JASON BAXTER BOYLE

College of Health Sciences The University of Texas at El Paso

Email: <u>jbboyle@utep.edu</u> Website: <u>VRMC lab</u>

EDUCATION Doctor of Philosophy, Kinesiology (Motor Neuroscience) Texas A&M University, College Station, TX	May 2014
Master of Science, Kinesiology (Motor Neuroscience) Texas A&M University, College Station, TX	Dec 2010
Bachelor of Science, Kinesiology (Motor Behavior) Minor, Psychology Texas A&M University, College Station, TX	Dec 2008
PROFESSIONAL EXPERIENCE	
Associate Professor - Program Coordinator: Masters of Kinesiology - Department of Kinesiology - Doctor of Physical Therapy Program Assistant Professor Lecturer The University of Texas at El Paso, El Paso, TX	Sep 2019 – Sep 2014 – Jan2015 – Sep 2014 – Aug 2020 Sep 2013 – Aug 2014
Adjunct Lecturer - Department of Kinesiology and Dance New Mexico State University, Las Cruces, NM	Jan 2019 –
Adjunct Lecturer - Department of Kinesiology Sam Houston State University, Huntsville, TX	Aug 2017 –
Strategic Fellowship Research Assistant Graduate Teaching/Research Assistant Texas A&M University, College Station, TX	Aug 2012 – Aug 2013 Jan 2009 – Aug 2012

TEACHING EXPERIENCE

The University of Texas at El Paso

- ⁺ Denotes original course creation
- KIN 3332 Motor Behavior
- KIN 3333 Motor Development *
- KIN 4310 Selected Topics: Motor Neuroscience *
- KIN 4311 Sport Psychology *
- KIN 4313 Biomechanics
- KIN 4323 Current Issues in Exercise Science
- KIN 5373 Motor Learning & Control (Masters of Kinesiology Program)
- DRSC 5390 Neuroscience for Health Sciences (Doctor of Physical Therapy Program)
- PT 6207 Motor Control & Motor Learning (Doctor of Physical Therapy Program)

New Mexico State University

SP M 341 Motor Development (Online)

Sam Houston State University

KINE 3364 Motor Learning (Online)

Texas A&M University

KINE 690 Theory of Research in Discipline (Doctoral Teaching)

RESEARCH EXPERIENCE

Refereed Journal Publications

- * Denotes Senior Author

 * Denotes Thesis/Dissertation/Capstone
- 22. Eggleston, J., Chavez, E., Dufek, J., Olivas, A., **Boyle, J.B.**, Harry, J., & Cereceres, P. (accepted) Lesser magnitudes of lower extremity variability during terminal swing characterizes walking patterns in children with autism. *Clinical Biomechanics*.
- 21. †Gamez Corral, A.S., Manning, R., Wang, C., Cisneros, A., Meeuwsen, H.J., & *Boyle, J.B., (2019) A Novel Approach to Enhancing Upper Extremity Coordination in Children with Autism Spectrum Disorder. *Journal of Motor Behavior*, 1-7.
- 20. Dorgo, S., Perales, J., **Boyle, J.B.**, Hauselle, J. & Montalvo, S. (2019) Sprint Training on a Treadmill vs. Overground Results in Modality-Specific Impact on Sprint Performance but Similar Positive Improvement in Body Composition in Young Adults. *Journal of Sport Sciences*.
- 19. *Howard, J., Dorgo, S., Salvatore, A. & *Boyle, J.B. (2019) The Use of Mobile Phone applications for Concussions When Athletic Trainers Are Not Present. *Journal of Physical Education, Recreation & Dance.* 90(2), 43-51.
- Wang, C., Boyle, J.B., Boyi, D., & Shea, C.H. (2017) Do accuracy requirements change bimanual and unimanual control strategies? *Experimental Brain Research*, 235, 1467-1469.
- 17. Naaktgeboren, K., Dorgo, S., & **Boyle, J.B.** (2017) Growth Plate Injuries in Children in Sport: a Review of Sever's Disease. *Strength and Conditioning Journal*, 39, 59-68.

- 16. *Boyle, J.B., Kennedy, D., Wang, C., & Shea, C.H. (2016). Optimizing high ID performance: The role of the tracking template. *Journal of Motor Learning and Development*, 4.1, 80-99.
- 15. **Boyle, J.B.**, Kennedy, D.M., & Shea, C.H. (2015). A novel approach to enhancing limb control in older adults. *Experimental Brain Research*, 233, 2061-2071.
- 14. Kennedy D.M., **Boyle, J.B.,** Rhee, J. & Shea, C.H. (2015) Rhythmical Bimanual Force Production: Homologous and Non-Homologous Muscles. *Experimental Brain Research*, 233, 181-195.
- 13. Kennedy, D.M., **Boyle, J.B.**, Wang, C., & Shea, C.H. (2014). Bimanual force control: Cooperation and interference? *Psychological Research*, 80, 34-54.
- 12. **Boyle, J.B.,** Kennedy, D., Wang, C., & Shea, C.H. (2014). The sine wave protocol: Decreasing movement time without increasing errors. *Journal of Motor Behavior*, 46, 233-241.
- 11. *Boyle, J.B., Panzer, S., Wang, C., Kennedy, D., & Shea, C.H. (2013). Optimizing the control of high ID single degree of freedom movements: Re-thinking the power of the visual display. *Experimental Brain Research*, 231, 479-493.
- 10. Wang, C., Kennedy, D., **Boyle, J.B.,** & Shea, C.H. (2013). A guide to performing difficult bimanual coordination tasks: Just follow the yellow brick road. *Experimental Brain Research*, 230: 31-40.
- 9. **Boyle, J.B.** & Shea, C.H. (2013). Micro-movements of varying difficulties: Wrist and arm movements. *Experimental Brain Research*, *229*, 61-73.
- 8. Kennedy, D., **Boyle, J.B.,** & Shea, C.H. (2013). The role of auditory and visual models in the production of bimanual tapping patterns. *Experimental Brain Research*, *224*, 507-518.
- 7. **Boyle, J.B.,** Kennedy, D., & Shea, C.H. (2012). Optimizing the control of high ID single degree of freedom movements: Re-thinking the obvious. *Experimental Brain Research*, 223, 377-387.
- 6. Panzer, S., **Boyle, J.B.,** & Shea, C.H (2012). Additional load decrease movement time in the wrist but not in arm movements at ID 6. *Experimental Brain Research*, *224*, 243-253.
- 5. **Boyle, J.B.**, Panzer, S., Wright, D., & Shea, C.H. (2012). Extended practice of reciprocal wrist and arm movements of varying difficulties. *Acta Psychologica*, *140*, 142-153.
- 4. **Boyle, J.B.**, Panzer, S., & Shea, C.H. (2012). Increasingly complex bimanual multi-frequency coordination patterns are equally easy to perform with on-line relative velocity feedback. *Experimental Brain Research*, *216*, 515-525.
- 3. Shea, C.H., **Boyle, J.B.**, & Kovacs, A.J. (2012). Bimanual Fitts' tasks: Kelso, Southard, and Goodman, 1979 revisited, *Experimental Brain Research*, *216*, 113-121.
- 2. ***Boyle, J.B.,** & Shea, C.H. (2011). Wrist and arm movements of varying difficulties. *Acta Psychologica*, *137*, 382-396.
- 1. Kovacs, A.J., **Boyle, J.B.**, Grutmatcher, N., & Shea, C.H. (2010). Coding of on-line and preplanned movement sequences. *Acta Psychologica*, *133*, 119-126.

Under Review

- 2. Eggleston, J., Olivas, A., Vanderhoof, H., Chavez, E., Alvarado, C., & **Boyle, J.B.**, (in revision) Children with autism exhibit individualized responses to live animation biofeedback compared to children with typical development. *Perceptual and Motor Skills*.
- Cereceres, P., Saucedo, F., Eggleston, J., & *Boyle, J.B. (in review). Optimizing High ID
 Upper Extremity Motor Behavior: The Role of Observation vs Action. *Perceptual Motor Skills*.

In Development

- 4. Cereceres, P., Stewart, D., Yang, F., & *Boyle, J.B. (writing) The effect of task difficulty on center of mass loading in a two footed forward leap. Target Journal: *Journal of Motor Behavior*.
- 3. *Cereceres, P., *Pearson, J., Solis, A., Diaz, C., Manning, R., Eggleston, J., Aiken, C. & *Boyle, J.B. (writing). Discrete and Cyclical units of action in children diagnosed with Autism Spectrum Disorder. Target Journal: *Journal of Motor Behavior*.
- 2. *Cereceres, P., Manning, R., Eggleston, J. & *Boyle, J.B. (writing). Estimated vs Actual Reach in Children Diagnosed with Autism Spectrum Disorder. Target journal: Experimental Brain Research.
- 1. *Diaz, C., Cereceres, P. Pearson, J., Manning, R., Meeuwsen, H., Eggleston, J. & *Boyle, J.B. (currently delayed in data collection). Sensory integration and its role in behavioral plasticity in children diagnosed with Autism Spectrum Disorder. Target Journal of Motor Learning and Development.

National & International Presentations (Published Abstracts)

- 24. *Cereceres, P., Manning, R. & *Boyle, J.B. (2020) Imagined and Executed Upper Extremity Reach in Children Diagnosed with Autism Spectrum Disorder. Journal of Sport & Exercise Psychology, 42.
- 23. *Diaz, C., Cereceres, P., Bialunska, A., Manning, R. & *Boyle, J.B. (2020) Upper Extremity Control in Children Diagnosed with ASD: The Role of Vision and Proprioception in Sine Wave Tracking. Journal of Sport & Exercise Psychology, 42.
- 22. [†]Torres, J., [†]Sosa, K., [†]Baralt, A., [†]Durling, M., Cereceres, P., **Boyle, J.B.** & Manning, R. (2019) Proprioceptive Vs. Visual Feedback Impact on Throwing Coordination in Children with Autism Spectrum Disorder. TPTA annual meeting.
- 21. [†]Green, M., [†]Bruns, H., [†]Tye, J., [†]Wagner, N., Cereceres, P., Manning, R. & ***Boyle, J.B.** (2019) Observational Study of Reach Planning and Action in Children with ASD Compared to Neurotypical Children. TPTA Annual meeting.
- 20. **Boyle, J.B.**, Kennedy, D., Saucedo, F., & Cereceres, P. & (2018). The role of actor vs observer in reciprocal upper extremity sine wave tracking. Journal of Sport & Exercise Psychology, 40.

- 19. *Stewart, D., Saucedo, F., Cereceres, P. & **Boyle, J.B.**, (2018). Random, timed and self-paced: How preparation time affects the loading of the body prior to flight in a two-footed forward leap. Journal of Sport & Exercise Psychology, 40.
- *Gamez, A., Wang, C., Manning, R. & Boyle, J.B. (2017). A novel approach to enhancing upper extremity coordination in children with autism spectrum disorder. Journal of Sport & Exercise Psychology,39
- 17. **Boyle, J.B.**, Wang, C., *Gamez, A., & Ables, A. (2016). Single and dual leg Fitts task: Is two better than one? *Journal of Sport & Exercise Psychology*,38
- 16. **Boyle, J.B.**, *Sullivant, F., & Yang, F. (2016). The effect of task difficulty on center of mass loading in a two footed forward leap. *Journal of Sport & Exercise Psychology*,38
- 15. **Boyle, J.B.**, Kennedy, D.M., Wang, C., & Shea, C.H. (2015). Optimizing high ID performance: The role of the tracking template. *Journal of Sport & Exercise Psychology*, 37
- 14. Kennedy D.M., Wang C, **Boyle J.B.**, & Shea C.H. (2014). The effects of homologous and non-homologous muscle activation on neural crosstalk. *Journal of Sport & Exercise Psychology*, 36
- 13. **Boyle, J.B.**, Kennedy, D.M., Wang, C., & Shea, C.H. (2014). Age-related kinematic changes following sine wave tracking. *Journal of Sport & Exercise Psychology*, 36
- 12. Wang, C., Kennedy, D.M., **Boyle, J.B.**, & Shea, C.H. (2014). Bimanual and unimanual movement sequences: The role of element difficulty. *Journal of Sport & Exercise Psychology*, 36
- 11. Kennedy, D.M., Wang, C., **Boyle, J.B.**, & Shea, C.H. Rhythmical bimanual force production: Homologous and non-homologous muscles. Neuroscience Meeting Planner. San Diego, CA: Society for Neuroscience, 2013
- 10. **Boyle, J.B.**, Kennedy, D., Wang, C., & Shea, C.H. (2013). The role of amplitude in high ID movement optimization. *Journal of Sport & Exercise Psychology*, 35 (Supplement): S22
- Kennedy, D., Boyle, J.B., Wang, C., & Shea, C.H. (2013). Bimanual Force Control: Cooperation and Interference? *Journal of Sport & Exercise Psychology*, 35 (Supplement): S33
- 8. **Boyle, J.B.**, Kennedy, D., Wang, C., & Shea, C.H. (2013). Optimizing the control of high ID wrist and arm movements *Journal of Sport & Exercise Psychology*, 35 (Supplement): S21
- 7. **Boyle, J.B.,** & Shea, C.H. Normal and micro-movements of varying difficulties: Wrist and arm movements. Program No. 591.14. 2012 Neuroscience Meeting Planner. New Orleans, LA: Society for Neuroscience, 2012
- 6. Shea, C.H., & **Boyle, J.B.** Optimizing the control of High ID reciprocal aiming. 2012 Neuroscience Meeting Planner. New Orleans, LA: Society for Neuroscience, 2012
- Kennedy, D., Boyle, J.B., & Shea, C.H. (2012). Utilizing auditory and visual cues in a multi frequency tapping experiment. *Journal of Sport & Exercise Psychology*, 34 (Supplement): S64
- 4. **Boyle, J.B.**, Kennedy, D., & Shea, C.H. (2012). Harmonic reciprocal motion at an ID of 6: Rethinking the obvious. *Journal of Sport & Exercise Psychology*, 34 (Supplement): S64
- 3. **Boyle, J.B.**, & Shea, C.H. (2011). Control of wrist and arm movements of varying difficulties. *Journal of Sport & Exercise Psychology*, 33 (Supplement): S56

- 2. **Boyle, J.B.**, & Shea, C.H. (2011). Arm and wrist control: Extended practice Fitts task. *Journal of Sport & Exercise Psychology*, 33 (Supplement): S56
- 1. Shea, C.H., & **Boyle, J.B**. (2011). Bimanual coordination: Evaluating feedback displays. *Journal of Sport & Exercise Psychology*, 33 (Supplement): S11

Under Review

Eggleston, J., Olivas, A., Chavez, E., Vanderhoof, H., Boyle, J.B., Alvarado, C. (in review)
 Live Animation Biofeedback Responses between Children with Autism and Children
 with Typical Development. American Society of Biomechanics.

Local & Regional Presentations

- Solis, A., Pearson, J., Cereceres, P., & *Boyle, J.B. (2019) Do haptic events assist fine motor control in children diagnosed with Autism Spectrum Disorder? Campus Office of Undergraduate Research Initiatives (COURI) Research Symposium.
- VRMC Lab panel table. (2019) 2nd annual UTEP Lights up Blue for Autism Awareness event.
- Boyle, J.B. (2018) Motor control in children diagnosed with Autism Spectrum Disorder: Current knowledge and future directions. 1st annual UTEP Lights up Blue for Autism Awareness event.
- Gamez, A.S. & *Boyle, J.B. (2017). A novel approach to enhancing upper extremity coordination in children with autism spectrum disorder. UTEP College of Health Sciences, Healthy Exchange Forum.
- UTEP Masters of Occupational Therapy Program (Guest Lecture, Sensory Development).
 Presentation Title: Motor Development: Current issues OT's face. (2017)
- Gamez, A.S. & *Boyle, J.B. (2016). The effect of task difficulty on center of mass loading in a two footed forward leap. UTEP College of Health Sciences, Healthy Exchange Forum.
- UTEP Doctor of Physical Therapy Program (Guest Lecture, Neuro modalities II).
 Presentation Title: Cellular to Behavioral Plasticity. (2015)
- Kennedy, D.M., Wang, C., Boyle, J.B., & Shea, C.H. (2014). Rhythmical bimanual force production: Homologous and non-homologous muscles. Texas A&M Student Research Week.
- Boyle, J.B. (2014). Kinematic changes following sine wave tracking: A novel approach to enhancing elderly limb control. UTEP College of Health Sciences, Healthy Exchange Forum.
- Meeuwsen, H. J., Yang, F., & Boyle, J.B. (2014). The challenges of adopting Team Based Learning in the first semester as a faculty member. Paper presented at the International Sun Conference on Teaching and Learning. The University of Texas at El Paso, El Paso, TX. March 7.
- Kennedy, D.M., Wang, C., Boyle, J.B., & Shea, C.H. (2014). Rhythmical bimanual force production: Homologous and non-homologous muscles. Texas A&M Society for Neuroscience.

- Boyle, J.B. (2014) Victoria University College of Health & Biomedicine, Melbourne Australia (Teleconference) Presentation Title: Kinematic changes following sine wave tracking: A novel approach to enhancing elderly limb control.
- Kennedy, D.M., Boyle, J.B., Wang, C., & Shea, C.H. (2013). Bimanual force control: Cooperation & interference. Texas A&M Student Research Week.
- Kennedy, D.M., Boyle, J.B., & Shea, C.H. (2012). Rhythmical bimanual force production:
 1:2 and 2:3 coordination patterns. Texas Brain & Spine Institute 6th Annual Neuroscience Symposium.
- Kennedy, D.M., **Boyle, J.B.**, & Shea, C.H. (2012). Polyrhythmic Bimanual force production. Texas A&M Institute for Neuroscience Annual Poster Session
- Shea, C.H., **Boyle, J.B.**, & Kovacs, A. (2012). Bimanual Fitts' tasks: Kelso, Southard, and Goodman, 1979 revisited. Verbal presentation: Texas A&M Student Research Week.
- Kennedy, D., Boyle, J.B., & Shea, C.H. (2012). Utilizing auditory and visual cues in a multi frequency tapping experiment. Poster presentation: Texas A&M Student Research Week.

Community Outreach

- College of Health Sciences Website: Collaborative Scholarship CHS Professors Cross Disciplines to Address Autism. (2019) <u>Link</u>
- **Boyle, J.B.** Controlling the Wrist and Arm. The Eagle: Fitness and Sports Science Blog (June 2015).Link
- Boyle, J.B. Improving Goal-Directed Limb Movement: Don't Overthink This! Sydney and JL
 Huffines Institute for Sports Medicine and Human Performance Weekly Public Sports
 Medicine Topic. (June 2013). <u>Link</u>
- Boyle, J.B. Control of wrist and arm movements of varying difficulties. Sydney and JL
 Huffines Institute for Sports Medicine and Human Performance Weekly Public Sports
 Medicine Topic. (March 2012). Link

GRANT EXPERIENCE

External: Current Funding

Texas Physical Therapy Foundation (2018)

PI: Jason B Boyle & Rhonda Manning

Amount: \$3,750

Project Title: An Observational Study of Reach Planning and Action in Children with Autism Spectrum Disorder (ASD) Compared to Typical Developing Children

Stern Foundation Perpetual Medical and Scientific Research Fund (2019)

PI: Jeff Eggleston **Co-I: Jason Boyle** Amount: \$15,000

Project Title: Using live animation biofeedback to elicit changes in motoric response patterns in children with Autism Spectrum Disorder

Internal: Current Funding

UTEP College of Health Sciences Applied and Translational Research Fund (2019)

Project Title: Neuromuscular Electrical Stimulation (E-Stim) - A Novel Strategy to

Improve Insulin Sensitivity

PI: Sudip Bajpeyi Co-I: Jason Boyle Amount: \$7,500

External: Submitted

NA

Internal: Submitted

NA

In Development

National Robotics Initiative 2.0: Ubiquitous Collaborative Robots (TBD)

PI: Angel Flores Abad Co-I: Jason B Boyle Amount: \$500,000

Project Title: Internal Models of Action in Human-Robotic Interactions

External: Completed

Organization for Autism Research-Graduate Research Grant Program (2016)

Student: Alejandra Gamez Faculty PI: Jason Boyle

Amount: \$1,000

Project Title: A Novel Approach to Enhancing Upper Extremity Coordination in

Children with Autism Spectrum Disorder

Internal: Completed

The University of Texas at El Paso- University Research Initiative Program (2018)

PI: Jason Boyle Amount: \$5,000

Project Title: Neural Correlates of Preparatory and Online Upper Extremity Coordination in Children Diagnosed with Autism Spectrum Disorder

• The University of Texas at El Paso- University Research Initiative Program (2015)

PI: Jason Boyle Amount: \$5,000

Project Title: Kinematic components of limb movement in visually

augmented environments

Huffines Institute of Human Performance and Sports Medicine- Research (2012)

Amount: \$1,500

Project Title: Optimizing Goal Directed Movement at Varying

Levels of Feedback Manipulation

TAMU College of Education and Human Development Research Grant (2012)

Amount: \$950

Project Title: Arm and Wrist Kinematics under Visual and Physical Gain Manipulations

Student Funding

UTEP BUILDing Scholars Summer Research Program (2019)

Student: Ana Solis (New Mexico State University)

Amount: \$1,000

Project Title: Upper Extremity coordination in children with

Autism Spectrum Disorder

UTEP Graduate School Dodson Research Grant (2018)

Student PI: Fabricio Saucedo

Amount: \$3,000

Project Title: Effects of Controlled Whole-body Vibration Training on Reducing Falls Among Mexican-American Stroke Patients

UTEP Graduate School Dodson Research Grant (2018)

Student PI: Clarissa Diaz

Amount: \$3,000

Project Title: Sensory integration and its role in neural plasticity in

children diagnosed with Autism Spectrum Disorder

American College of Sports Medicine –Texas (TACSM)(2018)

Student Research Development Award

Student: Fabricio Saucedo

Amount: \$1,500

Project Title: Effects of Controlled Whole-body Vibration Training on Reducing Falls Among Mexican-American Stroke Patients

UTEP Graduate School Travel Award (2017)

Student: Alejandra Gamez

Amount: \$850

UTEP College of Health Sciences Travel Award (2017)

Student: Alejandra Gamez

Amount: \$500

UTEP Graduate School: Summer Research Assistantship Award (2017)

Student: Dorothy Stewart

Amount: \$3,000

UTEP Graduate School Travel Award (2017)

Student: Fabricio Saucedo

Amount: \$850

American Society of Biomechanics Diversity Travel Award (2017)

Student: Fabricio Saucedo

Amount: \$500

Organization for Autism Research-Graduate Research Grant Program (2016)

Student: Alejandra Gamez

Amount: \$1,000

Project Title: A Novel Approach to Enhancing Upper Extremity Coordination in

Children with Autism Spectrum Disorder

External: Not Funded

NIH-NICHD, R03, PAR-16-162 (June 2020)

National Institutes of Health- National Institute Child Health and Human Development Project Title: Neural Correlates of Motor Behavior in Children Diagnosed with Autism Spectrum Disorder

PI: Jason B Boyle

Co-I: Jeff Eggleston (Kinesiology), Anita Bialunska (Rehabilitation Sciences), Rhonda

Manning (DPT), Angel Flores-Abad (Engineering)

Amount: \$151,000

Edward Mallinckrodt, Jr. Foundation

*Selected in UTEP single submission pool. Full Submission- August 2019

PI: Jeff Eggleston **Co-I: Jason Boyle** Amount: \$72,000

Project Title: Quantification of Neural Activity with Functional Near-infrared Spectroscopy and Lower Extremity Mechanics during Perturbed Locomotor Activities in Children with Autism Spectrum Disorder

The Medical University of South Carolina (July 2019)

Training in Grantsmanship for Rehabilitation Research workshop (TIGRR)

PI: Jason Boyle

Workshop Dates: 1/7/2020 – 1/11/2020

Proposal Title: Neural Correlates of Goal Directed Motor Behavior in Children Diagnosed with Autism Spectrum Disorder

• Edward Mallinckrodt, Jr. Foundation (2019)

*Internal UTEP rejection due to 5th year junior professor timeline

PI: Jason Boyle Amount: \$58,000

Project Title: Neural Correlates of Motor Behavior in Children Diagnosed with

Autism Spectrum Disorder

Texas Physical Therapy Foundation (2018)

PI: Jason B Boyle & Rhonda Manning

Project Title: Proprioceptive vs. Visual Feedback Impact on Throwing Coordination in Children with Autism Spectrum Disorders

The Medical University of South Carolina (2018)

Training in Grantsmanship for Rehabilitation Research workshop (TIGRR)

PI: Jason Boyle

Proposal Title: Examining the impact of proprioception and visual feedback during a novel upper extremity training protocol in Autistic children: An fNIRS/EMG study

• Department of Defense, CDMRP: Autism Research Program (2018)

PI: Jeff Eggleston

Co-I: Jason Boyle

Project Title: The Influence of Sensory Feedback Mechanisms on Task Performance and Motor Pattern Variability in Children with Autism

DeLuca Foundation Research Scholarship (2018)

Student PI: Clarissa Diaz

Faculty advisor: Jason Boyle

Project Title: Sensory integration and its role in neural plasticity in children diagnosed with Autism Spectrum Disorder: An EMG study

Autism Science Foundation (2017)

Research Accelerator Grant

PI: Jason B Boyle

Project Title: Sensory Integration and Motor Behavior: An Investigation of Upper Extremity Control in Children Diagnosed with ASD

Simons Foundation (2017)

Autism Research Initiative- Pilot Grant Program

PI: Jason B Boyle

Project Title: Neural Correlates of Discrete and Cyclical Upper Extremity Action

NSF-PAC, PD-09-7252 (2017)

National Science Foundation- Division of Behavioral and Cognitive Sciences Perception, Action & Cognition

PI: Jason B Boyle

Project Title: The critical index of difficulty in augmented virtual environment

Simons Foundation Autism Research Initiative-Explorer Awards (2017)

PI: Jason B Boyle

Project Title: ASD motor control: Issues and enhancements in perception-to-action

NIH-NIBIB, R03, PA-16-162 (2016)

National Institutes of Health- National Institute of Biomedical

Imaging and Bioengineering

PI: Jason B Boyle

Project Title: Critical ID Shifts: The Role of Visual and Physical Manipulations in Upper Extremity Motor Control

Texas Physical Therapy Association (2015)

PI: Jason B Boyle

Project Title: An investigation of upper limb control adaptability in high functioning Autism spectrum disorder patients

REVIEW WORK

Grant Reviewer

• National Aeronautics and Space Administration (NASA): Human Exploration Research Opportunities (HERO). Sensorimotor Review Panel. Washington, DC. February 18-19, 2020.

Ad Hoc Journal Reviewer

- Experimental Brain Research
- Journal of Motor Behavior
- Journal of Motor Learning and Development
- Perceptual and Motor Skills
- Journal of Sports Sciences
- Frontiers in Psychology
- BMC Neurology

Textbook Reviewer

•	Lifelong Motor Development, Gabbard, C. 8 th Edition	2020
•	Human Motor Development: A Lifespan Approach	2018
•	Introduction to Statistics in Kinesiology. Mood, D.P., & Morrow, J.R.	2014

AWARDS

- Outstanding Thesis Mentor, College of Health Sciences, UTEP (2019)
- TAMU College of Education and Human Development Distinguished Honor Graduate (2014)
- TAMU College of Education and Human Development Strategic Fellowship (2013, 2014)

Student Awards

UTEP College of Health Sciences (2020)

Graduate Student Marshall

Student: Clarissa Diaz

UTEP Interdisciplinary Health Sciences PhD Program

Graduate Research Associate Award (2018, 2019, & 2020)

Student: Patrick Cereceres

Amount: \$24,000

UTEP College of Health Sciences (2019)

Outstanding Thesis Award Student: Alejandra Gamez

American Kinesiology Association Doctoral Student Award (2018)

Student: Fabricio Saucedo

UTEP Interdisciplinary Health Sciences PhD Program

Graduate Research Associate Award (2016, 2017 & 2018)

Student: Fabricio Saucedo

Amount: \$24,000

SERVICE EXPERIENCE

<u>Uni</u>	<u>versity</u>	
•	UTEP Research Committee	2019 –
•	UTEP Faculty Senate	
	- Dept. Rehab Sciences (Alternate)	2017 –
	- Dept. Kinesiology	2015 – 2019
•	UTEP Graduate Student Research Expo (Faculty Judge)	2015, 2017
•	UTEP Graduate School Dodson Research Grant Reviewer	2016 –
Coll	ege of Health Sciences	
•	Curriculum Committee	2020 –
•	Research Committee (Chair)	2020 –
	- Chair: Infrastructure subcommittee	2018 - 2020
	- Member: Research Committee	
	- Scholarship of Engagement and Application subcommittee	
•	Interdisciplinary PhD Program Executive Council	2015 – 2018
•	Web Development & Technology Committee	2013 – 2017
Dep	partment of Kinesiology	
•	Graduate Coordinator: Masters of Kinesiology program	2019 –
•	Department of Kinesiology Primary Web Developer	2017 –
•	COHS Miner Dash 5K fun run	2014 – 2019
	- Route / Bike pace leader	
	- Accounts payable manager	2014
•	Professor of Kinesiology, Department Chair search	2020
•	Assistant Professor of Exercise Physiology search (Co-Chair)	2018
•	State employee charitable campaign (SECC) dept. coordinator	2017
•	Assistant/Associate Professor of Biomechanics search (Committee member)	2016, 2017
•	Dodson Funds Allocation (Committee member)	2015
•	Assistant/Associate Professor of Pedagogy search (Committee member)	2014, 2015
•	Miner Madness 3V3 Shootout (Co-Director, Basketball Tournament)	2014, 2015
	MENTORSHIP EXPERIENCE	
Cha	ir- Interdisciplinary Health Sciences PhD Program	
•	Patrick Cereceres	curren
	Dissertation Topic: Perception to action in children *Doctoral Candid	
	diagnosed with Autism Spectrum Disorder	, 3
<u>Cha</u>	ir- Doctor of Physical Therapy Program	
•	Class of 2021: Isabella Acosta, Valerie Favela, Ralph Vargas & Mariel Melchor	current
	Capstone Topic: Upper extremity assessments and therapeutic practices for	or
	children with ASD: Literature Review	
•	Class of 2022: Clarissa Diaz	Spring 2020
	Capstone topic: Sensory integration and its role in behavioral plasticity	
	in children diagnosed with Autism Spectrum Disorder	

•	Class of 2020: Madison Green, Haley Bruns, Jon Tye & Nathan Wagner Capstone Topic: Imagined and actual reach in ASD children	Spring 2020
•	Class of 2020: Josh Torres, Klarissa Sosa, Andrea Baralt & Michael Durling Capstone Topic: Online and preplanned movements of action in ASD Chil	Spring 2020 dren
<u>Chai</u>	r- Masters Committee	
•	Saul Soto	current
	Project topic: Psychological factors and their physiological	
	responses in distance running: A review of the literature	
•	Victor Gonzalez	current
	Thesis topic: Encoding of motor programs in children with ASD	
•	Colton Tune	Spring 2020
	Project topic: The effects of micro gravity on motor control	
•	Clarissa Diaz	Spring 2020
	Thesis topic: Sensory integration and its role in behavioral plasticity	
	in children diagnosed with Autism Spectrum Disorder	
•	Jallycia Pearson	Spring 2020
	Thesis topic: Discrete and Cyclical units of action in	
	children diagnosed with Autism Spectrum Disorder	
•	Dorothy Stewart	Spring 2018
	Thesis Title: Random, Timed, and Self-paced: How preparation time affe	cts
	the loading of the body prior to flight in a two-footed forward leap	
•	Alejandra Gamez	Fall 2017
	Thesis Title: A Novel Approach to Enhancing Upper Extremity Coordination	on in
	Children with Autism Spectrum Disorder	
•	Julie Howard	Spring 2017
	Project Title: The use of mobile phone applications for concussions	. 3
	when athletic trainers are not present	
•	Paulina Sanchez-Barrios	Spring 2016
	Project Title: Influence of gestational age and/or birth weight on Autism	- 0
	Spectrum Disorders	
	F 222 2	
Chai	r- Undergraduate Honors Thesis	
•	Jorge Sanchez Tarango	Spring 2017
	Thesis Title: Monomelic Amyotrophy: A Current Review of the Literature	- 1- 0 -
•	Olivia Kolenc	Fall 2015
	Thesis Title: A critical review of motor control applications to human	
	factors engineering	
	,gg	
Chai	r- BUILDing Scholars Undergraduate Research	
•	Ana Solis (New Mexico State University)	Summer 2019
	Project Title: Upper Extremity coordination in children with	

Autism Spectrum Disorder

Member-PhD Committee

Fabricio Saucedo Spring 2020 Dissertation Title: Effects of Controlled Whole-body Vibration Training on Reducing Falls Among Mexican-American Stroke Patients Member- Masters Committee **Emily Chavez** Summer 2020 Thesis Title: Overground Gait in children with Autism Spectrum Disorder Sephonnie Elliss Spring 2020 ProjectTitle: The Effect of Curriculum- and Classroom-Based Physical Activity Breaks on Academic Performance in Elementary School Children in Southern New Mexico Heather Vanderhoof Spring 2020 Thesis Title: The Effects of Pregnancy on Balance and Stair Locomotion in Healthy Females Jasmin Jenkins Spring 2020 Thesis Title: Muscle Oxygen Saturation and Neuromuscular Responses During Combat Related Tasks at Altitude Michelle Galvan Fall 2019 Thesis Title: Neuromuscular Electrical Stimulation: A novel treatment intervention for improving metabolism in an overweight/obese population. Katrina Fisher Spring 2019 Thesis Title: The comparison of overground sprint performance across various sprint populations **Fayon Gonzales** Fall 2018 Thesis Title: The comparison of stride length and stride frequency patterns of sprint performance overground vs treadmill Selina Uranga Spring 2018 Project Title: Relationship Between Sex Hormone Binding Globulin And Inflammatory and Anti-Inflammatory Cytokines Among Premenopausal Women **Kelly Harshaw** Spring 2018 Project Title: Benefits of Classroom Physical Activity Breaks In School Aged Children **Anthony Moye** Fall 2017 Project Title: Strength and conditioning strategies for athletes with a severe visual impairment Micah Baisden Spring 2017 Project Title: Classroom response systems and performance on Examinations and other assessments **Patrick Cereceres** Fall 2016 Thesis Title: Treadmill-based perturbation training for Preventing falls among young adults

•	Jeremy Perales Thesis Title: Comparison of the Effectiveness of Treadmill	Spring 2016
•	VS. Overground Sprint Training Stacey Bridges Project Title: Leadership in sports: From theory to application.	Fall 2015
•	A guide for coaches Kristal Vigil Project Title: Effects of physical activity on the decrease of fetal macrosomia	Fall 2015
•	Jennifer Waltz Project Title: Causal attributions among competitive sport athletes: Thoughts, affective responses, and methods for improving performance	Fall 2015
•	Jenna Swengros Project Title: Implications of diverse research findings in the design of	Spring 2015
•	internet-based physical activity programs Kaitlin Naaktgeboren Project Title: Growth plate Injuries in adolescent children in sports: A review of Sever's disease	Fall 2014
Grad	duate Independent Studies / Research	
• • • • • • • • • • • • • • • • • • •	Victor Gonzalez Colton Tune Dorothy Stewart Mohssen Sajjadi (Electrical & Computer Engineering) Alejandra Gamez Julie Howard Sergio Guerrero (Electrical & Computer Engineering) Gary Badley (Electrical & Computer Engineering) Micah Baisden Simon Bejarano Frank Sullivant Lorin Jeppsen	Spring 2020 Fall 2019 Spring 2017 Fall 2016 Fall 2015
<u>Und</u> • • •	ergraduate Independent Studies / Research Pearl Quintero Daniel Cortes Mauricio Calvo Lauren Chacon (Building Scholars program)	Fall 2018 Spring 2017
•	Selene Lopez (COURI program) Joshua Villalobos Jaime Perez (Electrical & Computer Engineering) Gabriel Galarza (Electrical & Computer Engineering)	

Edgar Acosta (Electrical & Computer Engineering)

•	Julio Lujan (<i>Electrical & Computer Engineering</i>)	- !!
•	Jasmin Jenkins	Fall 2016
•	Lauren Ortega	Carin = 2016
•	Javier Ornelas (<i>Electrical & Computer Engineering</i>)	Spring 2016
•	Noemi Falcon (<i>Electrical & Computer Engineering</i>)	Fall 2015
•	Kevin Rincon	
•	Alicia Ables	C 2045
•	Tomiwa Akinbayo	Spring 2015
•	Oscar Gamez	
GE.	ARS Golf Lab Internship	
•	Lauren Chacon	Fall 2016
	PROFESSIONAL ORGANIZATIONS	
•	North American Society for Psychology of Sport and Physical Activity - Motor Control Poster Session Moderator (6/16/2016)	2011 –
•	Society for Neuroscience (SFN)	2012 – 2014
•	Sigma Xi -The Scientific Research Society	2012 – 2013
•	Human Factors and Ergonomics Society (HFES)	2012 – 2013
	PROFESSIONAL WORKSHOPS ATTENDED	
•	UTEP Team Based Learning Academy	2019
•	NMSU Teaching Academy: Ten Easy Ways to Engage Your Students	
•	CFLD: Maintaining Academic Integrity in the Classroom	
•	ORSP Grant writing workshop: Preparing the packet	2018
•	ORSP Grant writing workshop: The first page	
•	ORSP Grant writing workshop: Goals, Objectives, Specific Aims	
•	CFLD: Aligning learning outcomes in Blackboard	
•	ORSP Grant writing workshop: Unpacking the RFP	
•	CID: Understanding Blackboard Ally	
•	CID: Training workshop in iClicker	
•	College of Health Sciences: Strategic planning faculty retreats	
•	CID: Introduction to Nano Learning (Universal Design) in the online	2017
	Environment Workshop	
•	CID: Blackboard Mobile Learning Design in the online environment	
•	CFLD: Transforming Classrooms Through Liberating Structures (CFLD Fall	Retreat)
•	CFLD: The Affinity Research Model	
•	CFLD: Mentoring Matters Workshop	
•	Center for Instructional Design (CID): Flip your classroom with office mix	
•	Center for Faculty Leadership and Development (CFLD): Elements of Succ Assessment Plans	cessful

•	Academic Technologies Center for Instructional Design: Blackboard: Building	2016
	Group discussions	
•	CETaL: Cultivating and maintaining civility in the classroom	
•	CETaL: Beyond a talking head: Making brief videos that engage students	
•	Academic Technologies Center for Instructional Design: Blackboard collaborate ultra	
•	CETaL: Recognizing assets of our students: A QEP inspired conversation	
•	CETaL: Applying principles of visual communication	
•	CETaL: Think-Pair-Share: Tools to improve interaction and learning In lectures	
•	ORSP: Excellence in compliance for research and policy	2015
•	National Research Mentoring Network: The importance of culturally	
	responsive mentoring	
•	CETaL: Excellence in Mentoring	
•	CETaL: Sun Conference	
•	Center for Effective Teaching and Learning (CETaL): Fall Retreat	2014