

Influence of Body Proportions on Dance Movements in Pre-Professional Dancers

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While most dancers are pre-professionals and have a wide range in body proportions, research investigating the influence of body proportions in the ability of pre-professional dancers to execute movements is lacking. Much of this variation in movement originates from the proportions associated with the pelvic and vertebral bones, given their primary role in both stabilizing and facilitating balance during a broad spectrum of movements. Our objective is to determine the influence of various body proportions on the ability of pre-professional dancers to execute various dance positions. These positions increase in difficulty throughout the baseline and dance sets. We are using a low-cost approach that measures relative body positions using photographic data. This is collected using two cameras set at 90 degree angles to provide 3D data using 2D images. This research will support an understanding of how body proportion influence dance movements in pre-professional dancers as well as aid in skill development and injury prevention.