

What is play behaviour?

Margit Bak Jensen

Department of Animal and Veterinary Sciences, Aarhus University, Denmark



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Functions of play behaviour

Physical training of skeletal muscles

Self assessment of physical and social abilities

Training of flexible responses to unexpected events



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Spinka et al (2001) *Quarterly Review of Biology*, 76: 141–168.

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How do we recognise play behaviour?

Burghardt's criteria for classifying a behavior as play help distinguish play from other behaviors

Burghardt, G. M. (2005). The genesis of animal play: Testing the limits. MIT Press.



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How do we recognise play behaviour?

Play behaviour include elements of “functional” behaviour such as flight, fight, or predatory behaviour

But in play these elements are

- Exaggerated
- Repeated
- More variable
- Self handicapping
- Appear purposeless



Burghardt, G. M. (2005). The genesis of animal play: Testing the limits. MIT Press.

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How do we recognise play behaviour?

Animals play when safe – in a relaxed atmosphere

Animals seek out opportunity to play and encourage others to play

Play is

- spontaneous
- voluntary
- intentional
- rewarding
- done for its 'own sake'



Burghardt, G. M. (2005). *The genesis of animal play: Testing the limits*. MIT Press.

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Is play behaviour always easy to recognise?

Play fighting may develop into serious behaviour

Play markers

- easy to distinguish
- communicate playful mood
- "pure" play



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Motivation for play

Internal

Physiological needs are met

Good health

External

Social partners

Space

Novelty (exciting, but not scaring)



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Welfare threats reduce play behaviour

Ill health

Poor weather

Scarcity of food



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Motivation for play behaviour and welfare

Juveniles are motivated to play when physiological needs are met and they are in good health

⇒ The absence of motivation to play indicates **poor** welfare in juveniles

The performance of play is reinforcing, exciting, pleasurable

⇒ The presence of play indicates **good** welfare and **positive** emotions



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Play behaviour in calves

Locomotor play behaviour

galloping, bucks, buck-kicks, turns and body twists individual or in parallel with peers

Social play behaviour

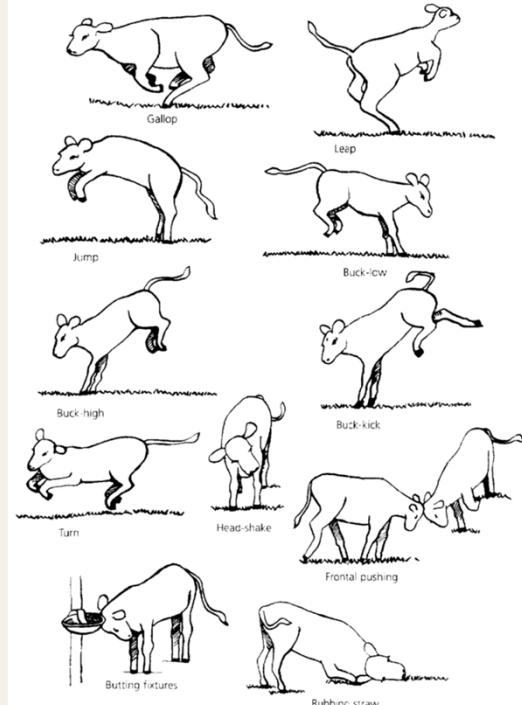
play fighting or head rotations

Object play behaviour

rubbing ground, butting objects



Jensen et al. 1998 *Appl. Anim. Behav. Sci.* 56: 97-108



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Validating play as indicator of positive emotions

Locomotor play in dairy calves occurs more in preferred and valued environments

Calves prefer

- Environment enrichment e.g. brushes and hay nets
- Social contact to familiar peers
- Large space to small space
- Light to dim illumination
- Non-slip surfaces to unstable surfaces



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Positive animal welfare

The animal flourishing through the experience of predominantly positive mental states and the development of competence and resilience



Rault et al. 2025. A consensus on the definition of positive animal welfare. *Biology Letters*.
<https://doi.org/10.1098/rsbl.2024.0382>



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Positive animal welfare – a different perspective

EFSA Scientific opinion on Welfare of calves



Space allowance

Calves need to have enough space to be able to rest in a relaxed position - at least 3m² per animal.

To be able to perform full play behaviour they need 20 m².



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To remember

- Play behaviour resembles functional behavior, but during play the movements are exaggerated, repeated and variable, and the behaviour appears functionless
- Animals seek opportunity to play and play behaviour is associated with positive emotions
- Young animals are motivated to play when they are healthy and when their needs for food, comfort and safety are met.
- However, even if animals are motivated to play, they may be prevented from doing so by lack of space and play partners



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Questions

1

What type of play behaviour is most common in calves?
(1: Social play
2: Locomotor play
3: Object play
4: straw play)

2

Which type of play behaviour is play between calf and dam?

3

Describe in one word a factor that you think is important for calves' *motivation* to play?

4

Describe in one word a factor that you think is important for calves' *possibilities* to play?



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Thank you for your attention



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