

## **Dr. Ty B. Palmer**

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### **Education**

PhD, Oklahoma State University, 2015.

Major: Health and Human Performance

Dissertation Title: Age-related time course effects of constant-angle and constant-torque stretching on the passive resistive properties of the posterior hip and thigh muscles in young and old men.

MEd, Texas State University, 2011.

Major: Physical Education

Thesis Title: Electromyographic analysis of conventional and rubber-based band squats.

BA, Texas Lutheran University, 2009.

Major: Kinesiology

### **Academic and Professional Experience**

**Associate Professor, Kinesiology, Texas Tech University. (September 2022 - Present).**

**Assistant Professor, Kinesiology, Texas Tech University. (July 2016 – August 2022).**

**Assistant Professor, Health Sciences, Kent State University. (August 2015 - May 2016).**

**Graduate Assistant, Exercise Science, Oklahoma State University. (August 2011 - May 2015).**

**Graduate Assistant, Physical Education, Texas State University. (June 2009 - May 2011).**

## **TEACHING**

### **Courses Taught**

#### **Texas Tech University**

HLTH 4308, Introduction to Biostatistics.

KIN 4301, Introduction to Biomechanics.

KIN 5031, Independent Study.

KIN 5317, Performance-Based Outcomes in Healthy and Special Populations.

KIN 5353, Research and Assessment of Muscular Performance.

KIN 5357, Applied Neuromuscular Performance.

KIN 7000, Research.

KIN 7104, Seminar in Exercise Physiology.

KIN 7303, Advanced Exercise Physiology.

KIN 8000, Doctoral Dissertation.

#### **Kent State University**

EXSC 35022, Exercise Leadership.

EXSC 35023, Professional Certificate Preparation.

EXSC 40612, Exercise Leadership for the Older Adult.

### Oklahoma State University

HHP 2602, First Aid.  
HHP 2654, Applied Anatomy Lab.  
HHP 2802, Medical Terminology for Health Professionals.  
HHP 3114, Physiology of Exercise Lab.  
HHP 3663, Biomechanics.  
HHP 4773, Principles of Exercise Testing and Prescription.

### Texas State University

PFW 1155G, Racquetball.  
PFW 1110G, Beginning Weightlifting.  
PE 3117, Exercise Physiology Lab.  
PE 4391, Football Coaching.

## RESEARCH

### Published Intellectual Contributions (Peer-Reviewed Publications)

† indicates undergraduate student author at time of submission

\* indicates graduate student author at time of submission

^ indicates senior author on student publication

#### Journal Article, Academic Journal

Farrow, A. C.\*, Blinch, J., Harry, J. R., **Palmer, T. B.**^ (ahead of print). Short-term effects of static stretching on hamstring passive stiffness in young and older women. *Journal of Musculoskeletal and Neuronal Interactions*.

Sisneros, K. P.\*, Maurya, P. S.\*, Johnson, E. B.†, Ford, B. R.\*, **Palmer, T. B.**^ (ahead of print). Age-related differences in vertical jump height and handgrip strength measurements. *Acta of Bioengineering and Biomechanics*.

Maurya, P. S.\*, Sisneros, K. P.\*, Johnson, E. B.†, **Palmer, T. B.**^ (2023). Reliability of handgrip strength measurements and their relationship with muscle power. *Journal of Sports Medicine and Physical Fitness*, 63(7), 805-811.

**Palmer, T. B.**, Maurya, P. S.\*, Sisneros, K. P.\*, Palmer, B. M. (2023). Can handgrip strength measurements predict postural balance performance in older women? *Journal of Musculoskeletal and Neuronal Interactions*, 23(1), 36-42.

**Palmer, T. B.**, Akehi, K. (2022). Rate of torque development as a discriminator of playing level in collegiate female soccer players. *Journal of Musculoskeletal and Neuronal Interactions*, 22(3), 326-335.

**Palmer, T. B.**, Farrow, A. C.\* (2022). Correcting for subcutaneous fat: does it improve the correlation between vastus lateralis echo intensity and physical performance in older women? *Clinical Physiology and Functional Imaging*, 42(5), 372-379.

**Palmer, T. B.**, Blinch, J., Farrow, A. C.\*, Agu-Udemba, C. C.†, Mitchell, E. A.† (2022). The acute effects of fast-paced walking on isometric peak torque and rate of torque development in regularly exercising and inactive older women. *Journal of Aging and Physical Activity*, 30(3), 397-403.

- Akehi, K., **Palmer, T. B.**, Conchola, E. C., Thompson, B. J., Kasl, A., Bice, M., Unruh, S. (2022). Changes in knee extension and flexion maximal and rapid torque characteristics during a collegiate women's soccer season. *Journal of Strength and Conditioning Research*, 36(5), 1389-1395.
- Palmer, T. B.**, Farrow, A. C.\*, Agu-Udemba, C. C.†, Mitchell, E. A.† (2022). The time course of passive stiffness responses following an acute bout of static stretching in healthy, elderly men. *Physiotherapy Theory and Practice*, 38(5), 695-703.
- Palmer, T. B.**, Blinch, J., Farrow, A. C.\*, Agu-Udemba, C. C.†, Mitchell, E. A.† (2021). Utility of peak torque and rate of torque development characteristics to identify walking performance ability in older women. *Journal of Musculoskeletal and Neuronal Interactions*, 21(4), 455-463.
- Farrow, A. C.\*, **Palmer, T. B.**^ (2021). Age-related differences in hip flexion maximal and rapid strength and rectus femoris muscle size and composition. *Journal of Applied Biomechanics*, 37(4), 311-319.
- Akehi, K., Conchola, E. C., **Palmer, T. B.**, Thompson, B. J. (2021). Rapid muscle activation changes across a competitive collegiate female soccer season. *Journal of Musculoskeletal and Neuronal Interactions*, 21(2), 206-214.
- Palmer, T. B.**, Blinch, J., Farrow, A. C.\*, Agu-Udemba, C. C.†, Mitchell, E. A.† (2020). Real-time measurement of isometric peak torque and rate of torque development using a novel strength testing device: a validity and reliability study. *Physiological Measurement*, 41(11), 115005.
- Farrow, A. C.\*, Gonzales, J. U., Agu-Udemba, C. C.†, Sobolewski, E. J., Thompson, B. J., **Palmer, T. B.**^ (2020). Effects of age on vertical jump performance and muscle morphology characteristics in females. *Journal of Sports Medicine and Physical Fitness*, 60(8), 1081-1088.
- Palmer, T. B.**, Farrow, A. C.\*, Palmer, B. M. (2020). Relationships between hamstring morphological characteristics and postural balance in elderly men. *Journal of Musculoskeletal and Neuronal Interactions*, 20(1), 88-93.
- Palmer, T. B.** (2019). Acute effects of constant-angle and constant-torque static stretching on passive stiffness of the posterior hip and thigh muscles in healthy, young and old men. *Journal of Strength and Conditioning Research*, 33(11), 2991-2999.
- Palmer, T. B.**, Pineda, J. G.\*, Cruz, M. R.\*, Agu-Udemba, C. C.† (2019). Duration-dependent effects of passive static stretching on musculotendinous stiffness and maximal and rapid torque and surface electromyography characteristics of the hamstrings. *Journal of Strength and Conditioning Research*, 33(3), 717-726.
- Palmer, T. B.**, Thiele, R. M. (2019). Passive stiffness and maximal and explosive strength responses after an acute bout of constant-tension stretching. *Journal of Athletic Training*, 54(5), 519-526.
- Palmer, T. B.**, Agu-Udemba, C. C.†, Palmer, B. M. (2018). Acute effects of static stretching on passive stiffness and postural balance in healthy, elderly men. *Physician and Sportsmedicine*, 46(1), 78-86.
- Palmer, T. B.**, Pineda, J. G.\*, Durham, R. M.\* (2018). Effects of knee position on the reliability and production of maximal and rapid strength characteristics during an isometric squat test. *Journal of Applied Biomechanics*, 34(2), 111-117.

- Jacobson, B. H., Hester, G. M., **Palmer, T. B.**, Williams, K., Pope, Z. K., Sellers, J. H., Conchola, E. C., Woolsey, C., Estrada, C. (2018). Effect of energy drink consumption on power and velocity on selected sport performance activities. *Journal of Strength and Conditioning Research*, 32(6), 1613-1618.
- Tinsley, G., Hamm, M. A., Hurtado, A. K., Cross, A. G., Pineda, J. \*, Martin, A. Y., Uribe, V. A., **Palmer, T. B.** (2017). Effects of two pre-workout supplements on concentric and eccentric force production during lower body resistance exercise in males and females: A counterbalanced, double-blind, placebo-controlled trial. *Journal of the International Society of Sports Nutrition*, 14(1).
- Palmer, T. B.**, Followay, B. N., Thompson, B. J. (2017). Age-related effects on maximal and rapid hamstrings/quadriceps strength capacities and vertical jump power in young and older females. *Aging Clinical and Experimental Research*, 29(6), 1231-1239.
- Palmer, T. B.**, Jenkins, N. D., Thompson, B. J., Cramer, J. T. (2017). Influence of stretching velocity on musculotendinous stiffness of the hamstrings during passive straight-leg raise assessments. *Musculoskeletal Science and Practice*, 30, 80-85.
- Palmer, T. B.**, Thompson, B. J. (2017). Influence of age on passive stiffness and size, quality, and strength characteristics. *Muscle & Nerve*, 55(3), 305-315.
- Palmer, T. B.**, Thiele, R. M., Thompson, B. J. (2017). Age-related differences in maximal and rapid torque characteristics of the hip extensors and dynamic postural balance in healthy, young and old females. *Journal of Strength and Conditioning Research*, 31(2), 480-488.
- Palmer, T. B.**, Thiele, R. M., Conchola, E. C., Smith, D. B., Thompson, B. J. (2016). A preliminary study of the utilization of maximal and rapid strength characteristics to identify chair-rise performance abilities in very old adults. *Journal of Geriatric Physical Therapy (2001)*, 39(3), 102-109.
- Conchola, E. C., Thiele, R. M., **Palmer, T. B.**, Smith, D. B., Thompson, B. J. (2015). Effects of neuromuscular fatigue on the electromechanical delay of the leg extensors and flexors in young men and women. *Muscle & Nerve*, 52(5), 844-851.
- Palmer, T. B.**, Thiele, R. M., Williams, K. B., Adams, B. M., Akehi, K., Smith, D. B., Thompson, B. J. (2015). The identification of fall history using maximal and rapid isometric torque characteristics of the hip extensors in healthy, recreationally-active elderly females: a preliminary investigation. *Aging Clinical and Experimental Research*, 27(4), 431-438.
- Jenkins, N. D. M., Housh, T. J., **Palmer, T. B.**, Cochrane, K. C., Bergstrom, G. O., Johnson, G. O., Schmidt, R. J., and Cramer, J. T. (2015). Relative differences in strength and power from slow to fast isokinetic velocities may reflect dynapenia. *Muscle & Nerve*, 52(1), 120-130.
- Palmer, T. B.**, Hawkey, M. J., Thiele, R. M., Conchola, E. C., Adams, B. M., Akehi, K., Smith, D. B., and Thompson, B. J. (2015). The influence of athletic status on maximal and rapid isometric torque characteristics and postural balance performance in division I female soccer athletes and non-athlete controls. *Clinical Physiology and Functional Imaging*, 35(4), 314-322.
- Palmer, T. B.**, Akehi, K., Thiele, R. M., Smith, D. B., Warren, A. J., Thompson, B. J. (2015). Dorsiflexion, plantar flexion, and neutral ankle positions during passive resistance assessments of the posterior hip and thigh muscles. *Journal of Athletic Training*, 50(5), 467-474.

- Conchola, E. C., Thiele, R. M., **Palmer, T. B.**, Smith, D. B., Thompson, B. J. (2015). Acute post-exercise time course responses of a hypertrophic versus power-endurance squat exercise protocols on maximal and rapid torque of the knee extensors. *Journal of Strength and Conditioning Research*, 29(5), 1285-1294.
- Palmer, T. B.**, Akehi, K., Thiele, R. M., Smith, D. B., Thompson, B. J. (2015). Reliability of panoramic ultrasound imaging to simultaneously examine muscle size and quality of the hamstring muscles in young, healthy males and females. *Ultrasound in Medicine and Biology*, 41(3), 675-684.
- Thiele, R. M., Conchola, E. C., **Palmer, T. B.**, DeFreitas, J. M., Thompson, B. J. (2015). The effects of a high-intensity free-weight back-squat exercise protocol on postural stability in resistance-trained males. *Journal of Sports Sciences*, 33(2), 211-218.
- Thompson, B. J., Conchola, E. C., **Palmer, T. B.**, Stock, M. S. (2014). Effects of aging on maximal and rapid velocity capacities of the leg extensors. *Experimental Gerontology*, 58, 128-131.
- Jenkins, N. D. M., **Palmer, T. B.**, Cramer, J. T. (2014). Comparing the reliability of voluntary and evoked muscle actions. *Clinical Physiology and Functional Imaging*, 34(6), 434-441.
- Palmer, T. B.**, Hawkey, M. J., Smith, D. B., Thompson, B. J. (2014). The influence of professional status on maximal and rapid isometric torque characteristics in elite soccer referees. *Journal of Strength and Conditioning Research*, 28(5), 1310-1318.
- Palmer, T. B.**, Jenkins, N. D. M., Thompson, B. J., Smith, D. B., Cramer, J. T. (2014). The relationship between passive stiffness and muscle power output: influence of muscle cross-sectional area normalization. *Muscle & Nerve*, 49(1), 69-75.
- Jenkins, N. D. M., Buckner, S. L., Cochrane, K. C., Bergstrom, H. C., **Palmer, T. B.**, Johnson, G. O., Schmidt, R. J., Housh, T. J., Cramer, J. T. (2014). Age-related differences in rates of torque development and rise in EMG are eliminated by normalization. *Experimental Gerontology*, 57, 18-28.
- Palmer, T. B.**, Thompson, B. J., Hawkey, M. J., Conchola, E. C., Adams, B. M., Akehi, K., Thiele, R. M., Smith, D. B. (2014). The influence of athletic status on the passive properties of the muscle-tendon unit and traditional performance measures in division I female soccer players and non-athlete controls. *Journal of Strength and Conditioning Research*, 28(7), 2026-2034.
- Eldridge, J. A., **Palmer, T. B.**, Gillis, K., Lloyd, R., Squires, W. G., Murray, T. D. (2014). Comparison of academic and behavioral performance between athletes and non-athletes. *International Journal of Exercise Science*, 7(1), 3-13.
- Palmer, T. B.**, Jenkins, N. D. M., Cramer, J. T. (2013). Reliability of manual versus automated techniques for assessing passive stiffness of the posterior muscles of the hip and thigh. *Journal of Sports Sciences*, 31(8), 867-877.
- Jenkins, N. D. M., **Palmer, T. B.**, Cramer, J. T. (2013). Comparisons of voluntary and evoked rate of torque development and rate of velocity development during isokinetic muscle actions. *Isokinetics and Exercise Science*, 21(3), 253-261.
- Jenkins, N. D. M., **Palmer, T. B.** (2012). Implement training for concentric-based muscle actions. *Strength and Conditioning Journal*, 34(2), 1-7.
- Palmer, T. B.**, McCurdy, K. W., Williams, J. S., Walker, J. L. (2011). Electromyographic analysis of conventional and rubber-based band squats. *Journal of Australian Strength and Conditioning*, 19(3), 13-24.

## Presentations Given

† indicates undergraduate student author at time of submission

\* indicates graduate student author at time of submission

^ indicates senior author on student publication

### Oral Presentation

**Palmer, T. B.**, Palmer, B. M., American College of Sports Medicine Annual Meeting, "Age-related differences in rectus femoris muscle size and hip flexion maximal and rapid torque characteristics," ACSM, Orlando, FL. (May 2019).

**Palmer, T. B.**, Thiele, R. M., National Strength and Conditioning Association Annual Conference, "Time course of passive stiffness responses during a short, practical bout of constant-tension stretching and its effects on maximal and rapid strength," NSCA, Indianapolis, IN. (July 2018).

**Palmer, T. B.**, Followay, B. N., Thompson, B. J., American College of Sports Medicine Annual Meeting, "Age-related differences in maximal and rapid hamstrings to quadriceps strength capacities and vertical jump power," ACSM, Denver, CO. (May 2017).

### Online Poster Presentation

**Palmer, T. B.**, Blinch, J., Farrow, A. C.\*, Agu-Udemba, C. C.†, Mitchell, E. A.†, American College of Sports Medicine Annual Meeting, "Utility of strength-based torque characteristics to distinguish between older women of different walking performance abilities," ACSM, Washington, DC. (June 2021).

Farrow, A. C.\*, Agu-Udemba, C. C.†, Mitchell, E. A.†, **Palmer, T. B.**^, American College of Sports Medicine Annual Meeting, "Relationships between functional performance and quadriceps muscle size and quality in healthy older women," ACSM, Washington, DC. (June 2021).

**Palmer, T. B.**, Farrow, A. C.\*, Agu-Udemba, C. C.†, Mitchell, E. A.†, American College of Sports Medicine Annual Meeting, "Time course of the acute effects of static stretching on passive stiffness in elderly men," ACSM, San Francisco, CA. (June 2020).

Farrow, A. C.\*, Agu-Udemba, C. C.†, Mitchell, E. A.†, **Palmer, T. B.**^, American College of Sports Medicine Annual Meeting, "Relationships between muscle quality, maximal and rapid torque characteristics, and walking speed in elderly females," ACSM, San Francisco, CA. (June 2020).

### Poster Presentation

**Palmer, T. B.**, Maurya, P. S.\*, Sisneros, K. P.\*, Palmer, B. M. National Strength and Conditioning Association Annual Conference, "Relationships between handgrip strength measurements and postural balance performance in older women," NSCA, Las Vegas, NV. (July 2023).

Johnson, E. B.†, Maurya, P. S.\*, Sisneros, K. P.\*, **Palmer, T. B.**^, Texas American College of Sports Medicine Annual Meeting, "Reliability and relationships between supine medicine ball throw kinetics and vertical jump height," TACSM, Waco, TX. (February 2023).

Sisneros, K. P.\*, Maurya, P. S.\*, Johnson, E. B.†, **Palmer, T. B.**^, Texas American College of Sports Medicine Annual Meeting, "Age-related differences in handgrip strength characteristics and vertical jump performance," TACSM, Waco, TX. (February 2023).

Maurya, P. S.\*, Sisneros, K. P.\*, Johnson, E. B.†, **Palmer, T. B.**^, Texas American College of Sports Medicine Annual Meeting, "Handgrip peak force and rate of force development

- measurements: are they reliable and do they correlate with vertical jump power," TACSM, Waco, TX. (February 2023).
- Riley, W. N.†, Akehi, K., Rowley, M. S.†, Farrow, A. C.\*, **Palmer, T. B.**^, Texas American College of Sports Medicine Annual Meeting, "Vertical jump performance as a discriminator of playing ability in collegiate female soccer players," TACSM, Waco, TX. (February 2022).
- Farrow, A. C.\*, **Palmer, T. B.**^, Texas American College of Sports Medicine Annual Meeting, "Acute effects of static stretching on passive stiffness of the hamstrings in healthy young and older women," TACSM, Waco, TX. (February 2022).
- Palmer, T. B.**, Blinch, J., Jones, H., TechConnect World Innovation Conference, "Dynamo Torque Analyzer: A novel strength testing device," Washington, DC. (October 2021).
- Farrow, A. C.\*, Agu-Udemba, C. C.†, Mitchell, E. A.†, **Palmer, T. B.**^, Texas American College of Sports Medicine Annual Meeting, "Relationships between walking speed and lower extremity muscle quality and strength in elderly females," TACSM, Waco, TX. (February 2020).
- Agu-Udemba, C. C.†, Mitchell, E. A.†, Farrow, A. C.\*, **Palmer, T. B.**^, Texas American College of Sports Medicine Annual Meeting, "Age-related differences in forearm muscle size and handgrip maximal and rapid force characteristics," TACSM, Waco, TX. (February 2020).
- Mitchell, E. A.†, Agu-Udemba, C. C.†, Farrow, A. C.\*, **Palmer, T. B.**^, Texas American College of Sports Medicine Annual Meeting, "Sex-related differences in maximal and rapid hamstrings to quadriceps strength capacities," TACSM, Waco, TX. (February 2020).
- Cathey, A. C.\*, Agu-Udemba, C. C.†, Sobolewski, E. J., Thompson, B. J., **Palmer, T. B.**^, American College of Sports Medicine Annual Meeting, "Age-related differences in vertical jump power and muscle size and quality of the vastus lateralis," ACSM, Orlando, FL. (May 2019).
- Agu-Udemba, C. C.†, Mitchell, E. A.†, Cathey, A. C.\*, **Palmer, T. B.**^, Texas American College of Sports Medicine Annual Meeting, "Reliability and relationship between ballistic push-up and vertical jump peak ground reaction force," TACSM, Fort Worth, TX. (March 2019).
- Mitchell, E. A.†, Agu-Udemba, C. C.†, Cathey, A. C.\*, **Palmer, T. B.**^, Texas American College of Sports Medicine Annual Meeting, "Validity of a linear velocity transducer for measuring peak ground reaction force during a countermovement vertical jump test," TACSM, Fort Worth, TX. (March 2019).
- Wijayatunga, N. N., Turnipseed, H., **Palmer, T. B.**, Dhurandhar, E. J., ObesityWeek, "Characteristics of sarcopenic obesity in a group of young and middle-aged adults - A descriptive cross-sectional study," TOS, Nashville, TN. (November 2018).
- Williams, J. A., **Palmer, T. B.**, Thiele, R. M., Central States American College of Sports Medicine Annual Meeting, "The effects of passive, short duration constant-tension stretching on balance performance," CSACSM, Kansas City, MO. (October 2018).
- Pacinelli, L. E., **Palmer, T. B.**, Vardiman, J. P., Thiele, R. M., Central States American College of Sports Medicine Annual Meeting, "Biceps femoris pennation angle is negatively correlated with passive stiffness of the hamstrings," CSACSM, Kansas City, MO. (October 2018).
- Cathey, A. C.\*, James, K. G., Sizer, P. S., James, R. C., **Palmer, T. B.**, McComb, J. R., Applied Psychophysiology and Biofeedback Annual Meeting, "Effect of the upright posture trainer on muscular endurance and fatigue," AAPB, Orlando, FL. (April 2018).

- Thiele, R. T., **Palmer, T. B.**, Mid-America Athletic Trainers Association Annual Meeting, "Time course effects of manually applied passive stretches on hamstrings musculotendinous stiffness and postural stability," MAATA, La Vista, NE. (March 2018).
- Cathey, A. C.\*, Agu-Udemba, C. C.†, **Palmer, T. B.**^, Texas American College of Sports Medicine Annual Meeting, "Relationship between vertical jump height and pennation angle of the rectus femoris and vastus lateralis," TACSM, Austin, TX. (March 2018).
- Agu-Udemba, C. C.†, Cathey, A. C.\*, **Palmer, T. B.**^, Texas American College of Sports Medicine Annual Meeting, "Relationships between vertical jump height and muscle size and quality of the rectus femoris and vastus lateralis," TACSM, Austin, TX. (March 2018).
- Palmer, T. B.**, Palmer, B. M., National Strength and Conditioning Association Annual Conference, "Effects of constant-angle and constant-torque stretching on passive musculotendinous stiffness of the hamstrings in young and old men," NSCA, Las Vegas, NV. (July 2017).
- Pineda, J. G.\*, **Palmer, T. B.**^, American College of Sports Medicine Annual Meeting, "Relationships between maximal and rapid velocity characteristics of the leg extensors and vertical jump performance," ACSM, Denver, CO. (June 2017).
- Pineda, J. G.\*, Cruz, M. R.\*, **Palmer, T. B.**^, Texas American College of Sports Medicine Annual Meeting, "Effects of practical durations of stretching on hamstrings range of motion and strength," TACSM, Waco, TX. (February 2017).
- Cruz, M. R.\*, Pineda, J. G.\*, **Palmer, T. B.**^, Texas American College of Sports Medicine Annual Meeting, "Reliability and relationships between rectus femoris muscle size and hip flexion maximal and explosive strength," TACSM, Waco, TX. (February 2017).
- Hurtado, A., Hamm, M., Pineda, J.\*, Martin, A., Cross, A., Uribe, V., **Palmer, T. B.**, Tinsley, G., Texas American College of Sports Medicine Annual Meeting, "Effects of multi-ingredient pre-workout supplements on repetitions-in-reserve and subjective measures of energy, fatigue, and focus during lower-body resistance exercise," TACSM, Waco, TX. (February 2017).
- Martin, A., Hamm, M., Pineda, J.\*, Uribe, V., Hurtado, A., Cross, A., **Palmer, T. B.**, Tinsley, G., Texas American College of Sports Medicine Annual Meeting, "Effects of pre-workout supplements on maximal concentric and eccentric force production during lower body resistance exercise," TACSM, Waco, TX. (February 2017).
- Palmer, T. B.**, Thompson, B. J., American College of Sports Medicine Annual Meeting, "Age-related changes in passive musculotendinous stiffness and muscle quality of the hamstrings," ACSM, Boston, MA. (May 2016).
- Followay, B.\*, Thiele, R. M., Conchola, E. C., **Palmer, T. B.**^, American College of Sports Medicine Annual Meeting, "Relationships between maximal and rapid torque characteristics and chair rise power in very old adults," ACSM, Boston, MA. (May 2016).
- Clark, J. C., Mackey, C. S., Thiele, R. M., **Palmer, T. B.**, Smith, D. B., American College of Sports Medicine Annual Meeting, "Reliability of peak and average velocity measurements during sit-to-stand assessments using a portable linear transducer," ACSM, Boston, MA. (May 2016).
- Followay, B.\*, Thiele, R. M., Conchola, E. C., **Palmer, T. B.**^, Midwest American College of Sports Medicine Annual Meeting, "Relationships between maximal and rapid torque characteristics and chair rise muscle power in very old adults," MWACSM, Fort Wayne, IN. (November 2015).
- Smith, D. B., Conchola, E. C., Thiele, R. M., Hester, G. M., Sellers, J., Pope, Z., **Palmer, T. B.**, Warren, A. J., National Strength and Conditioning Association Annual Conference, "Strength



- and time torque characteristic comparisons between adolescent females and males," NSCA, Orlando, FL. (July 2015).
- Palmer, T. B.**, Thiele, R. M., Conchola, E. C., Smith, D. B., Thompson, B. J., American College of Sports Medicine Annual Meeting, "Effects of aging on maximal and rapid torque characteristics and dynamic balance performance," ACSM, San Diego, CA. (May 2015).
- Thiele, R. M., **Palmer, T. B.**, Conchola, E. C., Smith, D. B., American College of Sports Medicine Annual Meeting, "Comparison of postural responses to self-induced balance perturbations between elderly female fallers and non-fallers," ACSM, San Diego, CA. (May 2015).
- Palmer, T. B.**, Thiele, R. M., Conchola, E. C., Smith, D. B., Central States American College of Sports Medicine Annual Meeting, "Reliability of portable strength testing for assessing maximal and rapid isometric torque characteristics in frail, elderly adults," CSACSM, Overland Park, KS. (October 2014).
- Mackey, C. S., Thiele, R. M., **Palmer, T. B.**, Conchola, E. C., Smith, D. B., Central States American College of Sports Medicine Annual Meeting, "Reliability and relationships among maximal power output during sit-to-stand and vertical jump assessments using a portable commercially-designed testing device," CSACSM, Overland Park, KS. (October 2014).
- Thiele, R. M., Conchola, E. C., **Palmer, T. B.**, Smith, D. B., Central States American College of Sports Medicine Annual Meeting, "Static and dynamic postural stability comparisons between anaerobically trained males and females," CSACSM, Overland Park, KS. (October 2014).
- Palmer, T. B.**, Thiele, R. M., Williams, K. B., Adams, B. M., Akehi, K., Smith, D. B., Thompson, B. J., National Strength and Conditioning Association Annual Conference, "The influence of fall-history status on maximal and rapid isometric torque characteristics in recreationally-active elderly females," NSCA, Las Vegas, NV. (July 2014).
- Palmer, T. B.**, Akehi, K., Smith, D. B., Thompson, B. J., National Strength and Conditioning Association Annual Conference, "Test-retest reliability of panoramic ultrasound imaging to examine muscle size and quality of the leg extensor muscles," NSCA, Las Vegas, NV. (July 2014).
- Thompson, B. J., Conchola, E. C., Stock, M. S., **Palmer, T. B.**, National Strength and Conditioning Association Annual Conference, "Influence of aging on rapid velocity characteristics and relationships with peak torque of the leg extensors," NSCA, Las Vegas, NV. (July 2014).
- Smith, D. B., Thompson, B. J., Ryan, E. D., Sobolewski, E. J., Conchola, E. C., **Palmer, T. B.**, Warren, A. J., American College of Sports Medicine Annual Meeting, "Strength and time torque characteristics in males across life span," ACSM, Orlando, FL. (May 2014).
- Jenkins, N. D. M., Buckner, S. L., Bergstrom, H. C., Cochrane, K. C., **Palmer, T. B.**, Schmidt, R. J., Johnson, G. O., Housh, T. J., Cramer, J. T., American College of Sports Medicine Annual Meeting, "Age-related differences in rates of torque development and rates of rise in electromyographic amplitude," ACSM, Orlando, FL. (May 2014).
- Thiele, R. M., Hawkey, M. J., **Palmer, T. B.**, Conchola, E. C., Smith, D. B., American College of Sports Medicine Annual Meeting, "Effects of exercise-induced fatigue on postural stability performance in division I collegiate female soccer athletes," ACSM, Orlando, FL. (May 2014).
- Hester, G. M., Conchola, E. C., Thiele, R. M., **Palmer, T. B.**, Smith, D. B., DeFreitas, J. M., Central States American College of Sports Medicine Annual Meeting, "Examination of power output during a high-volume power-oriented back squat protocol," CSACSM, Warrensburg, MO. (October 2013).

- Palmer, T. B.**, Akehi, K., Thiele, R. M., Smith, D. B., Warren, A. J., Thompson, B. J., Central States American College of Sports Medicine Annual Meeting, "The influence of ankle position during a straight-leg raise on the passive resistive properties of the posterior hip and thigh muscles," CSACSM, Warrensburg, MO. (October 2013).
- Thiele, R. M., Conchola, E. C., **Palmer, T. B.**, Thompson, B. J., Smith, D. B., Central States American College of Sports Medicine Annual Meeting, "The effects of a high intensity free-weight back squat on postural stability in resistance-trained males," CSACSM, Warrensburg, MO. (October 2013).
- Palmer, T. B.**, Hawkey, M. J., Smith, D. B., Conchola, E. C., Adams, B. M., Akehi, K., Thiele, R. M., Thompson, B. J., National Strength and Conditioning Association Annual Conference, "Can musculotendinous stiffness of the posterior muscles of the hip and thigh predict muscle power output in female athletes and size-matched controls," NSCA, Las Vegas, NV. (July 2013).
- Palmer, T. B.**, Hawkey, M. J., Thiele, R. M., Smith, D. B., Conchola, E. C., Adams, B. M., Akehi, K., Thompson, B. J., National Strength and Conditioning Association Annual Conference, "Test-retest reliability of a commercially designed device for assessing sway index during the modified clinical test of sensory integration and balance," NSCA, Las Vegas, NV. (July 2013).
- Smith, D. B., Conchola, E. C., Thompson, B. J., **Palmer, T. B.**, Thiele, R. M., Warren, A. J., Akehi, K., Hawkey, M. J., National Strength and Conditioning Association Annual Conference, "A comparison of rapid force production and time-torque characteristics in adolescent males vs young adult males," NSCA, Las Vegas, NV. (July 2013).
- Palmer, T. B.**, Jenkins, N. D. M., Cramer, J. T., American College of Sports Medicine Annual Meeting, "Slow, medium, and fast stretching velocities during passive musculotendinous stiffness assessments of the hamstrings," ACSM, Indianapolis, IN. (May 2013).
- Conchola, E. C., Hawkey, M. J., **Palmer, T. B.**, Hester, G. M., Fiddler, R. E., Smith, D. B., American College of Sports Medicine Annual Meeting, "Effects of an off-season training program on anaerobic performance in female collegiate soccer players," ACSM, Indianapolis, IN. (May 2013).
- Jenkins, N. D. M., **Palmer, T. B.**, Bergstrom, H. C., Cochrane, K. C., Traylor, D. A., Lewis, R. W., Cramer, J. T., American College of Sports Medicine Annual Meeting, "Rate of torque development versus rate of velocity development during voluntary and evoked muscle actions," ACSM, Indianapolis, IN. (May 2013).
- Akehi, K., Long, B. C., Conchola, E. C., **Palmer, T. B.**, Central States American College of Sports Medicine Annual Meeting, "A 20-minute cryotherapy does not alter passive dorsiflexion range of motion and plantarflexors musculotendon stiffness," CSACSM, Columbia, MO. (October 2012).
- Conchola, E. C., Hester, G. M., Hawkey, M. J., **Palmer, T. B.**, Emerson, S. R., Mackey, C. S., Thompson, B. J., Smith, D. B., Central States American College of Sports Medicine Annual Meeting, "Effects of two high intensity resistance training protocols on caloric expenditure during free weight squats," CSACSM, Columbia, MO. (October 2012).
- Hawkey, M. J., **Palmer, T. B.**, Conchola, E. C., Hester, G. M., Smith, D. B., Central States American College of Sports Medicine Annual Meeting, "Power output comparison between different age groups for female soccer players," CSACSM, Columbia, MO. (October 2012).
- Hester, G. M., Jacobson, B. H., **Palmer, T. B.**, Hawkey, M. J., Smith, D. B., O'Brien, M. S., Ruedy, Z. D., Central States American College of Sports Medicine Annual Meeting, "Relationship between power clean and a sport-specific task in division I collegiate football linemen," CSACSM, Columbia, MO. (October 2012).

**Palmer, T. B.**, Hawkey, M. J., Conchola, E. C., Akehi, K., Smith, D. B., Central States American College of Sports Medicine Annual Meeting, "Passive stiffness comparison between NCAA division I female soccer players and recreationally active college-aged females," CSACSM, Columbia, MO. (October 2012).

Jenkins, N. D. M., **Palmer, T. B.**, Cramer, J. T., National Strength and Conditioning Association Annual Conference, "Comparison of torque, rate of torque development, electromechanical delay, and EMG responses to evoked versus voluntary isometric muscle actions," NSCA, Providence, RI. (July 2012).

**Palmer, T. B.**, Jenkins, N. D. M., Cramer, J. T., National Strength and Conditioning Association Annual Conference, "Comparison of manual versus automated techniques for assessing musculotendinous stiffness of the posterior muscles of the hip and thigh," NSCA, Providence, RI. (July 2012).

**Palmer, T. B.**, McCurdy, K. W., Williams, J. S., Walker, J. L., American College of Sports Medicine Annual Meeting, "Electromyographic analysis of the biceps femoris during conventional and rubber-based band squats," ACSM, San Francisco, CA. (May 2012).

**Palmer, T. B.**, McCurdy, K. W., Williams, J. S., Walker, J. L., Central States American College of Sports Medicine Annual Meeting, "Electromyographic analysis of conventional and rubber-based band squats," CSACSM, Overland Park, KS. (October 2011).

## **Contracts, Grants and Sponsored Research**

### **External Grant (awarded)**

**Palmer, T. B. (Principal Investigator; 100% credits)**, "Relationship between handgrip strength and postural balance in older adults," Sponsored by the Texas Society for Hand Therapy, \$500.00. (May 1, 2022 – April 30, 2023).

Shen, L. (Principal), **Palmer, T. B. (Co-investigator; 5% credits)**, "Tocotrienols supplementation for postmenopausal women with low muscle strength-ARN supplemental fund," Sponsored by the American River Nutrition, Inc., \$30,000.00. (November 1, 2018 – October 31, 2022).

Shen, L. (Principal), **Palmer, T. B. (Co-investigator; 41% credits)**, "Tocotrienols supplementation for postmenopausal women with sarcopenia: a pilot study," Sponsored by the South Plains Foundation, \$15,000.00. (September 1, 2018 – August 31, 2022).

Akehi, K. (Principal), **Palmer, T. B. (Co-principal Investigator; 95% credits)**, "Utility of rate of torque development characteristics from a novel strength testing device to differentiate between starters and non-starters in Division II women's soccer," Sponsored by the Mid-America Athletic Trainers Association, \$2,000.00. (February 1, 2021 - January 31, 2022).

Thiele, R. M. (Principal), **Palmer, T. B. (Co-principal Investigator; 50% credits)**, "Time course effects of manually-applied passive stretches on hamstrings musculotendinous stiffness and postural stability," Sponsored by the Mid-America Athletic Trainers Association, \$2,000.00. (February 1, 2017 - January 31, 2018).

### **Internal Grant (awarded)**

Blinch, J. (Principal), **Palmer, T. B. (Co-investigator; 5% credits)**, "Better estimates of reaction time with force-based measurements," Sponsored by the Scholarship Catalyst Program at Texas Tech University, \$1,500.00. (January 1, 2023 – December 31, 2023).

## **Intellectual Property (e.g., copyrights, patents)**

### **U.S. National Stage Patent Filed**

**Palmer, T. B. (67% credits)**, Blinch, J., "Dynamo Torque Analyzer," Processed by the United States Designated/Elected Office, Alexandria, VA, USA. (August 24, 2022).

### **International Patent Filed**

**Palmer, T. B. (67% credits)**, Blinch, J., "Dynamo Torque Analyzer," Processed by the United States Receiving Office, Alexandria, VA, USA. (February 25, 2021).

### **Provisional Patent Filed**

**Palmer, T. B. (67% credits)**, Blinch, J., "Dynamo Torque Analyzer," Processed by Texas Tech University, Lubbock, TX, USA. (February 26, 2020).

## **SERVICE**

### **University Service**

Reviewer, Programs, A & S College Level. (March 2023).

Reviewer, Presentations, STEM MBA Technology Commercialization Projects. (October 2021).

Reviewer, Abstracts, Undergraduate Research Conference. (March 2021).

Recruitment Activity, College of Arts & Sciences- Senior Grant Writer Search. (September 2019).

Dean's Representative, Kim, J. (September 2017).

Committee Member, Dissertation- Baggerman, J. (August 2016 - June 2017).

### **Department Service**

Committee Member, Qualifying Exam- Rodriguez, C. (January 2023 - February 2023).

Committee Member, Facility Operations and Maintenance Issues- (August 2022 - Present)

Committee Member, Kinesiology Assistant Professor Search- (August 2022 - December 2022).

Peer Observation of Teaching Face-to-Face Class- Blinch, J. (November 2022).

Committee Member, Dissertation- Chowning, L. D. (March 2022 - October 2022).

Peer Observation of Teaching Asynchronous Class- Lochbaum, M. (October 2022).

Peer Observation of Teaching Face-to-Face Class- Sekiguchi, Y. (September 2022 - October 2022).

Committee Member, Dissertation- Krzyzskowski, J. (November 2021 - June 2022).

Committee Chair, Dissertation- Farrow, A. C. (January 2021 – April 2022).

Committee Member, Qualifying Exam- Dillon, K. (March 2022 - April 2022).

Committee Member, Qualifying Exam- Kang, Y. (February 2022 - March 2022).

Committee Member, Qualifying Exam- Krzyszkowski, J. (February 2021 - March 2021).

Committee Member, Qualifying Exam- Chowning, L. D. (January 2021 - February 2021).

Committee Member, Qualifying Exam- Stratton, M. T. (January 2021 - February 2021).

Committee Chair, Qualifying Exam- Farrow, A. C. (July 2020 - August 2020).

Committee Member, Kinesiology Major Committee. (September - October 2019)

Recruitment Activity, Kinesiology Search. (March – April 2019).

Recruitment Activity, Kinesiology Search. (April – May 2018).

Recruitment Activity, Kinesiology Search. (October 2017 - December 2017).

Committee Member, Kinesiology Assistant Professor Search- (September 2016 - December 2016).

## **Professional Service**

Reviewer, 1 Journal Article, Journal of Musculoskeletal & Neuronal Interactions. (February 2022).

Reviewer, 4 Journal Articles, Experimental Gerontology. (June 2019 – June 2021).

Reviewer, 26 Journal Articles, Journal of Strength and Conditioning Research. (December 2013 – November 2021).

Reviewer, 1 Journal Article, Human Movement Science. (August 2019).

Reviewer, 1 Journal Article, Research Quarterly for Exercise and Sport. (July 2019).

Reviewer, 1 Journal Article, Clinical Biomechanics. (December 2018).

Reviewer, 1 Journal Article, Journal of Sport Rehabilitation. (August 2018).

Reviewer, 1 Journal Article, Applied Physiology, Nutrition, and Metabolism. (June 2018).

Reviewer, 1 Journal Article, Medicine & Science in Sports & Exercise. (May 2018).

Reviewer, 1 Journal Article, Clinical Physiology and Functional Imaging. (March 2018).

Reviewer, 1 Journal Article, Journal of Electromyography and Kinesiology. (August 2017).

Reviewer, 1 Journal Article, Archives of Physical Medicine and Rehabilitation. (December 2015).

Reviewer, 1 Journal Article, Ultrasound in Medicine and Biology. (December 2014).

Reviewer, Grants, National Strength and Conditioning Association. (March 2018, 2019, 2020, 2021, 2022)

Reviewer, Abstracts, National Strength and Conditioning Association. (March 2016, 2017, 2018, 2019, 2020, 2022)

Judge, Podium Presentations, National Strength and Conditioning Association. (July 2017, 2018)

## **Public Service**

Guest Speaker, Garrison Institute on Aging, Lubbock, TX. (November 9, 2022).

Guest Speaker, Garrison Institute on Aging, Lubbock, TX. (April 28, 2021).

Guest Speaker, Garrison Institute on Aging, Lubbock, TX. (September 23, 2020).

Guest Speaker, Twentieth Century Women's Club, Lubbock, TX. (October 23, 2019).

Guest Speaker, The Legacy of the South Plains, Lubbock, TX. (April 4, 2018).

Guest Speaker, Osher Lifelong Learning Institute, Abilene, TX. (February 23, 2018).

Guest Speaker, Osher Lifelong Learning Institute, Lubbock, TX. (September 6, 2017).

Guest Speaker, Garrison Institute on Aging, Lubbock, TX. (January 25, 2017).

Guest Speaker, Golden Oaks Village, Stillwater, OK. (May 22, 2014).

Guest Speaker, Golden Oaks Village, Stillwater, OK. (March 14, 2014).

Guest Speaker, OAHPERD Convention, Norman, OK. (October 13, 2011).

## **GENERAL**

### **Licensures and Certifications**

Certified Strength and Conditioning Specialist (CSCS), National Strength and Conditioning Association. (July 2009 – Present)

CPR/AED for Professional Rescuers and Health Care Providers, American Red Cross. (May 2009 – Present)

Certified First Aid/CPR/AED Instructor, American Red Cross. (September 2012).

### **Professional Memberships**

Member, National Strength and Conditioning Association. (2009 – Present)

Member, Texas Society for Hand Therapy. (2017, 2022)

Member, Texas ACSM Regional Chapter. (2017, 2019, 2022)

Member, American College of Sports Medicine. (2011 – 2015)

Member, Central States ACSM Regional Chapter. (2011 – 2015)

Member, Oklahoma Alliance for Health, Physical Education, Recreation and Dance. (2011)

## **Teaching Workshop Attended**

"We know what to do – so why don't we? Mobilizing our campus communities to support the teaching evaluation initiative." Keynote speaker: Dr. Michelle Miller. Workshop location: TLPDC Room 150, Texas Tech University, Lubbock, TX. (October 3, 2022).