# Approaching a horse, approaching a human: Tolerating and seeking human contact in pastured horses

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We tested untrained horses (foals and breeding mares) in 3 different breeding centres. Horses were kept in a pasture during daytime in bigger groups (median 12, min: 6, max 35 / pasture) according to age, gender and breed (hungarian halfbred, hucul, arabian and thoroughbred). To measure their reactions to an unfamiliar person we conducted an active and a passive human test.

In the active human test the test person (TP) approached a focal animal in the group from a predetermined direction: from their front, from their side (left or right) or from the rear. As TP reached the horse (of app. 0.5 m distance), she tried to pet the animal's head. The TP always chose and approached a standing or a grazing horse (ie. those that were not walking, galloping, playing etc.). The horse's reaction to the approaching human was scored 1-5. Score 1: the horse moved away and the TP could not even approach it within 0.5 m; Score 2: the horse made max. 2 steps away, but could be reached and petted; Score 3 and Score 4: the horse stood in its place but showed different signs of discomfort (head turn – Score 3; backing ears, tail slash – Score 4); Score 5: the horse stood and did not show any sign of discomfort or actively approached the TP. There was no significant difference in the horses' reaction between approaching from their left or right side. Approaching from their front or from their side (left or right) did not differ significantly either. However, the odds of walking away from the TP (score 1 or 2) was 2.7 (Fisher-test, $p=0.039$) and 3.3 ($p=0.012$) times higher when TP approached from the rear compared to approaching from their front or from their side (left or right), respectively.

In the passive human test the TP stood immobile for 4 minutes in 5 or 10 m far from the horses during their active (grazing) or inactive (standing idle during noon) period. Horses approached TP significantly sooner (general linear model, $p=0.017$) when she stood 5m distance (38 ±63 s) compared to 10m (97 ±52 s).

The arrival of a second horse after the first horse approached the TP showed significant high correlation with the latency of the first horse arrival (Pearson correlation, $r=0.96$, $p<0.001$). The horses were less keen ($p=0.008$) to approach the human when they were tested in an inactive period (177 ±110 s) compare to active period (38 ±63 s).

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