Joshua Paul T. Verdillo

Silliman University Institute of Rehabilitative Sciences, Philippines

Biography

Joshua Paul T. Verdillo, A 4th year Physical Therapy Student in Silliman University, Joshua is the developer of the Software-Optimized Movement Assessment program this study is based on and was the leader of the team that conducted the study

Comparing the reliability of soma to traditional methods and video observation for functional movement screen scoring and compensatory movement identification

Abstract:

The Functional Movement Screen (FMS) is a seven-part movement assessment used to identify injury risks caused by faulty biomechanics. There are three barriers in traditional FMS assessments that could affect the tool's validity: the subjectivity of human scores that could cause bias, the need for in-person evaluations which limit access for remote patients, and the requirement of specialized training to use the tool, which makes it less accessible. This study investigates the effectiveness of Software Optimized Movement Assessment (SOMA), an AI-based web application that uses the MediaPipe framework to automatically assess FMS performances. This study employs a quantitative, cross-sectional, comparative design to evaluate SOMA's interrater reliability in a single-point analysis. Thirty three active adult students from Silliman University participated in the study, with assessments conducted by SOMA, a traditional rater, and a virtual rater. In comparing SOMA's scores and identified compensatory movements with human raters, the study found that there was generally fair to almost perfect agreement between SOMA and the human raters for the scores, while agreement ranged from substantial disagreement to almost perfect agreement across different compensatory movements. Future studies could be done to assess SOMA's validity compared to gold-standard technology and SOMA could be used to complement assessments performed by human raters of the FMS in the future