

# What are you looking at? Differences and similarities between stakeholders in assessing pigs

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## Objective

We all agree that the welfare of pigs should be optimal, but we do not seem to agree in the way how that should be accomplished. This may be explained by possible differences in our frame of reference.

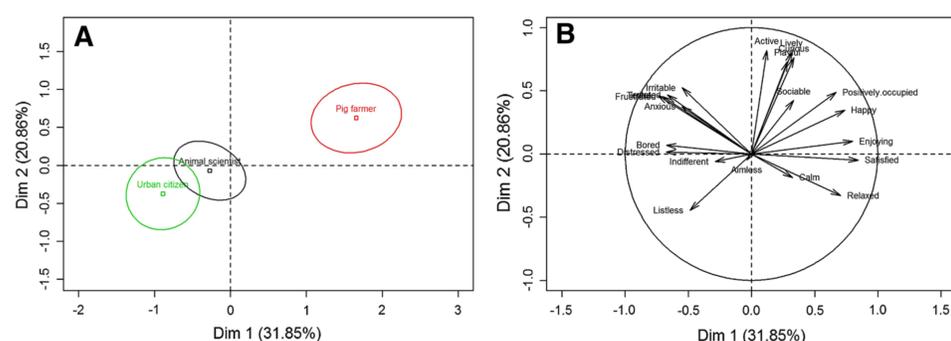
**This study therefore investigated whether different stakeholders would assess pigs differently and whether that is related to differences in their frame of reference.**

## Conclusions

This study showed that pig farmers assessed pigs which are chewing or sniffing as being more 'lively' and 'satisfied' than urban citizens and pig scientists. The results of the questionnaires indicate that this may be due to differences in their frame of reference. Hence, these differences could be the cause of why stakeholders cannot come to a shared solution to optimize pig welfare.

## Results

- The PCA of all nine videos combined showed that the pig farmers scored the videos significantly different than the urban citizens and pig scientists ( $P < 0.001$ ) (Figure 1).
- The results of the questionnaires showed that the three stakeholder groups also differed in how they viewed pigs and felt about pigs in certain situations (Table 1 and 2).
- In addition, they did not agree on the cognitive abilities of pigs. For instance, the pig scientists were more sure than the pig farmers that pigs could 'recognize an object they saw 2 or 3 months ago' (2.1 vs. 3.1 (on scale from 1 (yes) to 5 (no)),  $P = 0.02$ ).



**Figure 1.** PCA analysis of the combined analyses. The x-axis indicates the first and the y-axis indicates the second dimension. **A** Observer plot with the three stakeholder groups. The ellipse represents a 95% CI around the stakeholder group mean. **B** Correlation circle with an arrow for each variable.

**Table 1.** Means for each stakeholder group on questionnaire 'How do you view pigs?'

	Citizens	Farmers	Scientists	P-value
I like pigs	48.5 <sup>a</sup>	68.8 <sup>b</sup>	63.2 <sup>b</sup>	<0.001
I think pigs are fascinating animals	37.7 <sup>a</sup>	69.2 <sup>b</sup>	62.7 <sup>b</sup>	<0.001
I think pigs are handsome animals	24.0 <sup>a</sup>	57.1 <sup>b</sup>	36.4 <sup>a</sup>	<0.001
I think pigs are cute	58.2	61.5	57.9	0.74
I feel frightened by being around pigs	27.2 <sup>a</sup>	2.5 <sup>b</sup>	7.9 <sup>b</sup>	<0.001
I feel bothered by the pigs' smell or dirtiness	38.1 <sup>a</sup>	4.3 <sup>b</sup>	27.1 <sup>a</sup>	<0.001
I feel like going up to pigs and stroking or patting them	41.3 <sup>a</sup>	21.9 <sup>b</sup>	43.6 <sup>a</sup>	0.02
I feel like talking to pigs	33.7 <sup>ab</sup>	25.3 <sup>a</sup>	48.7 <sup>b</sup>	0.04
I feel that I could communicate with pigs in some way	34.8 <sup>a</sup>	45.2 <sup>ab</sup>	51.7 <sup>b</sup>	0.05
I feel that pigs could communicate with me in some way	35.3	42.6	50.1	0.08

Scale went from 0 (disagree) to 75 (agree)

Means within a row with different superscript letters differ significantly (a/b:  $P < 0.05$ )

**Table 2.** Means for each stakeholder group on questionnaire 'Situations involving pigs'

		Citizens	Farmers	Scientists	P-value
How would you think a pig feels / you feel when:					
A pig is badly scratched after losing a fight	Pig	14.9	11.5	12.8	0.72
	You	18.7	20.8	18.3	0.92
<b>A pig is rolling in the mud on a hot sunny day</b>	Pig	64.0	54.2	60.5	0.24
	<b>You</b>	<b>58.9<sup>a</sup></b>	<b>35.2<sup>b</sup></b>	<b>51.9<sup>a</sup></b>	<b>0.01</b>
<b>A pig cannot eat due to a blocked feeder</b>	<b>Pig</b>	<b>17.4<sup>ab</sup></b>	<b>10.5<sup>a</sup></b>	<b>21.9<sup>b</sup></b>	<b>0.06</b>
	<b>You</b>	<b>21.9<sup>ab</sup></b>	<b>15.5<sup>a</sup></b>	<b>29.5<sup>b</sup></b>	<b>0.06</b>
A group of piglets scampers around in fresh straw	Pig	59.3	52.2	56.4	0.57
	You	53.3	42.3	51.0	0.25
A pig is squealing during castration	Pig	7.1	13.5	10.6	0.51
	You	10.4	17.3	13.6	0.52

Scale went from 0 (unhappy) to 75 (happy)

Means within a row with different superscript letters differ significantly (a/b:  $P < 0.05$ )

## Materials & Methods

- Three stakeholder groups: pig farmers ( $n = 11$ ), pig scientists ( $n = 18$ ) and urban citizens ( $n = 15$ ).
- Stakeholders performed a qualitative behaviour assessment (QBA) in which they observed a pig from video ( $n = 9$ ) and assigned a score to each video using 21 predefined terms such as 'happy' or 'irritated'. Videos showed pigs that were lying, sniffing, chewing, drinking or biting a pen mate (Figure 2). The QBA was analysed using Principal Component Analysis (PCA).
- Stakeholders filled out several questionnaires to obtain information on their frame of reference. Questionnaires were about their background and their view on pigs.
- For full details of the materials & methods and results, and an interesting discussion, check out the freely available paper (Duijvesteijn et al., J. Agric. Environ. Ethics.) at:



**Figure 2.** Snapshot of video no. 2 in which a pig was sniffing and touching a pen mate.