

Can you ask a pig if his glass is half full?

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Babe may be the most famous sensitive pig in the world but new research from Newcastle University suggests he is by no means the only one.

Experts from the university's School of Agriculture, Food and Rural Development have shown for the first time that a pig's mood mirrors how content he is, highlighting that [pigs](#) are capable of complex emotions which are directly influenced by their living conditions.

Led by Dr Catherine Douglas, the team has employed a technique to 'ask' pigs if they are feeling optimistic or pessimistic about life as a result of the way in which they live.

In an experiment reminiscent of Pavlov's dogs, the Newcastle team taught the pigs to associate a note on a glockenspiel with a treat - an apple - and a dog training 'clicker' with something unpleasant - in this case rustling a plastic bag.

The next step was to place half the pigs in an enriched environment - more space, freedom to roam in straw and play with 'pig' toys - while the other half were placed in a smaller, boring environment- no straw and only one non-interactive toy.

The team then played an ambiguous noise - a squeak - and studied how the pigs responded. Dr Douglas said the results were compelling.

"We found that almost without exception, the pigs in the enriched

environment were optimistic about what this new noise could mean and approached expecting to get the treat," she said. "In contrast, the pigs in the boring environment were pessimistic about this new strange noise and, fearing it might be the mildly unpleasant plastic bag, did not approach for a treat.

"It's a response we see all the time in humans where how we are feeling affects our [judgement](#) of ambiguous events. For example, if you're having a bad day -feeling stressed and low - and you're presented with an ambiguous cue such as your boss calling you into their office, the first thing that goes through your head is what have I done wrong? We call this a negative cognitive bias. But on a good day you greet the same ambiguous event far more positively, you might strut in expecting a slap on the back and a pay rise.

"This 'glass half empty versus glass half full' interpretation of life reflects our complex emotional states, and our study shows that we can get the same information from pigs. We can use this technique to finally answer important questions about animal welfare in relation to a range of farm environments, for pigs and potentially other farm animals."

The research, funded by Universities Federation for Animal Welfare (UFAW) was presented at the organisation's annual conference in York last month.

Quality of life of our farm animals is becoming increasingly important to consumers, scientists and government and the study is part of ongoing research at Newcastle to further our understanding of animal welfare and improve the lives of farmed stock.

Sandra Edwards, professor of agriculture at Newcastle University and one of the UK's leading experts in pig welfare, said the next step would be to refine and further validate the methodology so it could be used to

help scientists determine what is really important to the pig for its well-being.

"Historically, [animal welfare](#) research looked only at alleviating suffering. Now the UK industry itself is going beyond a minimum standard and funding research to explore measuring, and then promoting, quality of life," she explained.

"Although techniques exist to measure stress, in the past we haven't been able to directly ask a pig if it is happy or not. Instead we have assessed production systems based purely on human perceptions and our best interpretations of behaviour.

"Our research, for the first time, provides an insight into pigs' subjective emotional state and this will help scientists and farmers to continue to improve the lives of their pigs in the future."

Provided by Newcastle University

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