



Influence of rider's actiontype profile on rein tension

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The connection that exists between the rider's hands and the horse's mouth through the reins and the tension that is executed on this connection is an important aspect of training horses. Rein tension is mostly determined by the rider and has been shown to differ between riders, as well as between the hands of each rider. The Action Types Approach (ATA) profiles differences in cognitive, emotional and motor preference of people and is therefore believed to influence the riding style of the rider. This pilot study investigated the influence of the Action Types profile (ATP) of a rider on the rein tension in a simple riding test. The ATP of sixteen riders actively competing up to Grand Prix St. George level in the Netherlands was determined by a certified Action Types tester on several binary variables. Individual rider rein tension was then measured with a rein tension meter (Centaur Pro S-2013) in Newton (N) showing the maximum and minimum tension as well as tension difference between left and right hand during a basic riding test on their own horse, including trot and canter on a right and left circle as well as on a straight line. The comparison of the different rein tension measurements for the binary variables of the defined ATP showed first significant results in the original measurements as well as in different averages (maximum and minimum tension during the whole test, difference in tension of both hands on all straight lines) calculated. Riders with a preference for the use of gross motor skills have overall in both hands a significantly higher maximum rein tension ($M=76.5N$; $SD=21.6$) than riders with a

preference for fine motor skills ($M=51.4N$; $SD=17.9$; $t=2.55$, $p<0.05$, two tailed). Riders with an ATP high in introversion have significantly higher minimal rein tension in both hands ($M=9.2N$; $SD=5.8$) than riders with an ATP high in extroversion ($M=3.0N$; $SD=2.6$; $t=2.24$; $p<0.05$, two tailed) as well as significantly higher maximum rein tension in both hands ($M=65.7N$; $SD=22.8$) than their extrovert counterparts ($M=40.1N$; $SD=17.0$; $t=2.24$; $p<0.04$, two tailed). The shoulder position of the rider shows to influence the rein tension in such a way that overall when riding on straight line with a counter clockwise position have a significantly higher tension in their right hand ($M=-3.49N$; $SD=4.34$) than riders with a clockwise position ($M=2.44N$; $SD=4.62$; $t=-2.59$; $p<0.05$). Further points of connection between rein tension and the ATA were indicated but were considered less valuable due to a lower power due to the small sample size ($p<0.1$). This pilot study reveals a connection between rein tension and rider ATP and forms a baseline for the development of specific training programs for dressage riders according to their ATP.

Lay person message:

A rider's Action Type profile which is determined by cognitive, emotional and motor preferences of the rider influences the rein tension applied within a horse-rider combination. The measured individual rider preferences for gross and fine motor skills, extroversion/introversion and mobile point may influence the rider's rein tension when riding on a straight line or a circle in trot or canter.

Keywords

rein, tension, rider, Action Type profile, preference, training