Popularity among commercially available holographic bands has risen in the exercise and sports industry. The manufacturers of the holographic bands propose the bands immediately improve physical and mental attributes (e.g., flexibility, balance, strength, endurance, and overall well being). The manufacturers claim that the hologram discs are embedded with energetic information that communicates with the meridians of your body and can help promote a more balanced, rhythmic and healthy body. The claims are traditionally tested with a standing stability test with and without the bands, or by word of mouth on message boards that are provided by the manufacturers websites. Currently, there is not a tangible amount of research to support these claims.

The purpose of the study was to examine the acute effects of commercially available holographic wrist bands on flexibility, balance, and strength.

METHODS

● Pre-participation Screening/Testing: All subjects underwent a health screening according to guidelines set forth by the American College of Sports Medicine. Only subjects classified as low or moderate risk for untoward events during exercise based on these guidelines were allowed to participate. The following measurements were also made pre-participation: body mass utilizing a standard physicians scale, body stature utilizing a stadiometer, and body fat utilizing whole body air displacement plethysmography (a.k.a., Bod Pod).

● The Stork Stand Test (Static Balance): The Stork Stand Test was used to measure static balance. The test required the subjects to stand on one foot of their dominant leg, place their other foot on the inside of their supporting knee, and place their hands on their hips. On a given signal, the subject raised their heel from the floor and maintain their balance as long as possible without moving the ball of the foot from its initial position, or letting the heel touch the floor. The time spent in balance (sec) was recorded. Subjects performed three repetitions of the test and the best measure out of the three repetitions was used for data analysis.

● Sit-and-Reach Test (Lower Body Flexibility): The YMCA Sit-and-Reach Test was used to measure the range of motion about the coxal (hip) joints (hamstrings, lower back, muscular flexibility). For this test, a yard stick was placed on the floor with a 12 in piece of tape placed across it at right angles to the 15-in mark on the stick. Subjects were required to sit on the floor with their yard stick between their legs and their heels placed at each end of the tape that crosses the yardstick (i.e., feet were 12 in apart.). Subjects were required to slowly reach forward with both hands overlapping as far as possible, and then hold this point for 2 sec. The most distant point reached (in) was recorded and converted to cm. Subjects performed three repetitions of the test and the best measure out of the three repetitions was used for data analysis.

● Isometric Strength Test (Arm and Shoulder Strength): An isometric force recording apparatus comprised of a platform, chain, hand bar, and electronic load cell was used to measure arm and shoulder strength. Subjects were required to engage in a 3 second voluntary isometric contraction using an arm lift motion (elbow flexion, biceps curl) and a shoulder lift motion (shoulder sling). The maximal external force produced was recorded (kg). Subjects performed three repetitions of each test and the greatest force production (kg) out of the three repetitions for each test was used for data analysis.

CONCLUSIONS

Contrary to popular belief among college students and consumers, holographic bands do not seem to have an acute influence on flexibility, balance, or strength. The results from this research give support to the research hypothesis: while wearing the holographic band, the placebo band, and control band, the subjects would experience no difference in flexibility, balance, or strength. According to the analysis of variance with repeated measures, mean values between all four tests, the stork stand, the modified sit-and-reach, the isometric bicep strength, and the isometric shoulder girdle strength, there was not a statistical difference between the four means. Given the lack of significant research on commercially available holographic bands, it could be argued that more detailed and extensive studies should be conducted on the claims made by the manufacturers, such that the results could be made available to consumers.