



# Does the background matter? People's perception of pictures of pigs in different farm settings

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# Introduction

Public discussions about farm animal welfare take place in the media → involve pictures

Pictures are remembered faster (*Childers and Houston 1984*) and they have the potential to transport emotions more effectively (*Kroeber-Riel and Esch 2011*)

- How such pictures are perceived by people from the broader public is not fully understood

Environment in which an animal is shown clearly effects perception of the animal

- **Zoo animals:** wilderness vs. zoo environment influences characteristics that people ascribe to the animal (*Maple 1983; Rhoads & Goldworthy 1979; Finlay et al. 1988*)

Pictures are usually perceived by the viewer as an **interaction between the object and its background** (*Davenport & Potter 2004*)

- Hypothesis: picture perception of farm animals is influenced by **both the animal (object) and the barn (background)**

## Research question

How does **animal and barn composition influence picture perception** by people from the broader public?

- Is the same pig evaluated differently if shown in different barns (positive/negative)?
- Does the pig's expression (positive/negative) influence barn evaluation?

## Data collection:

**Online survey** in June/July 2016 with **1,019 German residents** recruited via an online access panel

Quotas were set for gender, age, income and education according to the German population

## Study design – Picture composition

Picture selection: multiple pictures showing pigs in various positions were taken

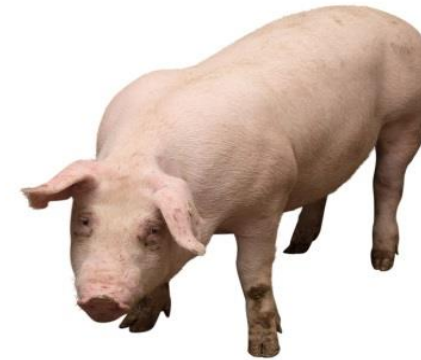
→ 7 pictures were used in a pre-test (41 participants) that evaluated the pigs regarding their perceived “happiness”

→ Selection of the most happy- and unhappy-evaluated pigs

“Happy pig”



“Unhappy pig”



Straw pen



Slatted floor pen



# Study design – Picture composition



,Happy pig' on slatted floor



,Unhappy pig' on slatted floor



,Happy pig' on straw



,Unhappy pig' on straw

## Study design – Survey design





- Each participant saw all four pictures → random rotation
- Participants evaluated pig and pen on 5-point semantic differential scales with opposing word pairs

5      4      3      2      1  
 Unhappy ●   ●   ●   ●   ● Happy





Word pairs for evaluating the pigs	Word pairs for evaluating the pen
Satisfied – unsatisfied	Species-appropriate – not species-appropriate
Happy – unhappy	Natural – unnatural
Relaxed – stressed	Comfortable – uncomfortable
Active – inactive	Future-proof – not future-proof
Healthy – sick	Clean - dirty
Brave - anxious	

- ANOVA to compare evaluations of pig and pen between the pictures
- Mixed Model to see how picture evaluation is influenced by pig expression, pen type, order effects and peoples' belief in pigs' mind

# Results – Pig evaluation

Word pair	Evaluation Pig				p-value
Satisfied (1) –unsatisfied (5)					0.000
Relaxed (1) –stressed (5)	2.43 (1.11)	3.45 (1.12)	3.00 (1.20)	3.91 (1.01)	0.000
Healthy (1) –sick (5)	2.37 (1.00)	3.34 (1.04)	2.82 (1.10)	3.60 (0.98)	0.000
Healthy (1) –sick (5)	2.13 (0.93)	2.77 (0.97)	2.51 (1.06)	3.17 (1.05)	0.000

# Results – Pen evaluation

Word pair	Evaluation Pen				p-value
					
Species-appropriate (1) – not species-appropriate (5)	2.43 (1.16) <sup>a</sup>	4.09 (1.11) <sup>b</sup>	2.53 (1.18) <sup>a</sup>	4.16 (1.06) <sup>b</sup>	0.000
Natural (1) – unnatural (5)	2.44 (1.17) <sup>a</sup>	4.00 (1.10) <sup>b</sup>	2.55 (1.22) <sup>a</sup>	4.15 (1.05) <sup>b</sup>	0.000
Comfortable (1) – uncomfortable (5)	2.39 (1.10) <sup>a</sup>	3.96 (1.12) <sup>b</sup>	2.57 (1.15) <sup>c</sup>	4.09 (1.04) <sup>c</sup>	0.000



# Results – Summary of results

**Mixed Model**

**Depending variable:**  
 Index of evaluation of  
 pig and pen


Effect		Coefficient	P-Value
Intercept		4.22	0.000
Pig		-0.21	0.021
Pen		-1.01	0.000
Split		0.05	0.196
First Picture	Unhappy/straw	0.04	0.490
	Happy/straw	0.14	0.021
	Happy/slatted	0.02	0.795
	Unhappy/slatted	0	-
Belief in pigs' mind		-0.20	0.000
Pig x Pen		-0.04	0.279
Pig x Belief in pig mind		-0.03	0.439

## Results – pig and pen effect on picture evaluation

Picture elements	LS Means	SE	P-Value
Happy Pig	2.98	0.02	0.000
Unhappy Pig	3.27		
Straw Pen	2.61	0.02	0.000
Slatted Floor Pen	3.65		

Scale: 1 = positive evaluation, 3 = neutral evaluation, 5 = negative evaluation

## Discussion and conclusion

- Pigs are evaluated differently, depending on the environment they are depicted in
  - The `unhappy` pig on straw is evaluated better compared to the `happy` pig on slatted floor
  - Straw pen is perceived more positive compared to slatted floor pen, no matter of pigs' expression (for most attributes)
  - Pen (environment) has a higher influence on picture perception compared to pig expression (object)
-  Negatively perceived system (slatted floor) cannot be altered by a “happy“ looking animal, but a positively perceived pen (straw) is able to partly overcome “unhappy“ looking animals

Thank you very much!

