

Chutichai Wiwatbutsiri 2012: A Construction of Modified Flexibility Device for Measuring Lower Back and Hamstring Muscles. Master of Arts (Physical Education), Major Field: Physical Education, Department of Physical Education. Thesis Advisor: Mr. Boonlerst OU-tayanik, Ph.D. 97 pages.

The purpose of this study was to construct the modified flexibility device for measuring lower back and hamstring muscles. Content validity was approved by four experts using Rovinelli and Hambleton method, and concurrent validity was determined by using back saver sit and reach test as a criterion measure. Test-retest method, within one week interval, was used to determine their reliability coefficients. A total of 49 males and 71 females were subjects for determining the concurrent validity and reliability. They were enrolled in physical activity classes (PEA 01175...) during the second semester of 2011 at Kampangsan Campus, Kasetsart University.

The correlation coefficients for concurrent validity, and reliability were analyzed by using Pearson product-moment correlation, and the significance of the correlation coefficients were calculated at the .05 level.

The results were as follows: 1) The modified flexibility device for measuring lower back and hamstring muscles possessed content validity, and concurrent validity. The correlation coefficients for concurrent validity were 0.60 and 0.69 for the left leg of male and female subjects, and 0.56 and 0.73 for the right leg of male and female subjects. The relationships are moderate, and showed significantly at the .05 level, and 2) The reliability coefficients of the modified flexibility device for measuring lower back and hamstring muscles were 0.64 and 0.71 for the left leg of male and female subjects, and 0.64 and 0.71 for the right leg of male and female subjects. Those correlation coefficients are moderate.

It can be concluded that the modified flexibility device is a satisfactory application for measuring lower back and hamstring muscles.

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Thesis Advisor's signature