
Stephanie A. Sontag, PhD, CSCS*D, NSCA-CPT*D, RYT-200

stephaniesontag@lsu.edu

Education

PhD in Health and Human Performance

Spring 2020-May 2024

Oklahoma State University, Department of Health and Human Performance

Stillwater, Oklahoma

- Dissertation Topic: Neuromuscular, Musculoskeletal, and Performance Measures before and after a Yoga Intervention
- Advisor: Dr. Michael Trevino
- Graduate Certificate: Neuroscience

M.S. in Exercise Science

Spring 2018-Fall 2019

The University of Kansas, Department of Health, Sport, and Exercise Sciences

Lawrence, Kansas

- Thesis: Androgen and Glucocorticoid Receptor Phosphorylation following an Acute Resistance Exercise Bout in Trained and Untrained Men.
- Advisor: Dr. Andrew Fry

B.S. in Exercise Science

2014-2017

The University of Kansas, Department of Health, Sport, and Exercise Sciences

Lawrence, Kansas

- Undergraduate Certificate: Research Experience Program

Certifications

- National Strength and Conditioning Association Certified Strength and Conditioning Specialist with Distinction (**NSCA CSCS*D**) July 2018-Present
- National Strength and Conditioning Association Certified Personal Trainer with Distinction (**NSCA-CPT*D**) June 2017-Present
- Yoga Teacher (**RYT-200 hour**) – Yoga Alliance Certified May 2022-Present
- Functional Movement Screen (**FMS**) – **Level 1** July 2022-Present
- **CPR, AED, and First Aid Certified**

Academic Professional Experience

Assistant Professor of Professional Practice

Louisiana State University-School of Kinesiology

August 2024-Present
Baton Rouge, Louisiana

- Fall 2024
 - KIN 3513 Motor Learning – 2 sections
 - KIN 4512 Lifespan Motor Development

Graduate Teaching Assistant

Oklahoma State University-Department of Health and Human Performance

January 2021-May 2024
Stillwater, Oklahoma

- Spring 2021
 - HHP 3663 Biomechanics (Online due to Covid-19 restrictions)
- Fall 2021
 - HHP 2802 Medical Terminology (Online)
 - Lab Coordinator
- Spring 2022
 - HHP 3663 Biomechanics
- Fall 2022
 - TA for HHP 4063 Neuroanatomy
- Spring 2023
 - HHP 3223 Motor Learning
- Fall 2023
 - HHP 2802 Medical Terminology – 2 sections (Online)
- Spring 2024
 - HHP 2802 Medical Terminology – 2 sections (Online)

Graduate Research Assistant

Oklahoma State University-Department of Health and Human Performance

Jan 2020 - Dec 2020
Stillwater, Oklahoma

Graduate Teaching Assistant

The University of Kansas-Department of Health, Sport, and Exercise Science

Aug. 2018-Dec. 2019
Lawrence, Kansas

- Fall 2018
 - HSES 108 Yoga Basics – 2 Sections
 - HSES 108 Physical Conditioning
 - HSES 108 Basketball Advanced
 - TA for HSES 369 Kinesiology
- Spring 2019
 - HSES 108 Yoga Basics – 3 Sections
 - TA for HSES 269 Intro to Exercise Science
 - TA for HSES 474 Exercise Biochemistry
- Fall 2019
 - HSES 108 Kickboxing and Circuit Training – 2 Sections
 - TA for HSES 330 Nutrition
 - TA for HSES 369 Kinesiology
 - TA for HSES 470 Exercise Physiology

Academic Tutor

- *Kansas Athletics*

August 2018-July 2019

Lawrence, Kansas

Research and Laboratory Experience

Graduate Student

Spring 2020-Present

Oklahoma State University, Department of Health and Human Performance

Stillwater, Oklahoma

- **Focus/Topics:** Neuromuscular Adaptations, Musculoskeletal Adaptations, Muscle Fiber Analyses, Body Composition, Yoga, Resistance Training, Physical Performance, Origin of Fatigue
- **Advisor:** Dr. Michael Trevino
- Designs and conducts research for dissertation and additional projects.
- **New Laboratory Coordination:** Created needs analysis for the addition of a small biochemistry lab within the department. Created the list of needs for the lab to perform muscle biopsies with tissue analysis and placed the orders for materials.
- **Training Interventions:** Conducted and programmed all classes for the yoga intervention study. Aided with program design and training for resistance training studies.
- **Data Collection:** Used a variety of techniques and equipment for the collection of data including DXA, ultrasound imaging, performance testing (i.e. goniometry, FMS, maximal strength testing, flexibility), neuromuscular testing (i.e. surface EMG with MU decomposition, TMS, nerve stimulation, MMG), and qualitative techniques (i.e. interviews and surveys).
- **Data Analyses:** Processed neuromuscular data using LabVIEW and Delsys Decomposition software. Processed ultrasound data with ImageJ software. Performed statistics on data.
- **Data Presentation:** Wrote up data for manuscripts and abstracts. Presented data with podium, thematic poster, and traditional poster presentations at conferences.

Graduate Student

Spring 2018-Fall 2019

The University of Kansas, Department of Health, Sport, and Exercise Sciences

Lawrence, Kansas

- **Focus/Topics:** Androgen and Glucocorticoid Receptors, Na⁺/K⁺ Pumps, Resistance Training, Overtraining, Muscle Fiber Analyses, Hormonal Responses to Exercise
- **Advisor:** Dr. Andrew Fry
- Worked on project for thesis, performed analyses for and assisted with additional projects
- **Coordinates studies:** Organized and set up spaces being used, scheduled all subjects and assistance, ordered materials and supplies, led and instructed subjects throughout their visits, gave subject payment if applicable.
- **Data Collection:** Gives subjects clear and consistent instructions, encourages subjects to give maximal effort, draws blood, assists with muscle biopsies, sets up and manages performance equipment.
- **Data Analyses:** Performed salivary, serum, and protein assays; prepares tissue samples; performs gel electrophoresis and western blots; runs statistics on data.
- **Data Presentation:** Wrote up data for manuscripts and abstracts. Presented data with both podium and traditional poster presentations at conferences.

Research Volunteer

Fall 2017

The University of Kansas, Department of Health, Sport, and Exercise Sciences

Lawrence, Kansas

Osness Human Performance Laboratories-Jayhawk Athletic Performance Lab

- **Advisor:** Dr. Andrew Fry

- Description: Assists with performing assays, acquired techniques for gel electrophoresis, studied The Beast and its limitations, and observes and learns lab techniques and procedures for future thesis.

Undergraduate Research in HSES

Summer 2017

The University of Kansas, Department of Health, Sport, and Exercise Sciences Lawrence, Kansas
Osness Human Performance Laboratories-Jayhawk Athletic Performance Lab

- Focus/Topics: Understanding *The Beast*, Cross Country Overtraining Data, Overtraining Study
- Advisor: Dr. Andrew Fry
- Description: Studied *The Beast* (an accelerometer designed for velocity based training) to understand how the system worked, then compared its accuracy and validity to that of the Elite Form and TENDO. Presented the information to Dr. Fry.
- Performed salivary cortisol and testosterone assays (ELISA) on the samples received from a collegiate cross country team, then analyzed and interpreted the data.

Undergraduate Research in HSES

Spring 2017

The University of Kansas, Department of Health, Sport, and Exercise Sciences Lawrence, Kansas
Osness Human Performance Laboratories-Neuromechanics Lab

- Topic: The effects of 10 weeks of continuous cycling on muscle activation of the vastus lateralis.
- Instructor: Dr. Trent Herda
- Description: Collected subjects' data, organized data and files, broke down data using LabVIEW and Microsoft Excel, assisted with VO₂MAX testing, and observed muscle biopsies and tissue preparation; then created and presented a research poster on listed topic.

Dissection Student

Fall 2016

The University of Kansas, Department of Ecology and Evolutionary Biology Lawrence, Kansas
Cadaver Lab

- Instructor: Dr. Victor Gonzales
- Description: Gained dissection experience on human cadavers while increasing knowledge and understanding of human anatomy. This course aided in the learning of others by dissecting and prepping the cadavers for the anatomy observation lab.

Publications

Peer Reviewed Journal Publications

In Print

1. Sunggun Jeon, **Stephanie A. Sontag**, Lyric D. Richardson, Alex A. Olmos, and Michael A. Trevino. Neuromuscular electrical stimulation producing low evoked force elicits the repeated bout effect on muscle damage markers of the elbow flexors. *Sports Medicine and Health Science*, 2024. <https://doi.org/10.1016/j.smhs.2024.04.006>
2. Olmos, A.A., Sterczala, A., Miller, J., Parra, M., Dimmick, H.L, Miller, J.D., Deckert, J.A., **Sontag, S.A.**, Gallagher, P.M., Fry, A.C., Herda, T.J., Trevino, M.A. Sex-Related Differences in Motor Unit Behavior of the Vastus Lateralis During a Moderate and High Intensity Contraction. *Acta Physiol.* 2023;00:e14024. doi:10.1111/apha.14024.

3. Alex A. Olmos, **Stephanie A. Sontag**, Adam J. Sterczala, Mandy E. Parra, Hannah L. Dimmick, Jonathan D. Miller, Jake A. Deckert, Trent J. Herda, Michael A. Trevino. High-intensity cycling training necessitates increased neuromuscular demand of the vastus lateralis during a fatiguing contraction. *Research Quarterly for Exercise and Sport* 1-12, 2023. <https://doi.org/10.1080/02701367.2023.2201311>
4. Michael Trevino, Sergio Perez, **Stephanie Sontag**, Alex Olmos, Sunggun Jeon, and Lyric Richardson. Influence of Pennation Angle and Muscle Thickness on Mechanomyographic Amplitude-Torque Relationships and Sex Related Differences in the Vastus Lateralis. *J. Funct. Morphol. Kinesiol* 53(8), April 2023. <https://doi.org/10.3390/jfmk8020053>
5. **Stephanie A. Sontag**, Dimitrije Cabarkapa, Andrew C. Fry. Testosterone and Cortisol Salivary Samples are Stable across Multiple Freeze-Thaw Cycles. *Journal of Strength and Conditioning Research* 37(4):p 915-918, April 2023. DOI: 10.1519/JSC.0000000000004346
6. Sunggun Jeon, **Stephanie A. Sontag**, Trent J. Herda, Michael A. Trevino. Chronic training status affects muscle excitation of the vastus lateralis during repeated contractions. *Sports Medicine and Health Science*, 2023. <https://doi.org/10.1016/j.smhs.2022.12.005>
7. **Stephanie A. Sontag**, Adam J. Sterczala, Jonathan D. Miller, Jake A. Deckert, Alex A. Olmos, Mandy E. Parra, Hannah L. Dimmick, Philip M. Gallagher, Andrew C. Fry, Trent J. Herda, Michael A. Trevino. A Noninvasive test for estimating Myosin Heavy Chain of the Vastus lateralis in Females with Mechanomyography. *Medical Engineering and Physics* 111, 2023. <https://doi.org/10.1016/j.medengphy.2022.103946>
8. Alex Olmos, Trent J Herda, **Stephanie A. Sontag**, Michael A Trevino. The influence of chronic training status on the mechanical behavior of the vastus lateralis during repetitive trapezoidal contractions. *Journal of Musculoskeletal and Neuronal Interactions. Journal of Musculoskeletal and Neuronal Interactions* 22(2), 2022.
9. Sergio Perez, Alex A. Olmos, **Stephanie A. Sontag**, Mandy E. Parra, Hannah L. Dimmick, Adam J. Sterczala, Jonathan D. Miller, Jake A. Deckert, Trent J. Herda, and Michael A. Trevino. Effects of Endurance Cycling on Mechanomyographic Median Power Frequency of the Vastus Lateralis. *Applied Sciences* 12(10): 5213, 2022. <http://dx.doi.org/10.3390/app12105213>
10. **Stephanie A Sontag**, Michael A Trevino, Trent Herda, Adam J Streczala, Jonathan Miller, Mandy E. Parra, Hannah Dimmick, Jake Deckert. Endurance training alters motor unit activation strategies for the vastus lateralis, yet sex-related differences and relationships with muscle size remain. *European Journal of Applied Physiology* 121(6):1-11, 2021. <https://doi.org/10.1007/s00421-021-04622-7>
11. Justin X. Nicoll, Andrew C. Fry, Eric M. Mosier, Luke A. Olsen, **Stephanie A. Sontag**. MAPK, Androgen, and Glucocorticoid Receptor Phosphorylation Following High Frequency Resistance Exercise Overtraining. *European Journal of Applied Physiology* 119 (10): 2237-2253, 2019. <https://doi.org/10.1007/s00421-019-04200-y>

In Review

1. Nicolas M. Philipp, Andrew C. Fry, Eric M. Mosier, Dimitrije Cabarkaba, Justin X. Nicoll, **Stephanie A. Sontag**. Biological reliability of a movement analysis assessment using a markerless motion capture system. *In review with Frontiers in Sports and Active Living*
2. Lyric D. Richardson, Alex A. Olmos, Allen L. Redinger, **Stephanie A. Sontag**, Sunggun Jeon, Breanne S. Baker, Jerome Hauselle, and Michael A. Trevino. Effects of adiposity on maximal strength, muscle morphology, and motor unit recruitment and firing rate patterns. *In review with Clinical Physiology and Functional Imaging*
3. Lawson, D.J., Olmos, A.A., Mosiman, S.J., **Sontag, S.A.**, Goodin., J.R., Dawes, J.J. Velocity Variables: Determining Predictive Metrics During the Back Squat and Bench Press to Failure At Different Relative Loads. *In review with Journal of Strength and Conditioning Research*

In Preparation

1. **Stephanie A. Sontag**, Allen L. Redinger, Lyric D. Richardson, Alex A. Olmos, Brenden Roth, Sunggun Jeon, Breanne S. Baker, and Michael A. Trevino. The Influence of Yoga on Musculoskeletal and Performance Adaptations in Healthy Adults.
2. **Stephanie A. Sontag**, Justin X. Nicoll, Eric M. Mosier, Andrew C. Fry. The Effect of Training Status on Androgen and Glucocorticoid Receptor Time-course Phosphorylation Following Resistance Exercise.
3. Michael Trevino, Sergio Perez Jr, **Stephanie Sontag**, Trent Herda, Adam Sterczala, Jonathan Miller, Mandy Parra, Hannah Dimmick, Jake Deckert. Effects of a 5-week Continuous Cycling Training Program on Mechanomyographic Mean Power Frequency of the Vastus Lateralis.
4. Eric M. Mosier, Andrew C. Fry, Justin X. Nicoll, **Stephanie A. Sontag**, Dimitrije Cabarkapa, and Rhonda C. Beemer. The effects of vertical jump fatigue and sprint fatigue on total-body biomechanics.
5. Eric M. Mosier, Andrew C. Fry, Justin X. Nicoll, **Stephanie A. Sontag**. Biomechanical Comparison of Force Plate and 3-D Motion Capture System for Assessing Counter-Movement Vertical Jump Performance.

Conference Abstracts and Presentations

Peer-Reviewed Abstract Presentations

1. **Stephanie A. Sontag**, Lyric D. Richardson, Alex A. Olmos, Brenden L. Roth, Sunggun Jeon, and Michael A. Trevino. Yoga influences strength and motor unit behavior but not muscle size in active adults. Accepted for *podium* presentation at NSCA National Conference. Baltimore, MD, July 2024.

*Doctoral Research Award Finalist

2. Andrew C. Fry, Eric M. Mosier, Nico M. Philipp, Dimitrije Cabarkapa, Justin X. Nicoll, **Stephanie A. Sontag**. Biological reliability of a movement analysis assessment using a markerless motion capture system. Submitted for presentation at NSCA National Conference. Baltimore, MD, July 2024.
3. **Stephanie A. Sontag**, Allen L. Redinger, Lyric D. Richardson, Alex A. Olmos, Brenden Roth, Sunggun Jeon, Breanne S. Baker, and Michael A. Trevino. Upper Body and Trunk Musculoskeletal Adaptations following 8 Weeks of Yoga in Healthy Adults. Accepted abstract for *podium* presentation at Central States ACSM Regional Chapter Conference. Kansas City, MO, March 2024 and for poster and ACSM National Conference. Boston, MA, May 2024.
4. Lawson, D.J., Olmos, A.A., **Sontag, S.A.**, Trevino, M.A., Dawes, J.J. Velocity Variables: Determining Predictive Metrics During the Bench Press to Failure at Different Relative Intensities. Submitted to the American College of Sports Medicine Central States Regional Chapter Conference, Kansas City, MO. 2024.
5. Ball, T., Olmos, A.A., Lawson, D.J., Richardson, L.R., Sontag, S.A., Roth, B., Jeon, S., Redinger, A.L., Franklin, W., Parodi, M., Trask, B., Trevino, M.A. maximal strength, muscle and tendon adaptations following different resistance training focused protocols in untrained males. Accepted to the American College of Sports Medicine Central States regional Chapter conference, Kansas City, MO. 2024.
6. Alex A. Olmos, Daniel J. Lawson, Lyric D. Richardson, **Stephanie Sontag**, Brenden Roth, Sunggun Jeon, Allen L. Redinger, Weston Franklin, Tristan Ball, Mariah Parodi, Bryson Trask, Michael A. Trevino. Differential motor unit and hypertrophy adaptations of the vastus lateralis following divergent resistance training interventions. Accepted abstract for podium presentation at Central States ACSM Regional Chapter Conference. Kansas City, MO, March 2024.
7. **Stephanie A. Sontag**, Lyric Richardson, Alex Olmos, Sunggun Jeon, Michael A. Trevino. Yoga alters knee extensor maximal strength and motor unit firing behavior of the vastus lateralis in healthy adults. Accepted abstract for *podium* presentation at NSCA National Conference, Las Vegas, Nevada, July 2023.
*Doctoral Research Award Finalist
8. Lyric Richardson, Alex Olmos, Allen Redinger, **Stephanie Sontag**, Sunggun Jeon, Breanne Baker, Michael Trevino. The Effects of Body Composition on Neuromuscular Function In Adult Females. Presentation at the South-Central American Society for Biomechanics. Fort Worth, TX (2023)
9. **Stephanie A. Sontag**, Lyric D. Richardson, Alex A. Olmos, Sunggun Jeon, and Michael A. Trevino. Yoga improves movement, balance, and upper body muscular endurance in healthy adults. *Thematic poster* presented at the American College of Sports Medicine Central States regional Chapter conference, Tulsa, OK. 2023. *Abstract was also accepted for presentation at the National American College of Sports Medicine conference. Denver, CO. 2023.
10. Richardson, L., Olmos, A.A., Redinger, A., **Sontag, S.A.**, Jeon, S., Baker, B., Trevino, M.A. Effects of obesity on motor unit properties for a non-weight bearing muscle. Abstract and poster presented at the American College of Sports Medicine Central States regional Chapter conference,

Tulsa, OK. 2023. *Abstract presented at the National American College of Sports Medicine conference. Denver, CO. 2023.

11. Jeon, S., Olmos, A.A., **Sontag, S.A.**, Richardson, L., Trevino, M.A. Maximal Strength And Motor Unit Control Strategies Following Contralateral Repeated Bouts Using Neuromuscular Electrical Stimulation. Abstract and poster presented at the American College of Sports Medicine Central States regional Chapter conference, Tulsa, OK. 2023.
12. Borna Golbarg, Justin X. Nicoll, **Stephanie A. Sontag**, Eric M. Mosier, and Andrew C. Fry. The Relationship between resistance exercise induced testosterone and cortisol responses and steroid receptor phosphorylation. Abstract and Poster presented at the Southwest Chapter of the American College of Sports Medicine regional conference. October 2022.
13. **Stephanie A. Sontag**, Mandy Parra, Hannah Dimmick, Adam Sterczala, Jonathan D. Miller, Jake Deckert, Philip M. Gallagher, Andrew C. Fry, Trent J. Herda, Michael A. Trevino. Noninvasive Test for Estimating Type IIa Myosin Heavy Chain Expression of the Vastus Lateralis Using Motor Unit Properties in Untrained Men and Women. Abstract and Poster presented at National Strength and Conditioning Association National Conference July 2022. *J Strength Cond Res*
*Doctoral Research Award Finalist
14. Alex Olmos, Sunggun Jeon, **Stephanie A. Sontag**, Trent J. Herda, Michael A. Trevino. The Influence of Training Status on Muscle Activation of the Vastus Lateralis during a Fatiguing Contraction. Abstract and Poster presented at National Strength and Conditioning Association National Conference July 2022. *J Strength Cond Res*
*Doctoral Research Award Finalist
15. Sergio Perez, **Stephanie Sontag**, Trent Herda, Adam Sterczala, Jonathan Miller, Mandy Parra, Hannah Dimmick and Michael Trevino. Influence of muscle architecture and size on mechanomyographic amplitude of the vastus lateralis. Poster and oral presented at the Central States Chapter of the American College of Sports Medicine regional conference March 2022
*Doctoral Research Award Finalist
16. Shawn Allen, **Stephanie Sontag**, Sergio Perez, Alex Olmos, Sunggun Jeon, Jeremy Lippman and Michael Trevino. Influence of muscle characteristics on maximal strength in sedentary individuals. Poster and oral presented at the Central States Chapter of the American College of Sports Medicine regional conference March 2022
*Masters Research Award Winner
17. Alex Olmos, **Stephanie Sontag**, Sergio Perez, Sunggun Jeon, Shawn Allen, Jeremy Lippman, and Michael Trevino. The effects of 10-weeks of continuous cycling on pennation angle of the vastus lateralis. Abstract and poster presented at the Central States Chapter of the American College of Sports Medicine regional conference March 2022
18. **Stephanie Sontag**, Mandy Parra, Hannah Dimmick, Adam Sterczala, Jonathan Miller, Jake Deckert, Philip Gallagher, Andrew Fry, Trent Herda, and Michael Trevino. A noninvasive test for estimating type I myosin heavy chain expression in women using mechanomyography. Abstract and poster presented at the Central States Chapter of the American College of Sports Medicine

regional conference March 2022 and Abstract was also accepted for presentation at the National American College of Sports Medicine conference (virtual) May 2022

19. **Stephanie Sontag**, Sunggun Jeon, Trent Herda, Adam Sterczala, Jonathan Miller, Mandy Parra, Jake Deckert. Five weeks of continuous cycling training alters motor unit behavior and muscle activation in untrained men despite no change in maximal strength. Abstract and Poster presented at National Strength and Conditioning Association National Conference July 2021. *J Strength Cond Res*
20. **Stephanie Sontag**, Alex Olmos, Trent Herda, Philip Gallagher, Andrew Fry, Jake Deckert, Adam Sterczala, Jonathan Miller, Mandy Parra, Hannah Dimmick, Michael Trevino. Myosin Heavy Chain Expression Influences Motor Unit Behavior During High- But Not Low-Intensity Isometric Contractions. Abstract and Poster presented virtually at the Central Stated Chapter of the Americal College of Sports Medicine regional conference October 2020 and at the American College of Sports Medicine National Conference May 2021. *Medicine & Science in Sport & Exercise* 53(8S):167, 2021.
21. Sergio Perez, **Stephanie A Sontag**, Trent Herda, Adam J Sterczala, Jonathan Miller, Mandy Parra, Hannah Dimmick. Influence of Sex and Muscle Action on Mechanomyographic Mean Power Frequency of the Vastus Lateralis. Abstract and Poster presented virtually at the Central Stated Chapter of the Americal College of Sports Medicine regional conference October 2020 and at the American College of Sports Medicine National Conference May 2021. *Medicine & Science in Sport and Exercise* 53(8S0):168, 2021.
22. J.C. Broeckel, J. Dawes, Q.R. Johnson, M.A. Trevino, **S.A. Sontag**, J. Scraper, R.G. Lockie. Are there sex-related differences in the functional movement screen performed by ROTC cadets? Online abstract and poster presentation at National Strength Conditioning Association Conference, Las Vegas, NV, July 2020. *J Strength Cond Res*.
23. J.C. Broeckel, T.J. Herda, A.J. Sterczala, J.D. Miller, M.E. Parra, H.L. Dimmick, **S.A. Sontag**, M.A. Trevino. Effects of a 10 week continuous cycling intervention on motor unit control properties of the vastus lateralis during a low-intensity contraction. Online abstract and poster presentation at National Strength Conditioning Association Conference, Las Vegas, NV, July 2020. *J Strength Cond Res*.
24. M.A. Trevino, **S.A. Sontag**, T.J. Herda. The influence of training status on the mechanical behavior of the vastus lateralis during repetitive trapezoidal contraction. Online abstract and poster presentation at National Strength Conditioning Association Conference, Las Vegas, NV, July 2020. *J Strength Cond Res*.
25. Mosier. E.M., A.C. Fry, J.X. Nicoll, **S.A. Sontag**, D. Cabarkapa. The effects of maximal resisted sprint fatigue sex differences on total-body biomechanics. Online abstract and poster presented at National Strength Conditioning Association Conference, Las Vegas, NV, July 2020. *J Strength Cond Res*.
26. **S.A. Sontag**, T.J. Herda, A.J. Sterczala, J.D. Miller, M.E. Parra, H.L Dimmick, M.A. Trevino. The effect of continuous cycling training on mechanomyographic mean power frequency of the vastus

- lateralis. Online abstract and poster presented at National Strength Conditioning Association Conference, Las Vegas, NV, July 2020. *J Strength Cond Res*.
27. Mosier, E.M., A.C. Fry, J.X. Nicoll, **S.A. Sontag**, D. Cabarkapa. The effects of vertical jump fatigue sex differences on total-body biomechanics. Online abstract and poster presented at National Strength Conditioning Association Conference, Las Vegas, NV, July 2020. *J Strength Cond Res*.
 28. **S.A. Sontag**, A.J. Warren, S. Lintern, J.L. Volberding. Utilizing athletic training evaluation and intervention techniques to improve firefighter functional preparedness. Online abstract and poster presented at National Strength Conditioning Association Conference, Las Vegas, NV, July 2020. *J Strength Cond Res*.
 29. **Stephanie A. Sontag**, Justin X. Nicoll, Andrew C. Fry, Eric M. Mosier. Acute Androgen and Glucocorticoid Receptor Response Following a Moderate Intensity Exercise Bout. Virtual Abstract and Poster Presentation at Annual American College of Sports Medicine National Conference, San Francisco, CA, May 2020. *Medicine & Science in Sport & Exercise* 52(7S):931, 2021.
 30. E.M. Mosier, A.C. Fry, J.X. Nicoll, **S.A. Sontag**, D. Cabarkapa. The Effects of Maximal Resistive Sprint Fatigue on Total-Body Biomechanics. Abstract and poster presented at National Strength and Conditioning Association Kansas State Clinic, Emporia, KS, December 2019.
 31. Christopher Lee, Justin X. Nicoll, Eric M. Mosier, Luke A. Olsen, **Stephanie A. Sontag**, and Andrew C. Fry. The Effect of Non-Functional Overreaching on β_2 -Adrenergic Receptor Expression, Phosphorylation, and Epinephrine Responses in Trained Men. Abstract and poster presented at Southwest Chapter American College of Sports Medicine, Newport Beach, CA, October 2019.
 32. **Stephanie A. Sontag**, Justin X. Nicoll, Andrew C. Fry, Eric M. Mosier. Acute Androgen and Glucocorticoid Receptor Response Following a Moderate Intensity Exercise Bout. *Poster and Podium* Presentation at Central States Chapter American College of Sports Medicine, Tulsa, OK, October 2019. *Medicine & Science in Sport & Exercise*
***Outstanding Masters Research Award Winner**
 33. Jonathan Miller, Matt Hermes, Mandy Parra, **Stephanie Sontag**, Trent Herda, and Andrew Fry. Basal Testosterone Is Not Predictive of Vertical Jump Performance in Recreationally Active Males. Abstract and Poster Presented at Central States Chapter American College of Sports Medicine, Tulsa, OK, October 2019.
 34. Matthew Hermes, Mandy Parra, **Stephanie Sontag**, Trent Herda, and Andrew Fry. The Relationship Between Fatigue and Acute Testosterone Response Following a Fatiguing Jump Protocol. Abstract and Poster Presented at Central States Chapter American College of Sports Medicine, Tulsa, OK, October 2019.
 35. Eric Mosier, Andrew Fry, Justin Nicoll, Dimitrije Cabarkapa, **Stephanie Sontag**, and Rhonda Cross Beemer. Comparison of Ground Reaction Forces Derived from Force Plate and Motion

Capture System During Vertical Jumps. Abstract and Poster Presented at Central States Chapter American College of Sports Medicine, Tulsa, OK, October 2019.

36. **S.A. Sontag**, J.X. Nicoll, A.C. Fry, E.M. Mosier. The importance of training status: performance variability in the back squat across a moderate intensity bout. Abstract and Poster Presented at National Strength Conditioning Association National Conference, Washington, D.C., July 2019. *J Strength Cond Res*.
37. **S.A. Sontag**, J.X. Nicoll, A.C. Fry, E.M. Mosier. The acute cortisol response to resistance exercise: the importance of training status. Abstract and Poster Presented at National Strength Conditioning Association National Conference, Washington, D.C., July 2019. *J Strength Cond Res*.
38. M.J. Hermes, A.C. Fry, T.J. Herda, M.E. Wray, **S.A. Sontag**, M.L. Hatcher. Vertical jump fatigue - amortization time and eccentric rate of force development are maintained. Abstract and Poster Presented at National Strength Conditioning Association National Conference, Washington, D.C., July 2019. *J Strength Cond Res*.
39. M.J. Hermes, A.C. Fry, T.J. Herda, M.E. Wray, **S.A. Sontag**, M.L. Hatcher. Kinetics of vertical jump fatigue following a repeated jump protocol in recreationally trained males. Abstract and Poster Presented at National Strength Conditioning Association National Conference, Washington, D.C., July 2019. *J Strength Cond Res*.
40. M.E Wray, J.D. Miller, M.L. Hatcher, **S.A. Sontag**, M.J. Hermes, T.J. Herda. Slopes of the motor unit action potential amplitude-recruitment threshold relationships correlates with isokinetic peak torque at two velocities. Oral Podium Presentation at National Strength Conditioning Association National Conference, Washington, D.C., July 2019. *J Strength Cond Res*.
41. J.X. Nicoll, A.C. Fry, E.M. Mosier, L.A. Olsen, **S.A. Sontag**. Glucocorticoid receptor phosphorylation and serum cortisol responses are augmented following high-frequency resistance exercise overtraining. Abstract and Poster Presented at National Strength Conditioning Association National Conference, Washington, D.C., July 2019. *J Strength Cond Res*.
42. Mosier. E.M., A.C. Fry, J.X. Nicoll, **S.A. Sontag**. The effects of a modified vertical jump fatigue test on lactate production and heart rate. Oral Podium Presentation at National Strength Conditioning Association National Conference, Washington, D.C., July 2019. *J Strength Cond Res*.
43. Mosier. E.M., A.C. Fry, J.X. Nicoll, **S.A. Sontag**. The effects of vertical jump fatigue on total-body biomechanics. Abstract and Poster Presented at National Strength Conditioning Association National Conference, Washington, D.C., July 2019. *J Strength Cond Res*.
44. Eric M. Mosier, Andrew C. Fry, Justin X. Nicoll, Dimitrije Cabarkapa, **Stephanie A. Sontag**. Test Reliability of Performance Scores Using a Markerless Motion Capture System. *Medicine & Science in Sport & Exercise* 51(6): 61, 2019.
45. Lee C, Nicoll JX, Mosier EM, Olsen LA, **Sontag SA**, Fry AC. High-frequency Resistance Exercise Overtraining Attenuates Power, But Not Force Adaptations in Recreationally Trained Males.

Abstract and Poster Presented at: Southwest Chapter American College of Sports Medicine. Costa Mesa, CA, October 2018

46. Nicoll JX, Fry AC, Mosier EM, Olsen LA, **Sontag SA**. Resting and Exercise Induced MAPK Phosphorylation Following High-frequency Resistance Exercise Overtraining. Abstract and Poster Presented at: Southwest Chapter American College of Sports Medicine. Costa Mesa, CA, October 2018
47. Mosier, E.M., A.C. Fry, J.X. Nicoll, D. Cabarkapa, **S.A. Sontag**. Test-retest reliability of performance scores using a markerless motion capture system. Abstract and Poster Presented at Central States regional chapter of American College of Sports Medicine, Kansas City, MO, October 2018.
48. **Sontag S.A.**, Nicoll, J.X., Mosier, E.M., Fry, A.C. Sodium-Potassium Pump Subunit Expression: Acute Responses to Resistance Exercise in Trained Men. Abstract and Poster Presented at the Central States regional chapter of American College of Sports Medicine, Kansas City, MO, October 2018.
49. **Sontag, S.A.**, Trevino, M.A., Sterczala, A.J., Miller, J.D., and Herda, T.J. The effects of 10 weeks of continuous cycling on muscle activation of the vastus lateralis. Abstract and Poster Presented at Central States ACSM Regional Conference, Saint Charles, MO, October 2017.

Non-Peer Reviewed Abstract Presentations

1. Ball, T., Olmos, A.A., Lawson, D.J., Richardson, L.R., **Sontag, S.A.**, Roth, B., Jeon, S, Redinger, A.L., Franklin, W., Parodi, M., Trask, B., Trevino, M.A. maximal strength, muscle and tendon adaptations following different resistance training focused protocols in untrained males. HPNRI Symposium. Stillwater, OK. April 2024.

Invited Lectures

1. **Sontag, S.A.** Yoga with children. Oral presentation and hands on demonstrations given to students with the Oklahoma State University Family Resource Center (60min). April 28, 2023.
2. **Sontag, S.A.** Volleyball fundamentals. Oral presentation and hands on demonstrations given to HHP 1833: Pedagogy of Team Sports (45min). Oklahoma State University, March 8, 2022.

Research Funding

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- Trevino, M.A., Olmos, A.A., **Sontag, S.A.**, Richardson, L.D., National Strength and Conditioning Association Foundation Young Investigator Research Grant, 2023 – 2024, Colorado Springs, CO. \$19,991.00 requested. Not Funded.
 - Effect of resistance training on motor unit properties of the vastus lateralis for sedentary females

Applied Professional Experience

Yoga Instructor

Oklahoma State University – Colvin Rec Center
JM Bodyworks Gym
Red Earth Yoga Center

Stillwater, Oklahoma
May 2022-June 2024
May 2022-Sept. 2023
May-August 2022

Group Fitness Instructor

Oklahoma State University – Colvin Rec Center

- Total Body

Stillwater, Oklahoma
May-August 2023

Tactical Mobility Specialist and Coach - Volunteer

Stillwater Special Operations Team (SOT)

- Leads mobility drills and exercises with the Special Operations Team
- Aids in coaching during the workout

Stillwater, Oklahoma
May 2022-Present

Performance Coach

Oklahoma State University – Colvin Rec Center

- High School Strength and Conditioning
- Club Sports Strength and Conditioning
- Youth Performance Camps

August 2021-May 2024
Stillwater, Oklahoma

Personal Trainer

Oklahoma State University – Colvin Rec Center

July 2021-June 2024
Stillwater, Oklahoma

Personal Trainer

The University of Kansas – Ambler Student Rec Center

January-October 2018
Lawrence, Kansas

Data Analyst Intern

KU Athletics-Football

- Uses the GPS performance tracking system *Catapult* (Used *Zephyr* in 2017)
- Monitors players during conditioning, practices, and games.
- Communicates with coaching staff during practices.
- Breaks down, analyzes, and organizes data to give to coaches daily.
- Creates weekly summaries and interprets data trends.

Aug. 2017-Dec. 2019
Lawrence, Kansas

Strength and Conditioning Coach - Summer Intern

Basehor-Linwood High School

Summer 2017
Basehor, Kansas

Performance Coach - Volunteer

Lawrence Memorial Hospital Performance and Wellness Center

- Helps coach and instruct young athletes through drills and exercises during summer camps
- Assists patients and athletes with exercises
- Assists physical therapists and coaches

Dec. 2016-August 2018
Lawrence, Kansas

Basketball Coach

Granny Basketball League

- Plans and coordinates practices
- Develops strategic plays
- Lead appropriate warm-ups and cool-downs for ages 50+

Sept. 2016-Dec. 2019
Lawrence, Kansas

Service

KU Strength Club

The University of Kansas, Lawrence, KS

- Treasurer

Fall 2019

KU Boxing Club

The University of Kansas, Lawrence, KS

- Secretary

Fall 2015

Professional Membership

- National Strength and Conditioning Association (NSCA) Member April 2017-Present
- American College of Sports Medicine (ACSM) Member October 2017-Present
- ACSM Central States Regional Chapter Member October 2017-Present

Laboratory Skills

Neuromuscular and Exercise Physiology

- Ultrasonography
- Biodex System 4 dynamometry
- Mechanomyography (MMG)
- Electromyography (EMG)
- Surface Electromyographic Decomposition (Delsys)
- Nerve Stimulation
- Transcranial Magnetic Stimulation (TMS)
- Load cell dynamometer
- Dual X-ray Absorptiometry (DXA)
- VO_{2max} Testing

Performance and Biomechanics

- GPS Tracking Systems (Catapult and Zephyr)
- Tendo weightlifter analyzer
- Elite Form
- Force Plates
- Functional Movement Screen (FMS)
- Goniometry
- Maximal Strength Testing

Human Cadaver Dissection Experience

Wet Lab

- Blood Draws
- Serum and Salivary Assays
- Protein Assays
- Muscle Biopsy Suction and Wound Care
- Muscle Tissue Prep
- Gel Electrophoresis
 - Large and small format
 - Myosin Heavy Chain
 - Variety of other Muscle Proteins
- Western Blots
 - Variety of muscle proteins
 - Phosphorylation

Analysis and Writing

- SPSS Proficient
- ImageJ Proficient
- Microsoft Excel Proficient
- Microsoft Word Proficient
- LabVIEW Experience
- Qualitative Data Analyses

Scholarships and Awards

- **OSU CEHS Travel Award (\$400)** Spring 2024
- **OSU CEHS Travel Award (\$400)x2** Summer 2023
- **OSU KAHR Travel Award (\$500)** Summer 2023 & 2024
- **OSU KAHR Travel Award (\$250)** Summer 2022 & 2023

- **OSU GPSGA Travel Award (\$100)** Spring 2023 & 2024
Spring 2022 & 2023
Summer 2023

- **NSCA Foundation Women's Scholarship (\$2000)** 2021
- **NSCA Foundation Women's Scholarship (\$2000)** 2020
- **Thesis of the Year – KU School of Education (\$500)** 2020
- **CS ACSM Outstanding Research Award – Masters (\$750)** 2019
- **Wayne and Joyce Fick Scholarship in Education (\$2200)** Fall 2019
- **Bret Hammig Exercise Physiology Award (\$850)** 2019
- **KU School of Education Travel Award (\$600)** Summer 2018 & 2019
- **Ellsworth Helen Walton Scholarship (\$1000)** Fall 2018
- **Feldman Pottruck Family Scholarship (\$2000)** Fall 2018
- **Villarreal Ackerman Scholarship (\$1100)** Fall 2018
- **KU Distinction Scholarship (Renewable \$3000/semester)** Fall 2014-Spring 2017