

Do you find horses flighty, anxious or affable? Dozens of genes shape equine personalities — and are linked to traits in humans

The authors, with the Nihon University Veterinary Research Center in Fujisawa and the Laboratory of Racing Chemistry in Tochigi, noted that studies on human personality-related genes are frequently conducted. However, such studies are rare in horses because a consistent process for personality evaluation is lacking.

Their research centered on the recently published whole genome variant database of 101 Thoroughbred horses. They compared horse genes to human genes related to the so-called Big Five personality traits: agreeableness, conscientiousness, extraversion, neuroticism, and openness.

Twenty-eight human personality-related genes were extracted from gene databases for the research. Horse orthologues for all 28 genes were found in the horse genome.

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Among all the traits explored, neuroticism was associated with the largest number of genes (23), and extraversion, conscientiousness, agreeableness, and openness were associated with six, four, three, and four genes, respectively.

The study team also evaluated the allele frequencies and functional impact on the proteins in terms of the difference in molecular weights and hydrophobicity levels between reference and altered amino acids.

“We identified 15 newly discovered genes that may affect equine personality, but their associations with personality are still unclear.”

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