

New study shows that in horse play, adult-to-young ratio is key

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Adults of many animal species play a crucial role in the social development of youngsters. A new study published March 18 in the online, peer-reviewed, open-access journal *PLoS ONE*, reveals that the ratio of adults to young plays a much more important role in social development than the mere presence of adults.

Marie Bourjade, Alice de Boyer des Roches and Martine Hausberger of the University of Rennes, France, studied the effects of the adult-young ratios in naturally-formed groups of Przewalski horses on aggression rates and [social cohesion](#) of young horses. Previous studies led by the laboratory have shown that this ratio plays an essential role in song acquisition in [songbirds](#) (which has parallels with human language development) and so the authors sought to find a more general principle regarding the effects of adult-young ratios on social behaviour.

Bourjade and colleagues explained, "Przewalski horses constitute a very [adequate model](#) for investigating the educational roles of experienced adults as the species forms year-round stable groups with both maternal and paternal carers as well as the presence of unrelated [adult females](#)."

The results revealed striking differences, depending on the adult-young ratios. "When in a group in which adult-young ratios were low, young horses were more aggressive and more segregated from adults and they established tighter bonds with other young," the scientists remarked. "Tighter bonds between young in groups with low proportions of adults could be a factor which decreases the attention paid to adults and

probably reduces their influence as regulators of the behaviour of young, in particular their aggressive behaviour."

Beyond fundamental questions raised by these findings about modalities of the influence of adults on the development of youngsters, the authors argue that, "adult-young ratios appear to be an important feature of [social settings](#) that must be taken into account as a potential modulator of [social influence](#) when evaluating developmental processes."

Selective attention towards social partners may enhance or inhibit the influence of adults. This study, which builds upon previous results regarding vocal development, suggests there is basis for a very general phenomenon with important implications for the social settings of captive and domestic animals. It may even lead us to question the best social environment for childcare and education.

More information: Bourjade M, de Boyer des Roches A, Hausberger M (2009) Adult-Young Ratio, a Major Factor Regulating Social Behaviour of Young: A Horse Study. [PLoS ONE](#) 4(3): e4888.
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