Consistency of a play marker in piglets

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Introduction

Play behavior – a new and promising indicator of animal welfare

Evident emotions: joy and happiness

→ Animals play only if they are healthy, safe, well-fed and in a Relaxed state

Introduction

Play categories:

- Social: 2+ animals, development of social skills, facilitation of integration in groups
- Object: Activity towards an inanimate object, development of motor skills
- Locomotor: motor activities in a sudden, frenetic manner, physical development

Locomotor play has no “serious”, non-playful counterpart

Introduction

Intensive housing conditions may prevent full expression of repertoire of playful behavior

Aim of short investigation:

- Can play behavior in post-weaned piglets be induced instantly in the presence of additional space?
- Is play behavior body weight, sex, litter dependent?
- Is play behavior consistent?

Material & Methods

Locomotor play:

Vigorous jumping, kicking, running, often interrupted by fast stops and turns in a new direction, performed by one or several animals at the same time, does not involve physical contact

Material & Methods

- Four litters of Iberian pigs (Guadyerbas)
- With 7, 8, 8, 9 (32) piglets
- Weaned at 35 days of age
- Body weight at 41 days of age
- Runway at (37), 41, 44, 48 days of age
- Eight minutes video recording

- Total number of joyful movements
- Total time expressing joyful movements

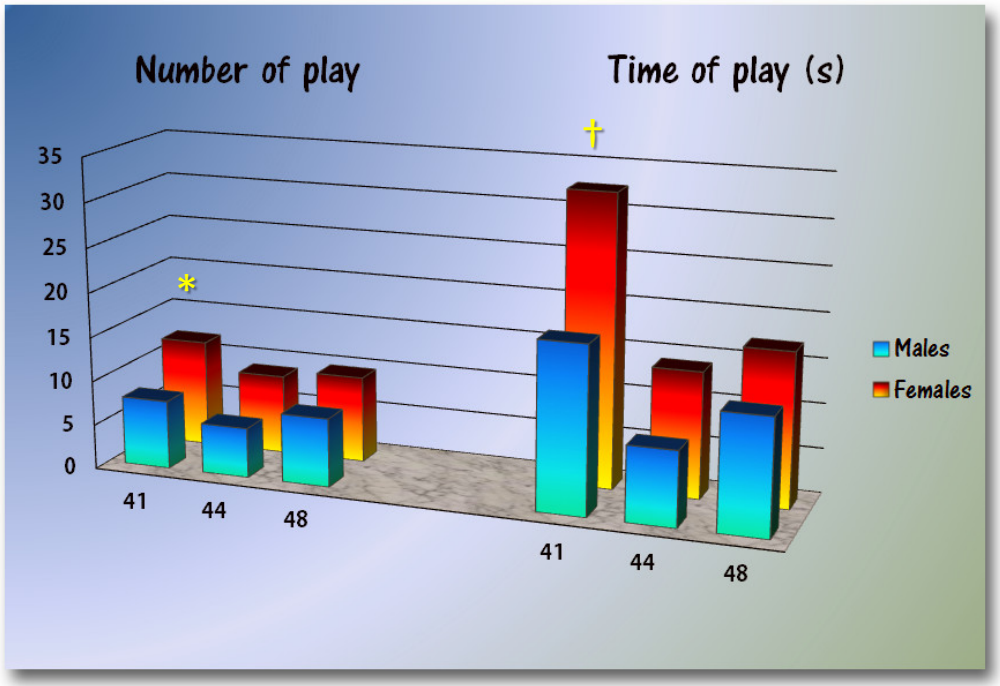
Material & Methods

Model:

$$Y_{ijk} = \mu + Litter_i + Sex_j + e_{ijk}$$

Proc MIXED for analysis of repeated measures data,
Random statement = animal(litter)

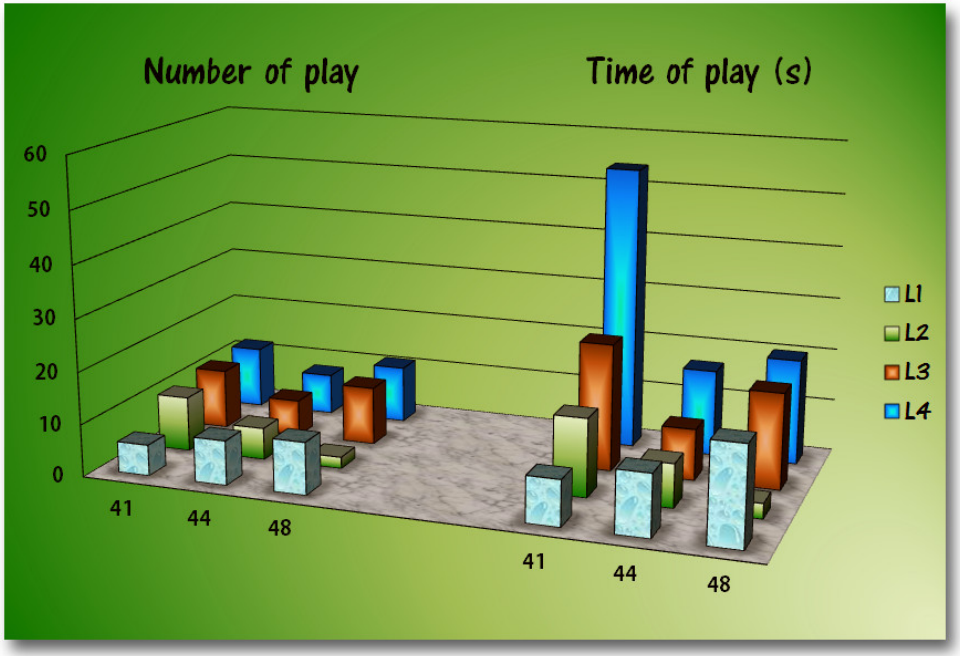
Phenotypic correlations at **41**, **44** and **48** days of age were adjusted for the effects of litter and sex



Results

Females > Males

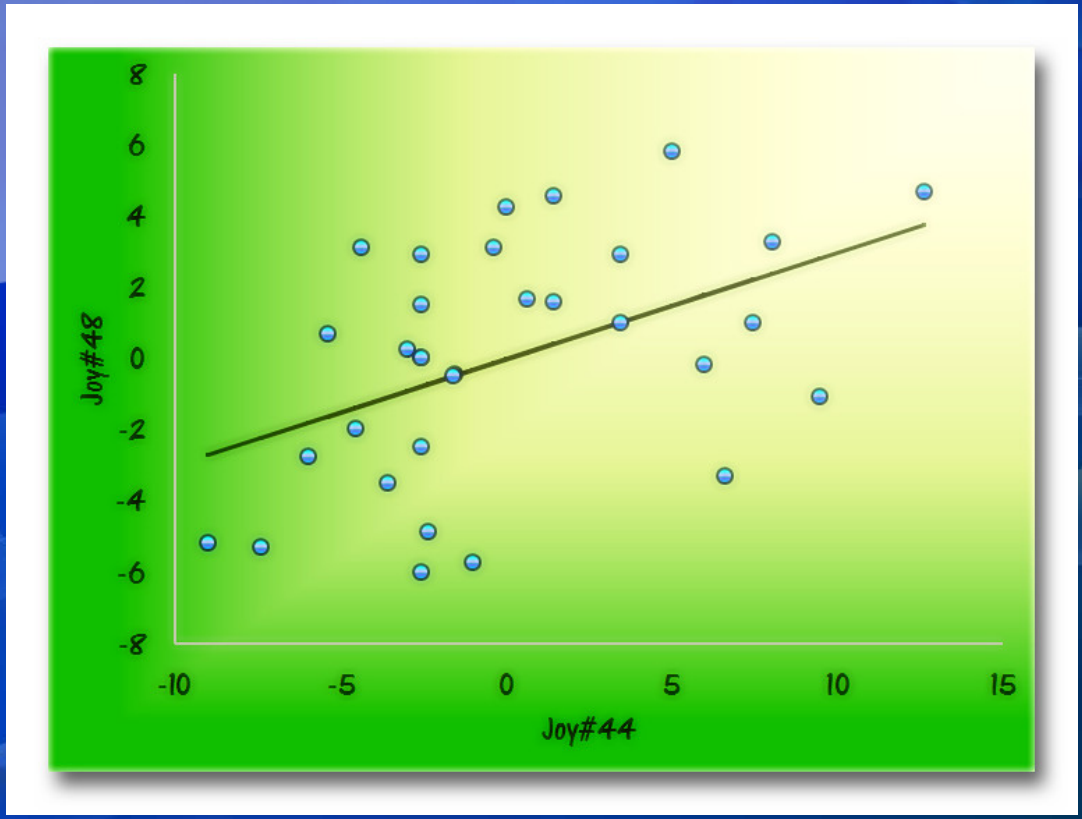
Litter effect P < 0.01



Results

Time	41	44	48
41	.	0.27	0.03
44	0.11	.	0.47**
48	0.19	0.43*	.

Number



Discussion

Play coincides with physical, hormonal and social development – can modulate developmental aspects

Play enhances adaptive abilities needed to handle future situations

Enhancement of adaptive abilities by means of genetic selection

Breeding goals now include health and functional traits – Improvement with the inclusion of behavior, selection for *welfare*?

Discussion

Challenges: difficult, time-consuming, consistent & reliable measurements?

Which traits?

- Different conceptions and definitions of welfare
- Play = Welfare = Adaptability?

Discussion

This study: increase in space allowance = play, obviously pleasurable and measurable response

This study: Females > males
Literature: social play (pushing, butting, biting, mounting), males > females = training for combatant skills in males, depend on action of androgens
But: non-social play = general anti-predator strategy in both sexes.

Discussion

This study: Effect of litter of origin

→ 'General mood'?

→ Genetic component (mice h^2=0.55)?

Only four litters

Is play consistent?

Positive correlation but day dependent

Further research: is pre-weaning play behavior related to post-weaning adaptive abilities such as mixing?

→ Leaning ability

Research Topic

Improving animal welfare through genetic selection

Topic Editors:
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Deadline for full article submission: 03 Feb 2014

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About | Info for Authors

In livestock species, breeding goals are aimed primarily at improvement of production traits. However, there are a number of examples where selection for high production efficiency has resulted in reduced welfare through unfavorable outcomes in health, welfare and fitness characteristics. It is the society's understanding of these effects that has raised questions about what is ethically acceptable in animal breeding. As a result, there is a growing interest in the potential practical, economic and ethical issues of genetic selection for behavior in addition to that for production traits.

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