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 The Old School, Brewhouse Hill, Wheathampstead,  
 Hertfordshire AL4 8AN, UK  
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## **Artificial rearing affects the emotional state and reactivity of pigs post-weaning**

O Schmitt<sup>\*†‡§</sup>, K O'Driscoll<sup>†</sup>, EM Baxter<sup>§</sup> and LA Boyle<sup>†</sup>

<sup>†</sup> Pig Development Department, Teagasc Animal and Grassland Research and Innovation Centre, Moorepark, Fermoy, Co Cork, Republic of Ireland

<sup>‡</sup> Department of Animal Production, Easter Bush Veterinary Centre, Royal (Dick) School of Veterinary Studies, The University of Edinburgh, Midlothian EH25 9RG, UK

<sup>§</sup> Animal Behaviour and Welfare Team, Animal and Veterinary Sciences Research Group, SRUC, West Mains Road, Edinburgh EH9 3JG, UK

\* Contact for correspondence: [schmitt.oce@gmail.com](mailto:schmitt.oce@gmail.com)

### **Abstract**

*Artificial rearing involves removing piglets from their mother at seven days of age and feeding them milk replacer until weaning. Early-life rearing conditions can influence piglets' mental development, as reflected by their emotional state and reactivity. This study compared the post-weaning emotional state and reactivity of pigs which were either sow-reared or artificially reared pre-weaning. Behavioural tests (startle test, novel object test, human-animal relationship test and open door test) were conducted one week post-weaning (weaner 1, 34 [± 0.6] days old), one week after movement to weaner 2 (69 [± 1.2] days old) and to finisher (100 [± 1.3] days old) stages. Qualitative Behavioural Assessments (QBA) were conducted on the same days in weaner 2 and finisher stages. QBA descriptors were computed by PCA and all other data were analysed using linear models. Artificially reared pigs were less fearful of human contact in weaner 1 (45.1 [± 8.43] vs 81.3 [± 7.89]%) and finisher (25.8 [± 5.19] vs 45.7 [± 6.00]%) stages; but there was no difference in the other tests. Artificially reared pigs had a higher QBA score (more positive) than sow-reared pigs in weaner 2 (54.49 [± 10.102] vs 17.88 [± 9.94]) but not in finisher (70.71 [± 8.860] vs 52.76 [± 9.735]) stage. In conclusion, artificially reared pigs appeared to have a more positive emotional state transiently post-weaning and a lower fearfulness towards humans, which are likely mediated by their pre-weaning conditions. These data emphasise the need to consider the entire life of the animals to fully evaluate the long-term impacts of a rearing system.*

**Keywords:** affective state, animal welfare, artificial rearing, human-animal relationship, pigs, Qualitative Behavioural Assessment