Your Mom was Wrong: Horseplay is an Important Part of Development

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Playground roughhousing has long been a tradition of children and adolescents, much to the chagrin of several generations of parents who worry that their child will be hurt or worse, become accustom to violence and aggression. But animal research may paint a different portrait of rough and tumble play; one that suggests that social and emotional development may rely heavily on such peer interaction.

In an article published in the April issue of *Current Directions in Psychological Science*, Sergio and Vivien Pellis of the University of Lethbridge reviewed multiple studies involving animals, and found a link between rough and tumble play and social competence.

For example, adult rats deprived of peer interaction, (and thus rough and tumble play), reveal an inability to comprehend the hierarchy of social structures. In the rat kingdom, when a young male attempts to establish residency in a colony, he is promptly targeted for attack by the dominant male rat. Rats that have been reared with peers quickly learn to remain crouched and motionless in such an instance in order to avoid the dominant male's attention. Play deprived rats, on the other hand, continue to scurry about which ultimately invites further serious attacks.

Coordinated movements appear to suffer in the absence of rough and tumble play as well. Rats, as most other mammals, rely heavily on coordinated movement for both cooperative (e.g. sex) and competitive (e.g. defending a piece of food) situations. Rats that are reared in isolation have impaired ability to coordinate their movements appropriately with opponents. This coordination, say the authors, can be learned through the constantly shifting body motions that take place during playfighting.

Deprivation from peer interaction appears to have neurological consequences as well. Juvenile play fighting has been found to stimulate the release of certain chemical growth factors in the cerebral cortex, an area the authors describe as the "social brain." Among the structures in the social brain is the orbitofrontal cortex, an area known to be involved in social discrimination and decision. As logic would tell us, the less growth is promoted in this area, the greater the likelihood of impaired movement coordination, perception of social cues, and the like.

But the does the behavior of rats provides any insight into our own, seemingly more complex development? Apparently so, say the authors, who cite evidence that there is considerable overlap between animal and human play, particularly for play fighting.

"The knowledge thus gained," writes Pellis "can provide the clues to the correlated consequences of those processes that can be studied in humans."