

## **Pilot Study: Validity of the Sway Application with Multiple Mobile Devices**

KEANDRA GRAY, BRITTANY THOMPSON, & DR. JENNIFER LANCASTER.

Master of Science in Athletic Training; Department of Human and Health Performance; Tarleton State University; Stephenville, TX

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*Advisor / Mentor: Lancaster, Jennifer (jlancaster@tarleton.edu)*

### ABSTRACT

The Sway Application is used to test for concussions in active populations. Many studies have been conducted using the application testing validity and reliability, but most have used an iPhone or another apple product. **PURPOSE:** The purpose of this study is to analyze the validity of multiple mobile devices using the Sway Medical Application compared to the Biodex Balance System. This study is aimed to test if this application balance component is inclusive to four mobile devices, such as the iPad, iPhone, Android phone, Android Tablet. **METHODS:** 10 healthy college age students (4 males, 6 females) from a rural public university volunteered. Two participants were excluded from the data. One participant had a lower body injury and the other participant was excluded from the study due to missing data. Participates concurrently used the Sway application balance component on the Biodex with four different devices: iPhone, iPad, Android phone, Android tablet. Each participant performed 5 balance tests; double leg, Tandem left, Tandem right, single leg left and single leg right. Only participant's tandem and single leg stances on their non dominate foot are presented in this pilot study. **RESULTS:** In this pilot study, only one device (iPhone) and stance (tandem) showed a strong correlation (0.892) The iPad had the most consistency between the stances (Single leg correlation 0.657; Tandem correlation 0.616) **CONCLUSION:** In conclusion, more data is needed to get a better understanding of the correlation. The device size could impact the data. In the continuation of the study, data will be collected with more attention to participant placement and removing the side grip bars on the Biodex to better replicate a field assessment with the application.