Therapy
Clarksville, TN
May 2012 to August 2013

Market Manager
Select Physical Therapy Services
Clarksville, TN
June 2011 to May 2012

Director of Ancillary Rehabilitation Services
Resurgens Orthopaedics
Atlanta, GA
October 2003 to February 2005

Director of Comprehensive Rehabilitation Center
Saint Barnabas Health Care System
Livingston, NJ
January 1999 to March 2003

Staff Physical Therapist
Saint Barnabas Health Care System
Livingston, NJ
April 1998 to January 1999

Management Consultant, Independent Contractor
Delaware, Pennsylvania, New Jersey
May 1993 to April 1998

Clinic Director
NovaCare Outpatient Centers
Greenwood Village, CO
October 1995 to January 1997

Coordinator of Physical Therapy
HealthSouth
Glendale, CO
April 1994 to April 1995

Physical Therapy Department Leader
Center for Spine Rehabilitation
Englewood, CO
July 1990 to April 1993

Staff Physical Therapist
Center for Spine Rehabilitation
Englewood, CO
July 1989 to July 1990

Staff Physical Therapist
Physical Therapy and Sports Medicine Associates
Windsor, CT
October 1987 to May 1989

Staff Physical Therapist
Wintonbury Continuing Care Center
Bloomfield, CT
January 1987 to October 1987

Peer-Reviewed Book Chapter Publications:

Norris B, Wang S. Book Chapter: Differential Diagnosis and Manual Therapy of the Lumbar Spine and Pelvis in Wallmann HW and Donatelli R and (eds.): *Foundations of Orthopedic Physical Therapy*, Slack. Published September 2023.

Norris B. Book Chapter:: Yoga for Musculoskeletal Conditions – An Overview and Summary of Evidence in Wallmann HW and Donatelli R (eds.): *Foundations of Orthopedic Physical Therapy*, Slack. Published September 2023.

Norris B. Book Chapter: Dysfunction, Evaluation, Diagnosis and Treatment of the Knee in Wallmann HW and Donatelli R (eds.): *Foundations of Orthopedic Physical Therapy*, Slack. Published September 2023.

Peer-Reviewed Publications:

Young SN, **Norris ES**, Shifflett T, Nisbet D, Saunders B, Driver C. Reliability of the Instrumented Modified Clinical Test of Sensory Interaction on Balance Using a Virtual Balance Device. *International Journal of Exercise Science*. 2024; 17(1): 1183-1192.

Tinius RA, Blankenship M, Maples JM, Pitts BC, Furgal K, **Norris E**, Hoover DL, Olenick A, Lambert J, Cade WT. Validity of the 6-Minute Walk Test and YMCA Submaximal Cycle Test during Mid-Pregnancy. *Journal of Strength and Conditioning Research*. 2021; 35(11): 3236-3242 (Accepted 05/16/2019; Published online 8/28/2019).

- VanWye R, Wallmann H, **Norris E**, Furgal K. Differential diagnosis of knee pain following a surgically induced lumbosacral plexus stretch injury: a case report. *Physiotherapy Theory & Practice*. Dec 2019; 35(12): 1355-1362.
- Furgal KE, Garrett Wright DM, **Norris EN**. Practice Matters: Screening for Upper Body Musculoskeletal Disorders in Faith Based Communities. *International Journal of Faith Community Nursing*. November 2018;4(2): 13-21.
- Falls D, Shake M, **Norris E**, Arnett S, Taylor J, Crandall KJ. Bingocize: Utilizing a mobile application to improve gait in community-dwelling older adults. *Amer J of Recreation Therapy*. 2018; 17(2).
- Furgal K, **Norris E**, Young S, Wallmann H. Relative and absolute reliability of the professionalism in physical therapy core values self-assessment tool. *Journal of Allied Health*. 2018: Spring;47(1):e45-e48 (Article #JAH-2017-01886R1)
- Norris B**, Neely K, Wright E, Riffey M, Sims, S. The reliability of smartphone and goniometric measurements of hip range of motion. *Journal of Rehabilitation Sciences and Research*. Oct 2016; 3(4): 77-84.
- Furgal K, **Norris E**. Feasibility and Implementation of a Video-Based Yoga Program in a Special Education Setting Using a Collaborative Model. *MOJ Yoga & Physical Therapy*. (Sept 2016) 1(1): 15-18).
- Norris B**, Hubbuch E, Ford A, Allen W. The relationship of weight-bearing and non-weight bearing ankle dorsiflexion to balance and gait performance in young and older adults. *Physical Therapy and Rehabilitation*. July 2016; 3(6): 1-8.
- Norris B**, Wallmann H. Static and dynamic balance after ankle plantarflexion fatigue in older adults. *Physical & Occupational Therapy in Geriatrics*. Jan 2016; 34(1): 57-70
- Norris B**, Trudelle-Jackson E. Hip and thigh muscle activity during performance of the star excursion balance test. *Journal of Sport Rehabilitation*. Nov 2011; 20(4): 428-441.
- Norris, B**, Olson S. Concurrent validity and reliability of two-dimensional video analysis of hip and knee motion during mechanical lifting. *Physiotherapy Theory and Practice*. 2011; 27(7): 521-530.
- Norris B**, Medley A. The effect of balance confidence and context on functional reach ability in healthy older adults. *Physical Medicine & Rehabilitation*. 2011; 3(9): 811-816.
- Norris B**, Medley A. The effect of context on functional reach ability in healthy adults ages 21-94. *Journal of Geriatric Physical Therapy*, 2011; 34(2): 82-87.

Peer-Reviewed Scientific and Professional Presentations:

Norris E, Furgal K, Pounders V, Pooler J, Samar M, Warren E. Accuracy of a Smartphone Application for Knee Range of Motion Measurements Performed by Asymptomatic Laypersons. [3 DPT students]. Poster presentation at APTA Combined Sections Meeting, Houston, TX: Feb 2025.

Norris E, Neelly K, McPherson A, Eastwood L, Goodby J, Krohman K, Williams M, Fall Risk Service-Learning and Student Confidence, Anxiety, and Perceptions in Working with Older Adults. [4 DPT students]. Poster presentation at APTA Combined Sections Meeting, Houston, TX: Feb 2025.

Neelly K, **Norris E**, Bryant C, Jenkins C, Labhart B, Thomas B. The use of wearable motion technologies to measure kinematics during the modified sit to stand task. [5 graduate students] Platform presentation at APTA Combined Sections Meeting, Boston, MA; Feb 2024.

Norris E, Head PL, Bell D, Childress H, Garza A, Harris T, Sasse J, Yoho K. The effect of real-time feedback on physical therapy student learning of glenohumeral joint mobilization. [5 graduate students] Poster presentation at APTA Combined Sections Meeting, Boston, MA; Feb 2024.

Norris B, Neelly K, Lashley J, Stackpole J, Gibson G,. The incorporation of clinical practice guidelines in entry-level doctor of physical therapy curriculum. [3 graduate students] Poster presentation at APTA Combined Sections Meeting, Boston, MA; Feb 2024.

Norris E, Eaton K, Houchins E, Meyer S, Tolbert M. Impact of COVID-19 influenced face-masks on dynamic gait performance. [3 graduate students]. Poster presentation at APTA Combined Sections Meeting, San Diego, CA; Feb 2023.

Young S, Burns NR, Garret BP, Fuller AS, Suratt CC, **Norris E**. The effect of COVID-19 on dynamic balance in young adults: an observational study. [4 graduate students]. Poster presentation APTA Combined Sections Meeting, San Diego, CA; Feb 2023.

Croxton K, Arias M, **Norris B**. Ambulation distance vs rate of supplemental oxygen titration in hospitalized COVID-19 patients. Western Kentucky Heart & Lung Research Foundation Symposium; Bowling Green, KY; April 22, 2022.

Norris E, Kennedy M, Harris P, Dye M, Smith N, Shofner K, Within and between day reliability of knee motion collected with a single-camera 3D motion analysis system. 2019-present. [4 graduate students]. APTA Combined Sections Meeting, San Antonio, TX; Feb 2022.

Kennedy M, **Norris E**, Dye M, Smith N, Shofner K, Harris P. Reliability and agreement of real-time visual assessment of knee movement during a drop vertical jump test. 2019-present. [4 graduate students]. APTA Combined Sections Meeting, San Antonio, TX; Feb 2022

Furgal K, **Norris E**, Albertson T, Copeland A, Lantrip C. Internal versus External Focus of Attention in functional Reach in Down Syndrome Patients, aged 5-15 years. [3 graduate students]. APTA Combined Sections Meeting, San Antonio, TX; Feb 2022

Ciccotelli J, **Norris E**, Howland C, Moulton J. Anatomy Education Today: Integrating Technology Into Your Classroom. Educational session presented at APTA CSM February 2021 (held virtually).

Kennedy MW, **Norris ES**, Brockman DL, McPherson CH. Blood flow restriction therapy in a high school basketball player post meniscus repair. APTA NEXT Conference 2020, June 3-6, 2020, Phoenix, AZ [conference held virtually secondary to COVID-19].

Norris ES, Gilmore KL, Hughes GR, Phillips KP. A game based balance training intervention with an external focus of attention: a case series. APTA NEXT Conference 2020, June 3-6, 2020, Phoenix, AZ [conference held virtually secondary to COVID-19].

Norris ES, Sternberg MM, Patterson JA, Young SN. Concurrent validity and reliability of the virtusense for the assessment of spatiotemporal gait parameters. APTA NEXT Conference 2020, June 3-6, 2020, Phoenix, AZ [conference held virtually secondary to COVID-19]

Norris ES, Neelly K, Crandal J, Bean K, Ray K, Sadler S. Older adults' falls efficacy, physical activity, sleep quality, and performance after Bingocize®. Optimal Aging Conference 2020, April 19-20, 2020, Louisville, KY [conference postponed to 2021 secondary to COVID-19].

Norris ES, Keen KI, Thomas KN, Willie ME. The acute effects of yin and restorative yoga on musculoskeletal, cardiopulmonary, and psychological parameters. APTA Combined Sections Meeting - Denver, CO, February 2020.

Young SN, Youngquist CL, Raymer CC, McNeil ED, **Norris ES**. The immediate effects of low frequency whole body vibration on balance in Parkinson's Disease. APTA Combined Sections Meeting - Denver, CO, February 2020.

Young SN, Shifflett TB, Nisbet DB, Saunders BE, Driver CZ, **Norris ES**. Reliability of the modified clinical test of sensory interaction on balance using a virtual device. APTA Combined Sections Meeting - Denver, CO, February 2020

Furgal K, Payonk E, Rowland E, **Norris E**. Motor imagery techniques and motor performance in children in Piaget's pre-operational phase. American Academy of Pediatric Physical Therapists Annual Conference, 11/18, Chattanooga, TN.

Hoover DL, O'Brien J, Arnett SW, Schafer MA, Judge LW, **Norris B**. Field testing equations for predicting maximal anaerobic power. Annual Meeting of the National Strength and Conditioning Association. Indianapolis, IN (July 2018).

Chumbley A, Clayton MB, Young S, Downing T, VanArsdall N, Watson C, VanWye R, **Norris E**. The effects of orthotics and whole body vibration on gait, balance, and gross motor functions in children with down syndrome. American Physical Therapy Association Annual NEXT Conference; June 2018.

Hoover DL, Knott SK, Bidwell CA, Revlett CA, Parks SA, Webb DT, Judge LW, **Norris E**, Arnett SW. Power but not fatigue is influenced by hot and cold immersion prior to vigorous cycling. American College of Sports Medicine Annual Conference. Minneapolis, MI. May 2018

Norris E, Renfrow B, Hartig C, Jones B. Acute effects of a yoga based warmup compared to a traditional dynamic warmup on measures of athletic performance. American Physical Therapy Association Combined Sections Meeting, New Orleans, LA, Feb 2018

Norris E, Burke E, Newton M, Sydnor T, Turner M, Furgal K, Wallmann H. Limb dominance and symmetry during functional performance tests. American Physical Therapy Association Combined Sections Meeting, New Orleans, LA, Feb 2018.

Bidwell CA, Hoover DL, Knott SK, Parks SE, Revlett CA, Webb DT, **Norris E**, Arnett S, Judge LW. The effects of heat and cold immersion on performance measures during the Wingate Anaerobic Test. American Physical Therapy Association Combined Sections Meeting, New Orleans, LA, Feb 2018

Norris B, Bower A, Grothe J, Vincent E, Walters K, Hoover D. (2017). Acute musculoskeletal, cardiovascular and psychological responses during hot yoga and yoga at standard room temperature. American Physical Therapy Association NEXT conference. Boston, MA. June 2017.

Norris B, Bower A, Grothe J, Vincent E, Walters K, Hoover D. (2017). The effect of temperature and experience on acute musculoskeletal and cardiovascular responses during yoga. American College of Sports Medicine Annual Conference, May 2017, Denver CO.

Taylor L, Young S, Le D, Mahoney B, McCandless S, **Norris E**. Prevalence of and risk factors associated with congenital anomalies of the nervous system in Kentucky 2000-2010. APTA Academy of Pediatric Physical Therapy Annual Conference, Nov. 2016, Denver CO.

Norris B, Harlan J, Dahl D., Boone L, Furgal K. (2016). Stability of spatiotemporal gait parameters and gait variability long distance walking in older and young adults. American Physical Therapy NEXT conference, June 2016, Nashville, TN.

Steenbergen I, **Norris B**, Hoover D, Arnett S. (2016). Poster Presentation. Fall injury needs assessment in rural adults. American Physical Therapy NEXT conference, June 2016, Nashville, TN.

Norris B, Neely K, Wright E., Riffe M., Sims, S. (2016). Poster Presentation. Reliability and concurrent validity of a smartphone application measuring hip mobility. American Physical Therapy Combined Sections Meeting, Anaheim, CA, February 2016.

Norris B, Hubbuch E, Allen W, Ford A. (2016). Poster Presentation. The relationship of weight bearing ankle dorsiflexion and functional performance. American Physical Therapy Combined Sections Meeting, Anaheim, CA, February 2016.

Harlan J, **Norris B**, Dahl D., Boone L, Furgal K. (2016). Poster Presentation. Spatiotemporal gait parameters during short and long distance walking tests in healthy young and older adults. American Physical Therapy Combined Sections Meeting, Anaheim, CA, February 2016.

Norris ES, McMullen RS, Weatherhold WT, Arnett SW, Judge LW, Schafer MA, Hoover DL. (2015). Poster Presentation. Cross-country cycling does not significantly affect bone mineral density measures. National Strength & Conditioning Association national conference. Orlando, FL, June 2015.

Judge, LW, Bellar DM, **Norris ES**, McMullen RS, Weatherhold WT, Arnett SW, Schafer MA, Hoover DL. (2015). Poster Presentation. Novice cyclists' show improved aerobic fitness measures following ride across United States. National Strength & Conditioning Association national conference. Orlando, FL. June 2015.

Arnett SW, **Norris ES**, Weatherholt WT, McMullen RS, Judge LW, Schafer MS, Hoover, DL. (2015). Ratings of perceived exertion lessened following bike ride across America. National Strength & Conditioning Association national conference. Orlando, FL. June 2015.

Norris B, Medley A, Antes K, Bireley J, Kunze C, Mandeville H, Miller C, Selby K. (2012). Poster Presentation. Test-Retest reliability and minimal detectable change for spatio-temporal gait parameters during dynamic gait tasks in healthy young and older adults. American Physical Therapy Combined Sections Meeting, Chicago, I, February 2012.

Norris B, Medley A. (2011). Poster Presentation. Postural control during context oriented functional reach in healthy adults. American Physical Therapy Association, Combined Sections Meeting, New Orleans, LA.

Norris B, Petterborg L. (2011). Poster Presentation. Computer assisted instruction as a supplement to traditional learning in a professional physical therapist education program. American Physical Therapy Association, Combined Sections Meeting, New Orleans, LA.

Norris B, Medley A, Hoverstadt K, Lipman B, Rea J, Rooney M, Simonson S, Terrell T. Poster Presentation. (2010). Center of pressure measures of postural stability during context oriented functional reach in healthy adults. Texas Physical Therapy Association Annual Conference, Arlington, TX.

Norris B., Medley A. (2010). Poster Presentation. The effect of context and balance confidence on functional reach ability in healthy, older adults. American Physical Therapy Association, Combined Sections Meeting, San Diego, CA.

Norris B, Trudelle-Jackson. (2010). Poster Presentation. Hip and thigh muscle activity during the star excursion balance test. APTA, CSM, San Diego, CA.

Medley A, **Norris B**, Lea M, Mason M, Pham N, Rankin A, Green J, Moeller J, Young J. The effect of context and balance confidence on functional reach ability in healthy, older adults. 2009. Texas Physical Therapy Association Annual Conference, Austin, Tx

Norris B, Medley A. (2009). Poster Presentation. The effect of context and age on functional reach ability in healthy adults ages 21-89. American Physical Therapy Association, Combined Sections Meeting, Las Vegas, NV.

Norris, B. (2009). Poster Presentation. Reliability and validity of two-dimensional motion analysis of a dynamic lifting task. American Physical Therapy Association, Combined Sections Meeting, Las Vegas, NV.

Norris B, Medley A. (2008). Platform Presentation. The effects of context on functional reach ability in healthy adults. American Physical Therapy Association, Combined Sections Meeting, Nashville, TN.

Norris B, Pinto-Zipp G. (2003). Poster Presentation: The effects of practice under conditions of contextual interference on the interjoint coordination of squat lifting. New Jersey Physical Therapy Association, Annual Spring Conference, Woodbury, NJ.

Manuscripts or Presentations in Preparation or Submission for Peer Review Dissemination

Norris E, Neelly N, Bryant C, Jenkins C, Labhart B, Thomas B. The use of wearable motion technologies to measure kinematics during the modified sit to stand task. (FA 2021-present). *Manuscript in preparation.*

Norris B, Head P, Tolbert M, Boothe W, Miller A, Hale B, Stalcup K. The immediate effect of real-time feedback training on knee and hip landing mechanics during functional tasks. *Manuscript in preparation*.

Norris B, Neelly K, Lashley J, Stackpole J, Gibson G,. The incorporation of clinical practice guidelines in entry-level doctor of physical therapy curriculum. In preparation for submission to *Orthopaedic Physical Therapy Practice*, Spring 2025.

Norris E, Harris P, Dye M, Smith N, Shofner K, Kennedy M. Within and between day reliability of knee motion collected with a single-camera 3D motion analysis system. In preparation for submission to *International Journal of Sports Physical Therapy*, Summer 2025.

Norris E, Dye M, Smith N, Shofner K, Harris P, Kennedy M. Reliability and agreement of real-time visual assessment of knee movement during a drop vertical jump test. In preparation for submission to *International Journal of Sports Physical Therapy*, Summer 2025.

Non-Peer-Reviewed Presentations:

WKU DPT Research Inservices for Faculty; **Dr. Elizabeth Norris**, Facilitator:

- Reliability Study Designs; 2 hours; January 19, 2018.
- Reliability Study Statistical Analysis; 2 hours; January 26, 2018.

WKU DPT Writing Test Items for DPT Comprehensive Examination – Inservice for DPT Faculty; **Dr. Elizabeth Norris**, Facilitator: 2 hours; January 5, 2017

Young S, **Norris E**, Furgal K, Wallmann H. Effects of community service projects on the development of professional behaviors in physical therapy students. 2016. Poster Presentation at WKU CHHS REACH Week.

Norris B (2012). Invited Presentation. Parkinson’s Support Group- the Benefits of Exercise and Physical Therapy for Individuals with Parkinson’s disease.

Norris B, (2011). Invited Presentation. Murfreesboro Running Club- The Benefits of Yoga for Runners.

Luedtke-Hoffman K, **Norris B**. (2007). Invited Presentation. North Texas Physical Therapy Association - Evidence based practice: what is it and how do I do it?

Norris B. (2009). Invited Presentation. The development of a multimedia instructional tool for medical kinesiology. Texas Physical Therapy Faculty Summit Annual Conference, Dallas, Tx

Norris B. (1999). Invited Presentation. Annual Fall Conference - Analysis of scapular muscle activity during performance of shoulder rehabilitation exercises.

Norris B, Stiskall D. (1999). Poster Presentation; Seton Hall University, 10th Annual Research Colloquium - Analysis of scapular muscle activity during performance of shoulder rehabilitation exercises.

Grant Activity

Norris E, Pounders V, Ballance L, Buller D, Holland G, Rayno A. Awarded \$1350. The effects of percussive massage after fatiguing eccentric exercise to the hamstrings. February 2025. WKU CHHS QTAG.

Norris E, Furgal K, Pounders V, Pooler J, Samar M, Warren E. Awarded \$650. Accuracy of a Smartphone Application for Knee Range of Motion Measurements Performed by Asymptomatic Laypersons. March 2024. WKU CHHS QTAG

Norris E, Head PL, Bell D, Childress H, Garza A, Harris T, Sasse J, Yoho K. Awarded \$2520. The effect of real-time feedback on physical therapy student learning of glenohumeral joint mobilization. February 2023. WKU CHSS QTAG

Norris B, Head P, Tolbert M, Boothe W, Miller A, Hale B, Stalcup K. Awarded \$1800. The immediate effect of real-time feedback training on knee and hip landing mechanics during functional tasks. March 2022. WKU CHSS QTAG

Norris E, Neelly KR, Crandall J, Bean K, Ray K, Sadler S. (Role: Primary Investigator, **Norris, E**) Awarded \$1800.00. The effect of Bingocize® on physical activity, functional performance ability, sleep quality and falls efficacy in older adults residing in an assisted or independent living facilities. 2019. WKU QTAG.

Keen K, Jones M, Thomas K, Willie M., **Norris E** (Role: Graduate Research Advisor). Graduate Student Research Grant. Awarded \$2833.86. Oct. 2018. A comparison of the acute effects of Yin Yoga, Restorative Yoga, and Static Stretching on flexibility, blood pressure, heart rate and perceived stress in healthy adults.

Glimore, K (recipient), Hughes GR, Phillips KP, **Norris E** [Role: Graduate Research Advisor]. Graduate Student Research Grant. Awarded \$1293.50. Jan 2018. A game based balance training intervention with an external focus of attention: a case series.

Crandall J (PI), Neils-Strunjas J (Co-PI); Key Personnel: Schafer M, Shackelford J, **Norris, B.** United States Center for Medicare Services Civil Money Penalty Grant; Role: WKU Faculty Personnel; Bingocize: An evidence-based health promotion program to improve the quality of life in Kentucky certified nursing facility residents. \$7382 received over 3 summers: 2017 (\$2388), 2018 (\$2460), 2019 (\$2534) for off contract disbursement.

Norris B, Bower A, Grothe J, Vincent E, Walters K (Role: primary investigator), **Norris, E**) Awarded: \$2844.60. The cardiovascular, musculoskeletal, and physiological effects of hot yoga on novice and experienced practitioners. Spring 2016. WKU QTAG Grant:

WKU RCAP II Grant: Application submitted Feb 2016 for the project titled “The effects of an 8 week hot yoga program on physical performance, physiological responses, mindfulness and perceived stress”. **Role PI**. Amount requested: \$7699.00: Not Funded.

Norris, B. (Role: primary investigator). Awarded \$1583.93. The effect of therapeutic exercise to the plantar cutaneous receptors of the feet on balance and cutaneous sensation. Fall 2015. WKU CHHS Faculty Research Scholarship.

Young S, **Norris B**, Furgal K. (Role: co-investigator). Awarded \$2291.00. Effects of a Community Service Project on the Development of Professional Behaviors in Physical Therapy Students. Spring 2015. WKU CHHS Faculty Research Scholarship:

Norris, B . (Role: primary investigator). Awarded \$1478. The Development and Implementation of Multimedia Computer Assisted Instructional Modules: Application to Human Anatomy and Medical Kinesiology in a Doctor of Physical Therapy Program: 2010-2011. TWU Faculty Development Grant.

Current Research Activity:

As Primary DPT Graduate Research Supervisor or Co-Supervisor

- Anthony B, Rager P, **Norris E**, Mancini A, McPherson A. Bringing wellness into the DPT classroom. 2023-present. Primary Investigator [2 DPT students].
- Ballance L, Buller D, Holland G, Rayno A, **Norris E**, Pounders B. The effects of percussive massage after fatiguing eccentric exercise to the hamstrings. 2023-present. CO-Primary Investigator [4 DPT students].
- Cline AJ, Largen G, Petitt H, **Norris E**. Integration and Clinical Utility of Mobile App use in physical therapy practice. 2023-present. Primary Investigator [3 DPT students].
- O’Daniel S, Decker E, Gobin J, Norris E, Furgal K. Demystifying assistive device use for older adults. 2024 – present.

Completed DPT or MS PT Graduate Research Projects functioning as Primary Graduate Research Supervisor or Co-Supervisor:

- Pooler J, Samar M, Warren E, **Norris E**, Furgal K, Pounders V. Accuracy of a Smartphone Application for Knee Range of Motion Measurements Performed by Asymptomatic Laypersons. 2022-2025. Primary Investigator [3 DPT students].
- Eastwood L, Goodby J, Krohman K, Williams M, **Norris E**, Neelly K, McPherson A. Fall Risk Service-Learning and Student Confidence, Anxiety, and Perceptions in Working with Older Adults. 2022-2025. Primary Investigator [4 DPT students].
- Childress H, Garza A, Harris A, Sasse J, Yoho K, **Norris E**, Head P, Bell D. The effect of real-time feedback on physical therapy student learning of glenohumeral joint mobilization. 2021-2024. Primary Investigator [5 graduate students].

- Bryant C, Jenkins C, Labhart B, Thomas B, **Norris E**, Neelly K. The use of wearable motion technologies to measure kinematics during the modified 30-second sit to stand task. 2021-2024. Primary investigator [5 graduate students]
- Lashley J, Stackpole J, Gibson G, **Norris B**, Neelly K. The incorporation of clinical practice guidelines in entry-level doctor of physical therapy musculoskeletal curriculum. 2021-2023. Primary investigator [3 graduate students]
- Booth W, Miller A, Hale B, Stalcup S, **Norris B**, Tolbert M, Head P Immediate effect of real-time virtual feedback training on knee landing mechanics. 2021-2023. Primary investigator [4 graduate students]
- Eaton K, Houchins E, Meyer S, **Norris B**, Tolbert M. Impact of COVID-19 influenced face-masks on dynamic gait performance. 2021- 2023. Primary investigator [3 graduate students]
- Furgal K, **Norris E**, Medley A, Geary T, Adams S, Albright A, Galia K. Effects of Wearing a Face Mask on Motor Coordination, Functional Performance, and Gait in Children. 2021-2023. Co-Investigator [5 graduate students]
- Young S, Burns NR, Garret BP, Fuller AS, Suratt CC, **Norris E**. The effect of COVID-19 on dynamic balance in young adults: an observational study. 2021-2023. Primary investigator [4 graduate students]
- Harris P, Dye M, Smith N, Shofner K, **Norris E**, Kennedy M. Within and between day reliability of knee motion collected with a single-camera 3D motion analysis system. 2019-2022. Primary investigator [4 graduate students]
- Dye M, Smith N, Shofner K, Harris P, **Norris E**, Kennedy M. Reliability and agreement of real-time visual assessment of knee movement during a drop vertical jump test. 2019-2022. Primary investigator [4 graduate students]
- Criswell J, Maguet K, **Norris E**, Kennedy M. The impact of standing and sitting desks on physical discomfort, fatigue, and concentration during a traditional graduate lecture in physical therapy. 2019-2022. Primary investigator [2 graduate students]
- Furgal K, **Norris E**, Albertson T, Copeland A, Lantrip C. Internal versus External Focus of Attention in functional Reach in Down Syndrome Patients, aged 5-15 years. 2019 to 2022. Co-Investigator [3 graduate students]
- Two Dimensional versus Three-Dimensional Visual Analysis of Knee Valgus during Activity: A Critically Appraised Topic. (2018-2021; Co-PI with Dr. Mike Kennedy; 4 DPTstudents)
- Dowden J; Phelps G, Boone D, Arnold B, Kennedy M, **Norris B**. Reliability of visual analysis of knee valgus during activity: a critically appraised topic. (2018-2021; Co-PI with Dr. Mike Kennedy; 4 DPT students)
- BINGOcize®: A potential tool for improving therapeutic outcomes in older adults. (2017-2020, PI, 3 DPT graduate students, 1 KRS MS student, co-PI with Dr. Jason Crandal)
- Use of blood flow restriction in the physical therapy management of musculoskeletal dysfunction: a case report. (2017-2020, Co-PI, 2 graduate students; co-PI with Dr. Michael Kennedy)
- Reliability of temporal and spatial parameters assessed with the VirtuSense and GAITRite. (2017-2020, PI, 2 graduate students)

- A comparison of the acute effects of yin, restorative yoga and static stretching on flexibility, blood pressure, heart rate and perceived stress in healthy adults. (2017-2020, PI, 4 graduate students)
- Yoga for Individuals with Down Syndrome. (2017-2020; Co-PI, 3 graduate students)
- Cardiovascular responses to light-intensity lower-extremity cycling with and without blood flow restriction in apparently healthy adults age 30-60. (assumed role as supervisor for this project in Aug 2018-2019, 3 graduate students).
- The effect of lower extremity blood flow restriction training on proximal musculature. (assumed role as supervisor for this project in Aug 2018-2019, 4 graduate students).
- The development and implementation of a computer-assisted learning module for spine orthopedic rehabilitation. (2016-2019; PI, 3 graduate students)
- The effect of training with external focus of attention on balance ability of older adults. (2016-2019; PI, 3 graduate students)
- The effects of orthotics and whole body vibration on gait, balance, and gross motor functions in children with Down syndrome. (2015-2018, co-supervisor, Young S (PI); 4 graduate students)
- The effect of a yoga based dynamic warm-up on athletic performance. (2015-2018; PI, 3 graduate students)
- Defining the dominant leg: a comparison of power, strength and agility. (2015-2018; PI, 4 graduate students)
- The cardiovascular, musculoskeletal, and physiological effects of hot yoga on novice and experienced practitioners (Oct 2014-May 2017; PI, 4 graduate students).
- The effect of therapeutic exercise to the plantar cutaneous receptors of the feet on balance and cutaneous sensation. (Oct 2014-May 2017; PI, 3 graduate students).
- Stability of spatiotemporal gait parameters and gait variability long distance walking in older and young adults. (2013-2016; Co-PI, 3 graduate students).
- Reliability and concurrent validity of a smartphone application measuring hip mobility. (2013-2016; PI, 3 graduate students).
- The relationship of weight bearing ankle dorsiflexion and functional performance. (2013-2016; PI, 3 graduate students).
- Test-Retest reliability and minimal detectable change for spatio-temporal gait parameters during dynamic gait tasks in healthy young and older adults. (2010-2012; PI, 6 graduate students).
- Dynamic postural control during context oriented functional reach tasks. (2009-2011; PI, 4 graduate students).
- The usefulness of context oriented functional reach and balance confidence in predicting fall risk. (2009-2011; PI, 3 graduate students).
- Psychometric properties of context oriented functional reach tests. (2009-2011; PI, 4 graduate students).
- The effect of context and balance confidence on functional reach ability in healthy older adults. (2008-2010; PI, 3 graduate students).
- The effect of context and balance confidence on functional reach ability in healthy older adults- a pilot study. (2008-2010; PI, 2 graduate students).

- Quantitative assessment of temporal spatial parameters gait in healthy older adults using the functional gait assessment. (2008-2010; PI, 2 graduate students).
- Postural stability during a dynamic lifting task. (2007-2009; PI, 2 graduate students)
- Hip muscle activity and lower extremity kinematics during the star excursion balance test. (2007-2009; PI, 3 graduate students).
- The development of a kinesiology multimedia teaching tool for the shoulder region. (2007-2009; PI, 4 graduate students).
- Reliability and validity of two-dimensional motion analysis of a dynamic lifting task. (2007-2009; PI, 1 graduate student)
- A comparison of gait assessment using the functional gait assessment and GAITRite. (2006-2007; PI, 2 graduate students).
- The reliability and validity of two-dimensional motion analysis of a lifting task. (2006-2007; PI, 2 graduate students).
- The effect of context on functional reach ability in healthy adults. (2006-2007; PI, 2 graduate students).
- Postural stability and perceived effort during speed and accuracy constrained aiming tasks. (2006-2007; PI, 2 graduate students).
- The development of a kinesiology multimedia teaching tool for the foot and ankle. (2006-2007; PI, 2 graduate students).

Membership in Scientific/Professional Organizations:

Member American Physical Therapy Association – 1985 to present

Orthopaedic Section – 1990 to present

Education Section- 2010 to present

Anatomy Educators SIG member (2018-present)

Research Section – 2010 – present

Geriatrics Section – 2007-present

Kentucky Physical Therapy Association – 2016 to present

Tennessee Physical Therapy Association – 2011 to present

Phi Kappa Phi – lifetime member since 1991

Consultative and Advisory Positions Held:

AHEC Advisory Board, member (Fall 2019-present)

Services to the University/College/School on Committees/Councils/Commissions:

University-wide

- Graduate Faculty Status (WKU Fall 2013-present)
- Director, School of Nursing and Allied Health Search Committee Chair – (May 2023-March 2024).
- Dean, College of Health and Human Services 360 Degree Review Committee Member (Fall 2022-Spring 2023).
- REACH WEEK Judge for poster presentations. April 2022

- REACH WEEK Judge for poster presentations. April 2021
- Associate Provost for Research and Graduate Education Search Committee Member – (August 2019-March 2020)
- University Curriculum Committee, member, Aug 2017-May 2018
- University Faculty Senate, DPT Program Representative, Aug 2017-May 2018
- Advisory Committee on Faculty Continuance, Promotion and Tenure. Spring 2018; Committee member for 2 faculty appeals.
- REACH WEEK Judge for poster presentations. March 2017
- REACH week Judge for oral presentations. March 27, 2015
- DPT Library Liaison (Fall 2016-2021)
- Allied Health Library Liaison (Fall 2014-May 2016)

School (“College”)

- CHHS Administrative Council, member (Summer 2018-present)
- CHHS Graduate Curriculum Committee, Member (Fall 2016-May 2018)
- CHHS Research Advisory Committee, member (Aug 2015-2021)
- CHHS Health Science Technology Day. Volunteer. Nov 2017
- CHHS Faculty Travel Committee (Fall 2015-May 2016); committee member
- CHHS Graduate Curriculum Committee, Alternate (Fall 2014-May 2016)
- CHHS Search Committee Associate Dean of Research and Administration, Apr-May 2017
- KRS Master Thesis Committee (Fall 2015 to May 2017); member

Department

- DPT Department Chair (Sept 2019-present)
- DPT Strategic Planning Retreats – Chair (Jan, May, Aug 2022)
- DPT Curriculum Mapping Retreat – Chair (April, May 2022)
- DPT Reaffirmation Visit Coordination – June 2021
- DPT Self-Study Report – Writing (Fall 2020-Spring 2021)
- DPT Curricular Review Retreat – Chair (May 5-18 2020; May 20-21 2020)
- DPT Interim Department Chair (July 2018-Sept 2019)
- DPT Faculty Search Committee (May 2017-June 2017): Member
- DPT Faculty Search Committee (Fall 2015-April 2016): Member
- DPT Faculty Search Committee (Fall 2014-April 2015): Chair
- DPT Program Assessment Committee (Fall 2014-2018): Chair
- DPT Program Curriculum Committee (Fall 2017-present): Member
- DPT Program Research Day Ad Hoc Committee (Fall 2014-2016): Chair
- DPT Program Admissions Committee (Fall 2013-2016); committee member
- DPT Faculty Search Committee (Fall 2013-May 2014): committee member
- DPT Program, Research, Coordinator of DPT Student Research Project (Fall 2013-present)

Public - Professional Service

- **APTA Geriatrics CSM Programming Committee**
 - Member. March 2023-Feb 2024
 - Member. March 17. 2022-Feb 28, 2023
- **APTA-KY Fall Conference Planning Committee**
 - Member. May 10, 2021 – September 10, 2022
- **Manuscript Reviewer**
 - Gait & Posture, 2016-present
 - Journal of Sport Rehabilitation, 2011-present
 - Journal of Sport Physical Therapy 2014-present
 - International Journal of Exercise Science 2014-present
 - Physiotherapy Theory & Practice 2013-3032
- **Interprofessional Collaboration and Team Skills (iCATS)**
 - Facilitator: 2019, 2021, 2023, 2024
 - Member of planning group to initiate IPE, December 2018-February 2019
- **Kentucky Geriatric State Advocate**
 - American Academy of Geriatrics, August 2016-May 2021
- **Booth Volunteer- Education Leadership Institute**
 - Education Leadership Conference, October 2019
- **Volunteer Review of Abstract Submissions**
 - Education Leadership Conference, May 2019
- **Booth Volunteer -Education Leadership Institute**
 - CSM, January 2019
- **Session Moderator**
 - Education Leadership Conference, Oct 2018
- **External Reviewer** for Physical Therapy Faculty Member Tenure and Promotion
 - Idaho State University, Sept 2018
- **Volunteer Review of Abstract Submissions**
 - Education Leadership Conference, 2018
- **External Reviewer** for Physical Therapy Faculty Member Promotion
 - University of Michigan, Flint: June 2016-Aug 2016
- **NEXT Conference Session Moderator**, June 2016
- **Item Writer** FSBPT; May -August 2016
- **Coordinator** WKU DPT Research Showcase
 - Western District Meeting, KPTA, May 2016, 2017

Community Service

- Project Transformation, Volunteer, June 2024, June 13, 2022
- Young Life Leader sponsor, 2021, 2022
- Operation Christmas Child. Packer. October 2021 Hilldale United Methodist Church
- Yoga Basics. Invited volunteer leader for a 12 week weekly yoga class held at Hilldale United Methodist Church. Jan-April 2018.
- Sunrise Rotary Club

- Guest Speaker, January 15, 2015. Topic: Yoga for Physical and Mental Wellness.
- Hilldale United Methodist Church-Staff Parish Relations Committee, Committee Member, January 2, 2014 – December 2016.
- Yoga for the Community-Program Organizer, Clarksville, TN, Jan 2013-May 2015.
- Guest Speaker-Clarksville Academy Challenge Based Learning. (Jan 24, 2014; Clarksville, TN)
- Invited presenter on the topic Yoga & Meditation for Youth in Middle School.
 - Fort Campbell, KY, (January 14, 2014)
 - Elementary School Teacher Stipend for Health & Wellness

Honors and Awards:

- Center for Innovative Teaching and Learning Teaching Honors: Spring 2020
- Outstanding Alumna Award (2010), Austin Peay State University, National Alumni Association

Professional Development: Continuing Education Attended (since 2017):

- APTA Combined Sections Meeting, Houston, TX, February 2025
- APTA Combined Sections Meeting, Boston, MA, February 2024
- Y-Balance Test, FMS, July 2023 (1 hour)
- Functional Movement Screen Level 2. FMS. July 2023 (7.5 hours)
- Clinical Overview: Approach into the Classification and Management of Patients with Low Back Pain, FMS, June 2023 (2.5 hours)
- APTA Combined Sections Meeting, San Diego, CA, February 2023
- Selective Functional Movement Assessment Level 1, FMS, January 2023 (7.5 hrs)
- Functional Movement Screen Level 1. FMS. January 2023 (2.5 hours)
- Education Leadership Conference, October 2023, Philadelphia, PA
- APTA Combined Sections Meeting, San Antonio, TX, February 2022
 - The Application of Pain Neuroscience Education: A Step-By-Step Clinical Guide
 - A collaborative Teaching Design to Improve Integration of High-Intensity Interventions in Aging Adult Curriculum
 - Understanding Fear-Avoidance in Patients with Acute, Subacute, and Chronic Pain
 - Successful Publication Starts with Rigorous Research Design Decisions
 - Geriatric Low Back Pain: Current and Future Considerations
 - Clinical Practice Guidelines in Education: Developing Expert Clinicians with Best Evidence
- Education Leadership Conference, October 2021, Atlanta, GA
- Rehabilitation Research Boot Camp: Statistical Analysis (Chad Cook, Medbridge, April 2021)
- APTA Combined Sections Meeting (virtual) March 2021
 - The Power of Hands-On Maximizing the Effects of Manual Therapy
 - Evidence-Based Management of Temporomandibular Disorders, Cervicogenic, and Headache: What Your Patients Wish You Knew

- The Future of PT Education: Preparing Faculty for Online Delivery Methods
- Headaches, Dizziness and Tinnitus: Its All in the Neck
- Dissection and the Axilla & Arm- Review of Anatomy with Biomechanics (USA) (March 2021)
- Evidence-Based Treatment of the SIJ/Pelvis (Alexis Wright, Medbridge, 2/1/21)
- Evidence-Based Examination of the SIJ/Pelvis (Alexis Wright, Medbridge, 2/1/21)
- The Movement System: Assessment and Treatment of Low Back Pain (2/1/21)
- Evidence-Based Examination of the Lumbar Spine: An Update (Chad Cook, Medbridge, 1/30/31)
- Evidence-Based Examination of the Cervical Spine: An Update (Chad Cook, Medbridge, 1/21)
- Anatomic Shoulder Girdle Dissection with Clinical Correlations (Medbridge, 11/23/20)
- From Expert to Coach - Health Coaching to Empower Health Behavior Change. APTA Geriatrics. November 2020
- Evaluation and Diagnostic Classification of TMD. Ann Harrison. October 2020
- Is it Really Back Pain? A Case-Based Approach to Differential Diagnosis and Medical Screening Brought to you by: APTA LMS: APTA (10/30/2020)
- Orthopedic Excellence – The Spine. Offered through Medbridge.
 - Orthopedic Clinical Examination, Diagnosis and Treatment: Becoming an Expert (September 2017)
 - Evidence Based Examination of the Lumbar Spine (September 2017)
 - Evidence-Based Treatment of the Lumbar Spine (October 2020)
 - Evidence Based Examination of the Thoracic Spine (Apr 2020)
 - Evidence-Based Treatment of the Thoracic Spine (October 2020)
 - Evidence Based Examination of the Cervical Spine (October 2020)
 - Evidence-Based Treatment of the Cervical Spine (October 2020)
- Education Leadership Conference, October 2020 (virtual)
 - Anatomy SIG Business Meeting
 - Anatomy Educators SIG- Clinical Reasoning through Anatomy and Neuroscience: Progressing Recall to Relevance
 - Talk Anatomy to Me: Facilitating Deep Learning Strategies through Oral Exams
 - Envisioning the Future of PT Education: Building Our Strategic Path Forward in the Second Century
 - Closing the Loop, Providing Effective Student Feedback
 - Practical Implications of Student Experiences Learning Psychomotor Skills in a Blended DPT Curriculum
- APTA NEXT 2020 (virtual)
 - Movement System Musculoskeletal Diagnoses of Lumbar Spine and Shoulder: APTA LMS NEXT (2020)
- APTA Combined Sections Meeting – Feb 2020
 - Integration of Clinical Exam, Diagnostic Testing, and Treatment, part 1: Cervical Radiculopathy
 - Academy of Physical Therapy Education Platform Presentation 2
 - The Role of Variability and Error in Movement Learning: APPT Research Forum

- Searching PTNow, With a Spotlight on Clinical Practice Guidelines
- TUG and Beyond! The Geriatric Balance and Falls SIG Outcome Measures Toolkit
- APTA CSM 2019
 - Pre-Conference: CAPTE Writing Workshop for Self-Study Report (Jan 23, 2019)
 - Motor Skill Training in Musculoskeletal Conditions: Current Best Evidence
 - Exploring Signature Pedagogy in Physical Therapy: Concepts and Cases
 - Sports Medicine Secrets: Ankle and Foot Strength, Mobility, and Coordination Deficits
 - A Foot Core Approach to Treating Plantar Fasciitis
 - CPG to Recognize Health Conditions That May Necessitate Referral to a Physician
- Anatomical Shoulder Girdle Dissection with Clinical Correlations. November 2018
- Education Leadership Conference – Oct 2018
- APTA CSM 2018
 - MERC Pre-Conference: Searching and Evaluating Literature; Questionnaire Design and Survey Research. (Feb 21, 2018)
 - Science Meets Practice: Fatigue and Frontal Plane Motion
 - Evolution of the Neck Pain Classification Scheme: 4 Case Studies
 - Neuromuscular Training after ACLR to Decrease ACL Reinjury
 - Incorporating Mindfulness into Daily Physical Practice
- Education Leadership Conference – Oct 2017
- APTA NEXT Conference – June 2017
- ACSM Annual Conference –May 2017
- Center For Faculty Development – Online Reading Group: Small Teaching
- Cranio-Mandibular Case Studies; Medbridge Education (March 2017) (DPT 774)

Faculty Development: Leadership and Teaching Development Activities

- CAPTE Program Assessment Module. April 2021
- CAPTE Writing Workshop for Self-Study Report (Virtual Webinar; Oct 2020)
- Enhancing Student Learning- PLC WKU (Sept 7-Oct 19, 2018)
- Higher Education Leadership Institute Fellowship; American Physical Therapy Association. July 2017-July 2018.
- Small Teaching Conference – July 2017, CITL. Dr. James Lang
- Strengthening Classroom Teaching- PLC WKU (Jan 2016-May 2106)
- Online Teaching the Essentials Certificate (Jan 2016- March 2016)
- Developing a Flipped Active Learning Classroom: CSM Pre-conference (2/17/16); APTA Combined Sections Meeting – Feb 2016
- Adobe Connect (Jan 2016)
- Student Video Presentations in Any Class. DL. August 5, 2015
- Blended Learning Bootcamp. DL. August 3, 2015
- Making Your Case For Tenure and Promotion.
- Using Periodic Feedback to Improve Your Classes. WKU DL. Jan 8, 2015
- Using Blackboard in Synchronous Classes. WKU DL Jan 14, 2015
- Increase Interactivity and Engagement in Your Course. WKU DL Jan 14, 2015

Current Teaching Responsibilities in the Entry-Level Program for 2021-2022

Number	Title	Year, term
DPT 720	Gross Human Anatomy I (2 credits)	Year 1, 1
DPT 721	Gross Human Anatomy I Lab (1 credit)	Year 1, 1
DPT 781	Research in Physical Therapy I (3 credits)	Year 1, 2
DPT 726	Orthopaedic Foundations (3 credits)	Year 1, 2
DPT 774	Spine Assessment and Intervention (4 credits)	Year 2, 6
DPT 784	Research in Physical Therapy IV (2 sections,1 credit)	Year 2, 6
DPT 785	Research in Physical Therapy V (3 sections,1 credit)	Year 3, 9
DPT 783	Research in Physical Therapy III (3 credits)	Year 2, 4
DPT 782	Research in Physical Therapy II (3 credits)	Year 1, 3