This project was made possible as a result of the resources and faculty present at Belmont University. The mission of Belmont University is to be “a student-centered Christian community providing an academically challenging education that empowers men and women of diverse backgrounds to engage and transform the world with disciplined intelligence, compassion, courage and faith” (Belmont University, 2016). Additionally, it is the vision of the University “to be a leader among teaching universities, bringing together the best of liberal arts and professional education in a Christian community of learning and service” (Belmont University, 2016).

In order to continue to uphold the aforementioned mission and vision of the University, additional research conducted through the University is vital. Currently, the literature states a gap in knowledge regarding the use of animal-assisted therapy (AAT) and graduate professional students. Therefore, this project was created in part to contribute knowledge to world of academia but also Belmont University.

**Agency**

**Research Abstract**

**BACKGROUND:** It has been estimated that test anxiety affects approximately 10–30% of the student population, leading to a high level of worry and decreased performance (Chapell, Blanding, Silverstein, Newman, Gobi, McCann, & McCann, 2005). Prior studies have shown that animal-assisted therapy (AAT) has been found to decrease stress and anxiety levels, and have positive physiological and cardiovascular effects (Nepps, Stewart, & Bruckno, 2014).

**PURPOSE:** The purpose of this study was to assess the impact of a certified therapy dog on graduate level Physical Therapy students’ anxiety, heart rate, and blood pressure, prior to a lab practical. The hypothesis stated that students who were exposed to a certified therapy dog prior to their lab practical would demonstrate a reduction in heart rate, blood pressure and anxiety levels.

**DESIGN:** Twenty-three first-year Doctorate of Physical Therapy (DPT) students consented to participate in this study. The State-Trait Anxiety Inventory (STAI) was chosen to assess state anxiety due to its widely used self-report measures of anxiety. Heart rate (HR), systolic blood pressure (SBP), and diastolic blood pressure (DBP) were measured using a portable automatic BP cuff. A 6 year-old, 65-pound yellow Labrador retriever certified through Pet Partners (Pet ID 6685129) served as the certified therapy animal.

**METHODS:** Baseline measurements of HR, SBP and DBP were recorded for each subject 2 weeks prior to the first intervention. Two students would enter a room for a 15-20 minute intervention immediately prior to the start of their lab practical. Students were exposed to the experimental group (certified therapy dog) or the control group (no certified therapy dog). Post-session HR, BP, and state anxiety measures were obtained for all participants just after the respective session and prior to their lab practical. At the conclusion of the study, each participant was given an additional questionnaire to complete.

**RESULTS:** Statistical significance was found for state anxiety (p < 0.05) when comparing trials that included the certified therapy dog to trials without the therapy dog. Post-hoc tests revealed lower anxiety scores when subjects were exposed to the certified therapy dog prior to their lab practical. No statistically significant effects of the therapy dog were observed for HR, SBP or DBP (p>0.05). Overall 100% of the responses on the questionnaire indicated that the subjects would recommend continued use of a certified therapy dog prior to lab practicals and that there were not any disadvantages encountered with this experience. The majority of subjects indicated it was a positive experience that would benefit a PT program, and that stress levels prior to the practical were moderately to significantly reduced.

**CONCLUSIONS:** Findings indicate that animal-assisted therapy may be beneficial in educational settings of professional graduate schools, as a physical therapy program, for reducing anxiety prior to examinations. Further research should include a greater sample size, various professional programs of study, and performance on examinations.

**Additional Research**

- Research expanded to include the assistance of 5 DPT students and the testing of OTD in comparison to the previous DPT students.
- Additionally, a new testing measure was added to assess salivary amylase levels. Salivary Amylase (SA), a component to the sympathetic nervous system, is expected to correlate with an individual’s stress levels (Yamaguchi, M., Kanemori, T., Kanemaru, M., Takai, N., Mizuno, Y., & Yoshida, H., 2004). Salivary amylase levels were obtained noninvasively using the Cocoro Meter, which is a device that allows for collection strips containing saliva to be placed into the unit to obtain salivary amylase levels.

**Outcomes**

- Research poster presented at the 2017 TPTA conference in Nashville, TN.
- Research manuscript submitted for publication to the Journal of Physical Therapy Education.
- An additional manuscript will be submitted for publication in 2018.
- Completion of Pet Partners certified therapy animal handler course.
- In-service presentation and glossary of terminology created for the occupational therapy profession to promote the knowledge and difference between therapy and service animals.
- Recipient of CHS scholarship grant for future AAT research completed at Belmont University.

**Acknowledgements**

This project was made possible through the continued support and guidance of the following individuals:

- Expert Mentor: Christi Williams, PT, DPT, OCS, Cert. MDT
- Faculty Mentor: Emmy Dagnan, OTD, OTR/L, CLT, EP-C, CPAM
- Research Partners: Kristen Emond, SPT, Kara Maynord, SPT, Traci Schlegel, SPT, Julie Simpkins, SPT, and Allie Stumbo, SPT

Additional thanks to the wonderful furry friends pictured below for instilling in me a love for working with animals.

- Zoey, a certified service dog through Retrieving Independence.
- Teddy, a future hopeful animal-assisted therapy canine.
- Layla, a certified therapy dog through Pet Partners used within the research process.

**References**