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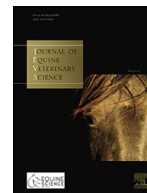
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# **Exercise Physiology**



## 25 The potential impact of female body shape on rider posture and scores received from dressage judges

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The ideal female body image in equestrianism has been perceived as a slighter physique, resulting in riders and coaches perceiving that dressage judges have a preferred bias toward smaller riders, impacting the overall competition scores. This research aimed to identify certain aspects of rider body shape (BS) that enhance rider posture both physically and subjectively via dressage judge scoring, also to identify if judge bias was present toward rider physique. Aspects of rider posture were measured, including upper body position, rein tension, stirrup force and weight distribution. Measurements of rider volunteers ( $n=20$ ) were taken including height, weight, torso height, arm and leg length, reflective markers were used for postural analysis. Riders rode an equine simulator for 30 s in walk, trot and canter left and were recorded on video. Dressage judges (list 1–5,  $n=11$ ) were asked to score riders on a scale of one (very bad) to 10 (excellent) for different postural aspects. Kendall's Coefficient of Concordance assessed level of agreement among judges scores, and Regression Analysis made comparisons between BS aspects, judge scores and quantifiable data of rider posture. The results indicated that body mass index (BMI), height, or rider confidence was not related to judges' scores. There was a moderate agreement overall for all the

judges (Kendall's Coef=0.466195), higher-level judges showed a substantial agreement (Kendall's Coef=0.672543) compared with lower-level judges who showed a moderate agreement (Kendall's Coef=0.476772). A relationship between torso height and judge score indicated that riders with a shorter torso scored higher for upper body position (DF=1; R-sq(adj)=22.66%; F-Value=5.52;  $P=0.034$ ); no relationship was found between rider posture (the range around the vertical) and torso height. Riders with longer legs in proportion to their height scored higher from judges for lower leg security (DF=1; R-sq(adj)=19.52%; F-Value=5.61;  $P=0.029$ ). Rider leg length was significantly related to stirrup force, indicating that riders with longer legs produced greater force onto the stirrups (DF=1; R-sq(adj)=21.04%; F-Value=6.06;  $P=0.023$ ). This identified that judges appeared not to have a rider size bias, contradicting previous rider perceptions. Certain aspects of rider BS were suggested to impact rider ability from the scores received by judges, such as a shorter torso enhancing upper body posture and leg length enhancing the security of the lower leg. Future research investigating further performance indicators or limiters is needed to identify aspects that may enhance rider performance.

**Key Words:** Horse Riding, Performance, Equestrian Morphology