**Supplementary Tables**

**Table S1.** Description of the participants (number of respondents in each demographic category) who took part in the survey.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Gender** | **Female** | **Male** | **Undisclosed** |  |  |  |
|  | 747 | 262 | 15 |  |  |  |
| **Age** | **<20** | **20-29** | **30-39** | **40-49** | **50+** | **Undisclosed** |
|  | 20 | 391 | 286 | 135 | 178 | 14 |
| **Children** | **No** | **Yes** |  |  |  |  |
|  | 753 | 271 |  |  |  |  |
| **Work related to animals** | **No** | **Yes** |  |  |  |  |
|  | 474 | 550 |  |  |  |  |
| **Education related to animals** | **No** | **Yes** |  |  |  |  |
|  | 476 | 548 |  |  |  |  |
| **Education** | **High school not completed** | **High school** | **Vocational** | **Bachelor's degree** | **Master's degree** | **PhD** |
|  | 16 | 61 | 115 | 208 | 377 | 247 |
| **Total participants** | 1024 |  |  |  |  |  |
| **Total countries of origin** | 48 |  |  |  |  |  |
| **Total countries of residence** | 46 |  |  |  |  |  |

**Table S2.** Overview of number of correct responses, incorrect responses and questions answered as ‘not sure’, for each species and each dimension.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Arousal** | | | | **Valence** | | | |
| **Species** | **Correct** | **Not correct** | **Not Sure** | **Total** | **Correct** | **Not correct** | **Not Sure** | **Total** |
| **Pigs** | 693 | 485 | 551 | **1729** | 730 | 524 | 479 | **1733** |
| **Horses** | 949 | 690 | 91 | **1730** | 930 | 524 | 280 | **1734** |
| **Goats** | 837 | 643 | 238 | **1718** | 776 | 602 | 356 | **1734** |
| **Cattle** | 823 | 749 | 178 | **1750** | 752 | 845 | 149 | **1745** |
| **Wild boars** | 614 | 648 | 461 | **1723** | 801 | 520 | 432 | **1753** |
| **Pz horses** | 783 | 806 | 171 | **1760** | 519 | 1053 | 142 | **1714** |
| **Humans** | 895 | 732 | 104 | **1731** | 1139 | 546 | 67 | **1752** |
| **Total** | **5594** | **4753** | **1794** | **12141** | **5646** | **4614** | **1905** | **12165** |

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Dim** | **Species** | **Md** | **Int** | **Parameters** | | | **df** | **LogLik** | **BIC** | **ΔBIC** | **ωi** |
| **Arousal** | **All** | Arousal ~ CA \* Sp + (1 | countryOrigin / responseID / Sp) +  (1 | Sp) + (1 | countryResidence) | | | | | | | | | |
|  |  |  |  | **CA** | **Sp** | **CA\*Sp** |  |  |  |  |  |
|  |  | **1** | **-0.10** | **0.34** | **-** | **-** | **7** | **-7112.8** | **14290.3** | **0.0** | **1.000** |
|  |  | 2 | 0.14 | 0.34 | + | - | 13 | -7102.3 | 14324.7 | 34.4 | 0.000 |
| **Valence** | **All** | Valence ~ CV \* Sp + (1 | countryOrigin / responseID / Sp) + (1 | Sp) + (1 | countryResidence) | | | | | | | | | |
|  |  |  |  | **CV** | **Sp** | **CV\*Sp** |  |  |  |  |  |
|  |  | **1** | **0.350** | **-0.24** | **+** | **+** | **19** | **-6558.76** | **13293** | **0.0** | **1.000** |
|  |  | 2 | 0.155 | 0.41 | - | - | 7 | -6848.86 | 13762.4 | 469.4 | 0.000 |
|  |  | Valence ~ CV + (1 | countryOrigin / responseID) + (1 | countryResidence) | | | | | | | | | |
|  |  |  |  | **CV** |  |  |  |  |  |  |  |
|  | **Pigs** | **1** | **0.00** | **0.64** |  |  | **5** | **-837.3** | **1710.2** | **0.0** | **1.000** |
|  |  | 2 | 0.33 | - |  |  | 4 | -852.5 | 1733.6 | 23.4 | 0.000 |
|  | **Horses** | **1** | **-0.14** | **1.14** |  |  | **5** | **-927.5** | **1891.7** | **0.0** | **1.000** |
|  |  | 2 | 0.44 | - |  |  | 4 | -982.1 | 1993.8 | 101.9 | 0.000 |
|  | **Goats** | **1** | **0.17** | **0.57** |  |  | **5** | **-910.9** | **1857.9** | **0.0** | **1.000** |
|  |  | 2 | 0.43 | - |  |  | 4 | -924.0 | 1876.9 | 19.0 | 0.000 |
|  | **Cattle** | **1** | **0.21** | **-** |  |  | **4** | **-1096.6** | **2222.7** | **0.0** | **0.707** |
|  |  | **2** | **0.33** | **-0.24** |  |  | **5** | **-1093.8** | **2224.4** | **1.8** | **0.293** |
|  | **Wild boars** | **1** | **-0.02** | **0.84** |  |  | **5** | **-857.5** | **1750.9** | **0.0** | **1.000** |
|  |  | 2 | 0.41 | - |  |  | 4 | -884.2 | 1797.2 | 46.3 | 0.000 |
|  | **Pz horses** | **1** | **1.79** | **-1.74** |  |  | **5** | **-871.1** | **1779.0** | **0.0** | **1.000** |
|  |  | 2 | 0.77 | - |  |  | 4 | -977.3 | 1984.1 | 205.1 | 0.000 |
|  | **Humans** | **1** | **-0.89** | **1.50** |  |  | **5** | **-1058.9** | **2155.0** | **0.0** | **1.000** |
|  |  | 2 | -0.03 | - |  |  | 4 | -1167.7 | 2365.1 | 210.1 | 0.000 |

**Table S3.** Summary of the model output for the **ability to rate emotions** (Dim = dimensions; Md = model; Int = Intercept; CA = fixed factor ‘correct arousal’; CV = fixed factor ‘correct valence’; Sp = factor ‘Species’; df = degrees of freedom; LogLik = log-likelihood; BIC = Bayes Information Criterion of the model (0 indicates best model); ΔBIC = difference in BIC compared to the best model; ωi = weight (probability to be the best model)). Competitive models appear in bold. ‘-‘ means that the factor was not included in the model.

**Table S4.** Summary of the model output for the effect of the **emotional dimension** on correct ratings (‘score’) (Dim = dimensions; Md = model; Int = Intercept; Sp = factor ‘Species’; df = degrees of freedom; LogLik = log-likelihood; BIC = Bayes Information Criterion of the model (0 indicates best model); ΔBIC = difference in BIC compared to the best model; ωi = weight (probability to be the best model)). Competitive models appear in bold. ‘-‘ means that the factor was not included in the model.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Dim** | **Md** | **Int** | **Parameters** | | | **df** | **LogLik** | **BIC** | **ΔBIC** | **ωi** |
| **Both** | score ~ Dim \* Sp + (1 | countryOrigin / responseID / Sp / dimension) + (1 | species) + (1 | countryResidence) | | | | | | | | | |
|  |  |  | **Dim** | **Sp** | **Dim\*Sp** |  |  |  |  |  |
|  | **1** | **0.14** | **+** | **+** | **+** | **20** | **-13841.8** | **27882.3** | **0.0** | **1.000** |
|  | 2 | 0.25 | - | - | - | 7 | -13957.9 | 27985.3 | 103.0 | 0.000 |
| **Arousal** | score ~ Sp + (1 | countryOrigin / responseID) + (1 | countryResidence), | | | | | | | | | |
|  |  |  |  | **Sp** |  |  |  |  |  |  |
|  | **1** | **0.19** |  | **+** |  | **10** | **-7060.6** | **14213.6** | **0.0** | **0.734** |
|  | **2** | **0.26** |  | **-** |  | **4** | **-7089.3** | **14215.7** | **2.0** | **0.266** |
| **Valence** | score ~ Sp + (1 | countryOrigin / responseID) + (1 | countryResidence) | | | | | | | | | |
|  |  |  |  | **Sp** |  |  |  |  |  |  |
|  | **1** | **-0.12** |  | **+** |  | **10** | **-6767.1** | **13626.5** | **0.0** | **1.000** |
|  | 2 | 0.21 |  | - |  | 4 | -7040.6 | 14118.1 | 491.6 | 0.000 |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Md** | **Int** | **ageCat** | **chldr** | **edct** | **gendr** | **df** | **LogLik** | **BIC** | **ΔBIC** | **ωi** |
| score ~ ageCat + chldr + edctB + gendr + (1 | countryOrigin / responseID / Sp / dimension) + (1 | Sp) + (1 | countryResidence) | | | | | | | | | | |
| **1** | **0.32** | **-0.06** | **-** | **-** | **-** | **8** | **-11520.0** | **23117.9** | **0.0** | **0.560** |
| **2** | **0.21** | **-** | **-** | **-** | **-** | **7** | **-11525.2** | **23118.6** | **0.7** | **0.395** |
| 3 | 0.23 | - | + | - | - | 8 | -11523.8 | 23125.6 | 7.7 | 0.012 |

**Table S5.** Summary of the model output for the effect of the **demography** on correct ratings (‘score’) (Md = model; Int = Intercept; ageCat = fixed factor ‘age’ coded as continuous categories (0-4); chldr = fixed factor ‘children’; edctB = fixed factor ‘education’ coded as yes or no (BSc level or not); gendr = fixed factor ‘gender’; Sp = factor ‘Species’; df = degrees of freedom; LogLik = log-likelihood; BIC = Bayes Information Criterion of the model (0 indicates best model); ΔBIC = difference in BIC compared to the best model; ωi = weight (probability to be the best model)). Competitive models appear in bold. ‘-‘ means that the factor was not included in the model.

**Table S6.** Summary of the model output for the effect of the **empathy** on correct ratings (‘score’) (Md = model; Int = Intercept; EC = fixed factor ‘empathic concern’; FS = fixed factor ‘fantasy’; PD = fixed factor ‘personal distress’; PT = fixed factor ‘perspective taking’; Sp = factor ‘Species’; df = degrees of freedom; LogLik = log-likelihood; BIC = Bayes Information Criterion of the model (0 indicates best model); ΔBIC = difference in BIC compared to the best model; ωi = weight (probability to be the best model)). Competitive models appear in bold. ‘-‘ means that the factor was not included in the model.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Md** | **Int** | **EC** | **FS** | **PD** | **PT** | **df** | **LogLik** | **BIC** | **ΔBIC** | **ωi** |
| score ~ EC + FS + PD + PT + (1 | countryOrigin / responseID / Sp / dimension) + (1 | Sp) + (1 | countryResidence) | | | | | | | | | | |
| **1** | **-0.18** | **-** | **0.02** | **-** | **-** | **8** | **-9340.4** | **18757.1** | **0.0** | **0.817** |
| **2** | **-0.20** | **0.02** | **-** | **-** | **-** | **8** | **-9342.8** | **18761.9** | **4.8** | **0.075** |
| **3** | **-0.30** | **0.01** | **0.02** | **-** | **-** | **9** | **-9338.5** | **18762.8** | **5.6** | **0.049** |
| **4** | **-0.30** | **-** | **0.02** | **-** | **0.01** | **9** | **-9338.8** | **18763.3** | **6.2** | **0.037** |
| 5 | -0.20 | - | 0.02 | 0.00 | - | 9 | -9340.2 | 18766.3 | 9.1 | 0.009 |

**Table S7.** Summary of the model output for the effect of the **familiarity with animals** on correct ratings (‘score’) (Md = model; Int = Intercept; cntcS = fixed factor ‘contact with the species’; edctA = fixed factor ‘education with animals’; wrkA = fixed factor ‘work with animals’; Sp = factor ‘Species’; df = degrees of freedom; LogLik = log-likelihood; BIC = Bayes Information Criterion of the model (0 indicates best model); ΔBIC = difference in BIC compared to the best model; ωi = weight (probability to be the best model)). Competitive models appear in bold. ‘-‘ means that the factor was not included in the model.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Md** | **Int** | **cntcS** | **edctA** | **wrkA** | **df** | **logLik** | **BIC** | **ΔBIC** | **ωi** |
| score ~ cntcS + edctA + wrkA + (1 | countryOrigin / responseID / Sp / dimension) + (1 | Sp) + (1 | countryResidence) | | | | | | | | | |
| **1** | **0.33** | **-** | **-** | **-** | **7** | **-1721.5** | **3497.9** | **0.0** | **0.879** |
| **2** | **0.18** | **-** | **-** | **0.20** | **8** | **-1720.0** | **3502.7** | **4.8** | **0.079** |
| 3 | 0.30 | - | 0.05 | - | 8 | -1721.4 | 3505.5 | 7.7 | 0.019 |

**Table S8.** Summary of the model output for the effect of **domestication** on correct ratings (‘score’) (Md = model; Int = Intercept; cntcS = fixed factor ‘contact with the species’; dmstc = fixed factor ‘domestication’; Sp = factor ‘Species’; df = degrees of freedom; LogLik = log-likelihood; BIC = Bayes Information Criterion of the model (0 indicates best model); ΔBIC = difference in BIC compared to the best model; ωi = weight (probability to be the best model)). Competitive models appear in bold. ‘-‘ means that the factor was not included in the model.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Md** | **Int** | **cntcS** | **dmstc** | **df** | **LogLik** | **BIC** | **ΔBIC** | **ωi** |
| score ~ cntcS + dmstc + (1 | countryOrigin / responseID / Sp / dimension) + (1 | Sp) + (1 | countryResidence) | | | | | | | | |
| **1** | **0.33** | **-** | **-** | **7** | **-1721.5** | **3497.9** | **0.0** | **0.916** |
| **2** | **0.08** | **-** | **0.32** | **8** | **-1720.2** | **3503.2** | **5.4** | **0.063** |
| 3 | 0.31 | 0.01 | - | 8 | -1721.4 | 3505.6 | 7.7 | 0.019 |

**Table S9.** Summary of the model output for the effect of the **difference in acoustic parameters between the two sounds** (A and B) presented in each question on correct ratings (‘score’) of **arousal** questions (AP= acoustic parameter: Md = model; Int = Intercept; DSAB = fixed factor ‘difference between AB sounds’; Sp = factor species; df = degrees of freedom; LogLik = log-likelihood; BIC = Bayes Information Criterion of the model (0 indicates best model); ΔBIC = difference in BIC compared to the best model; ωi = weight (probability to be the best model)). Competitive models appear in bold. ‘-‘ means that the factor was not included in the model.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **AP** | **Md** | **Int** | **Parameters** | |  | **df** | **LogLik** | **BIC** | **ΔBIC** | **ωi** |
| ***Dur*** | score ~ DSABDur \* Sp + (1 | countryOrigin / responseID / Sp) + (1 | Sp) + (1 | countryResidence) | | | | | | | | | |
|  |  |  | **DSABDur** | **Sp** | **DSABDur\*Sp** |  |  |  |  |  |
|  | **1** | **0.29** | **-** | **-** | **-** | **6** | **-5920.8** | **11896.0** | **0.0** | **0.961** |
|  | **2** | **0.29** | **-0.04** | **-** | **-** | **7** | **-5919.4** | **11902.4** | **6.4** | **0.039** |
|  | 3 | 0.23 | - | + | - | 11 | -5911.5 | 11922.8 | 26.8 | 0.000 |
| ***f0*** | score ~ DSABF0 \* Sp + (1 | countryOrigin / responseID / Sp) + (1 | Sp) + (1 | countryResidence) | | | | | | | | | |
|  |  |  | **DSABF0** | **Sp** | **DSABF0\*Sp** |  |  |  |  |  |
|  | **1** | **0.29** | **-** | **-** | **-** | **6** | **-5920.8** | **11896.0** | **0.0** | **0.983** |
|  | 2 | 0.29 | -0.03 | - | - | 7 | -5920.3 | 11904.0 | 8.1 | 0.017 |
| ***Q50%*** | score ~ DSABQ50 \* Sp + (1 | countryOrigin / responseID / Sp) + (1 | Sp) + (1 | countryResidence) | | | | | | | | | |
|  |  |  | **DSABQ50** | **Sp** | **DSABQ50\*Sp** |  |  |  |  |  |
|  | **1** | **0.29** | **-** | **-** | **-** | **6** | **-5920.8** | **11896.0** | **0.0** | **0.932** |
|  | **2** | **0.29** | **0.06** | **-** | **-** | **7** | **-5918.8** | **11901.2** | **5.3** | **0.068** |
|  | 3 | 0.23 | - | + | - | 11 | -5911.5 | 11922.8 | 26.8 | 0.000 |
| ***AM*** | score ~ DSABAM \* Sp + (1 | countryOrigin / responseID / Sp) + (1 | Sp) + (1 | countryResidence) | | | | | | | | | |
|  |  |  | **DSABAM** | **Sp** | **DSABAM\*Sp** |  |  |  |  |  |
|  | **1** | **0.29** | **-** | **-** | **-** | **6** | **-5920.8** | **11896.0** | **0.0** | **0.983** |
|  | 2 | 0.29 | 0.03 | - | - | 7 | -5920.3 | 11904.1 | 8.1 | 0.017 |

**Table S10.** Summary of the model output for the effect of the **difference in duration between the two sounds** (A and B) presented in each question on correct ratings (‘score’) of **valence** questions (Sp = species; Md = model; Int = Intercept; DSAB = fixed factor ‘difference between AB sounds’; df = degrees of freedom; LogLik = log-likelihood; BIC = Bayes Information Criterion of the model (0 indicates best model); ΔBIC = difference in BIC compared to the best model; ωi = weight (probability to be the best model)). Competitive models appear in bold. ‘-‘ means that the factor was not included in the model.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Sp** | **Md** | **Int** | **Parameters** | |  | **df** | **LogLik** | **BIC** | **ΔBIC** | **ωi** |
| **All** | score ~ DSABDur \* Sp + (1 |countryOrigin / responseID / Sp) + (1 | Sp) + (1 | countryResidence) | | | | | | | | | |
|  |  |  | **DSABDur** | **Sp** | **DSABDur\*Sp** |  |  |  |  |  |
|  | **1** | **-0.17** | **-0.55** | **+** | **+** | **17** | **-5211.1** | **10575.4** | **0.0** | **1.000** |
|  | 2 | 0.09 | -0.32 |  |  | 7 | -5417.3 | 10897.7 | 322.3 | 0.000 |
|  | score ~ DSABDur + (1 | countryOrigin / responseID) + (1 | countryResidence) | | | | | | | | | |
|  |  |  | **DSABDur** |  |  |  |  |  |  |  |
| **Pigs** | **1** | **0.19** | **0.58** |  |  | **5** | **-563.5** | **1160.8** | **0.0** | **1.000** |
|  | 2 | 0.17 | - |  |  | 4 | -587.1 | 1201.3 | 40.5 | 0.000 |
| **Horses** | **1** | **0.62** | **0.20** |  |  | **5** | **-942.8** | **1922.1** | **0.0** | **0.885** |
|  | **2** | **0.61** | **-** |  |  | **4** | **-948.5** | **1926.2** | **4.1** | **0.115** |
| **Goats** | **1** | **0.30** | **-0.23** |  |  | **5** | **-933.8** | **1903.8** | **0.0** | **0.994** |
|  | 2 | 0.30 | - |  |  | 4 | -942.5 | 1914.0 | 10.2 | 0.006 |
| **Cattle** | **1** | **-0.13** | **-0.48** |  |  | **5** | **-1062.8** | **2162.4** | **0.0** | **1.000** |
|  | 2 | -0.13 | - |  |  | 4 | -1100.4 | 2230.3 | 67.9 | 0.000 |
| **Wild boars** | **1** | **0.47** | **-0.27** |  |  | **5** | **-872.3** | **1780.5** | **0.0** | **0.999** |
| 2 | 0.47 | - |  |  | 4 | -882.9 | 1794.5 | 14.0 | 0.001 |
| **Pz horses** | **1** | **-0.81** | **-0.94** |  |  | **5** | **-847.0** | **1730.7** | **0.0** | **1.000** |
| 2 | -0.71 | - |  |  | 4 | -997.1 | 2023.6 | 292.9 | 0.000 |

**Table S11.** Summary of the model output for the effect of the **difference in *f0* between the two sounds** (A and B) presented in each question on correct ratings (‘score’) of **valence** questions (Sp = species; Md = model; Int = Intercept; DSAB = fixed factor ‘difference between AB sounds’; df = degrees of freedom; LogLik = log-likelihood; BIC = Bayes Information Criterion of the model (0 indicates best model); ΔBIC = difference in BIC compared to the best model; ωi = weight (probability to be the best model)). Competitive models appear in bold. ‘-‘ means that the factor was not included in the model.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Sp** | **Md** | **Int** | **Parameters** | |  | **df** | **LogLik** | **BIC** | **ΔBIC** | **ωi** |
| **All** | score ~ DSABF0 \* Sp + (1 | countryOrigin / responseID / Sp) + (1 | Sp) + (1 | countryResidence) | | | | | | | | | |
|  |  |  | **DSABF0** | **Sp** | **DSABF0\*Sp** |  |  |  |  |  |
|  | **1** | **-2.01** | **-3.97** | **+** | **+** | **17** | **-5405.2** | **10963.5** | **0.0** | **0.998** |
|  | 2 | 0.09 | -0.15 | - | - | 7 | -5456.4 | 10975.8 | 12.3 | 0.002 |
|  | score ~ DSABF0 + (1 | countryOrigin / responseID) + (1 | countryResidence) | | | | | | | | | |
|  |  |  | **DSABF0** |  |  |  |  |  |  |  |
| **Pigs** | **1** | **0.17** | **-** |  |  | **4** | **-587.1** | **1201.3** | **0.0** | **0.963** |
|  | **2** | **0.17** | **-0.04** |  |  | **5** | **-587.0** | **1207.8** | **6.5** | **0.037** |
| **Horses** | **1** | **0.61** | **-** |  |  | **4** | **-948.5** | **1926.2** | **0.0** | **0.816** |
|  | **2** | **0.62** | **0.12** |  |  | **5** | **-946.4** | **1929.1** | **3.0** | **0.184** |
| **Goats** | **1** | **0.30** | **-** |  |  | **4** | **-942.5** | **1914.0** | **0.0** | **0.922** |
|  | **2** | **0.30** | **-0.08** |  |  | **5** | **-941.4** | **1918.9** | **4.9** | **0.078** |
| **Cattle** | **1** | **-0.14** | **-0.46** |  |  | **5** | **-1067.0** | **2171.0** | **0.0** | **1.000** |
|  | 2 | -0.13 | - |  |  | 4 | -1100.4 | 2230.3 | 59.3 | 0.000 |
| **Wild boars** | **1** | **0.47** | **-** |  |  | **4** | **-882.9** | **1794.5** | **0.0** | **0.97** |
| **2** | **0.47** | **0.03** |  |  | **5** | **-882.8** | **1801.4** | **7.0** | **0.03** |
| **Pz horses** | **1** | **-0.71** | **-0.17** |  |  | **5** | **-992.2** | **2021.2** | **0.0** | **0.775** |
| **2** | **-0.71** | **-** |  |  | **4** | **-997.1** | **2023.6** | **2.5** | **0.225** |

**Table S12.** Summary of the model output for the effect of the **difference in *Q50%* between the two sounds** (A and B) presented in each question on correct ratings (‘score’) of **valence** questions (Sp = species; Md = model; Int = Intercept; DSAB = fixed factor ‘difference between AB sounds’; df = degrees of freedom; LogLik = log-likelihood; BIC = Bayes Information Criterion of the model (0 indicates best model); ΔBIC = difference in BIC compared to the best model; ωi = weight (probability to be the best model)). Competitive models appear in bold. ‘-‘ means that the factor was not included in the model.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Sp** | **Md** | **Int** | **Parameters** | |  | **df** | **LogLik** | **BIC** | **ΔBIC** | **ωi** |
| All | score ~ DSABQ50 \* Sp + (1 | countryOrigin / responseID / Sp) + (1 | Sp) + (1 | countryResidence) | | | | | | | | | |
|  |  |  | **DSABQ50** | **Sp** | **DSABQ50\*Sp** |  |  |  |  |  |
|  | **1** | **-0.03** | **0.19** | **+** | **+** | **17** | **-5341.9** | **10836.9** | **0.0** | **0.700** |
|  | **2** | **0.11** | **0.41** | **-** | **-** | **7** | **-5387.8** | **10838.6** | **1.7** | **0.298** |
|  | 3 | 0.09 | 0.41 | + | - | 12 | -5369.9 | 10848.0 | 11.1 | 0.003 |
|  | score ~ DSABQ50 + (1 | countryOrigin / responseID) + (1 | countryResidence) | | | | | | | | | |
|  |  |  | **DSABQ50** |  |  |  |  |  |  |  |
| **Pigs** | **1** | **0.18** | **0.40** |  |  | **5** | **-575.3** | **1184.3** | **0.0** | **1.000** |
|  | 2 | 0.17 | - |  |  | 4 | -587.1 | 1201.3 | 17.0 | 0.000 |
| **Horses** | **1** | **0.61** | **-** |  |  | **4** | **-948.5** | **1926.2** | **0.0** | **0.886** |
|  | **2** | **0.62** | **0.10** |  |  | **5** | **-946.9** | **1930.3** | **4.1** | **0.114** |
| **Goats** | **1** | **0.30** | **-** |  |  | **4** | **-942.5** | **1914.0** | **0.0** | **0.961** |
|  | **2** | **0.30** | **-0.05** |  |  | **5** | **-942.1** | **1920.4** | **6.4** | **0.039** |
| **Cattle** | **1** | **-0.13** | **-** |  |  | **4** | **-1100.4** | **2230.3** | **0.0** | **0.971** |
|  | 2 | -0.13 | 0.03 |  |  | 5 | -1100.2 | 2237.3 | 7.0 | 0.029 |
| **Wild boars** | **1** | **0.48** | **-0.17** |  |  | **5** | **-879.0** | **1794.0** | **0.0** | **0.569** |
| **2** | **0.47** | **-** |  |  | **4** | **-882.9** | **1794.5** | **0.6** | **0.431** |
| **Pz horses** | **1** | **-0.79** | **0.73** |  |  | **5** | **-909.4** | **1855.5** | **0.0** | **1.000** |
| 2 | -0.71 | - |  |  | 4 | -997.1 | 2023.6 | 168.1 | 0.000 |

**Table S13.** Summary of the model output for the effect of the **difference in *AM* between the two sounds** (A and B) presented in each question on correct ratings (‘score’) of **valence** questions (Sp = species; Md = model; Int = Intercept; DSAB = fixed factor ‘difference between AB sounds’; df = degrees of freedom; LogLik = log-likelihood; BIC = Bayes Information Criterion of the model (0 indicates best model); ΔBIC = difference in BIC compared to the best model; ωi = weight (probability to be the best model)). Competitive models appear in bold. ‘-‘ means that the factor was not included in the model.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Sp** | **Md** | **Int** | **Parameters** | |  | **df** | **LogLik** | **BIC** | **ΔBIC** | **ωi** |
| **All** | score ~ DSABAM \* Sp + (1 |countryOrigin / responseID / Sp) + (1 | Sp) + (1 | countryResidence) | | | | | | | | | |
|  |  |  | **DSABAM** | **Sp** | **DAB \* Sp** |  |  |  |  |  |
|  | **1** | **-0.23** | **-0.55** | **+** | **+** | **17** | **-5341.3** | **10835.8** | **0.0** | **1.000** |
|  | 2 | 0.09 | -0.27 | - | - | 7 | -5421.8 | 10906.6 | 70.9 | 0.000 |
|  | score ~ DSABAM + (1 | countryOrigin / responseID) + (1 | countryResidence) | | | | | | | | | |
|  |  |  | **DSABAM** |  |  |  |  |  |  |  |
| **Pigs** | **1** | **0.19** | **0.56** |  |  | **5** | **-564.9** | **1163.5** | **0.0** | **1.000** |
|  | 2 | 0.17 | - |  |  | 4 | -587.1 | 1201.3 | 37.8 | 0.000 |
| **Horses** | **1** | **0.62** | **0.17** |  |  | **5** | **-944.2** | **1924.8** | **0.0** | **0.662** |
|  | **2** | **0.61** | **-** |  |  | **4** | **-948.5** | **1926.2** | **1.3** | **0.338** |
| **Goats** | **1** | **0.31** | **-0.23** |  |  | **5** | **-934.1** | **1904.3** | **0.0** | **0.993** |
|  | 2 | 0.30 | - |  |  | 4 | -942.5 | 1914.0 | 9.7 | 0.007 |
| **Cattle** | **1** | **-0.13** | **-0.43** |  |  | **5** | **-1069.9** | **2176.6** | **0.0** | **1.000** |
|  | 2 | -0.13 | - |  |  | 4 | -1100.4 | 2230.3 | 53.7 | 0.000 |
| **Wild boars** | **1** | **0.48** | **-0.33** |  |  | **5** | **-867.7** | **1771.4** | **0.0** | **1.000** |
| 2 | 0.47 | - |  |  | 4 | -882.9 | 1794.5 | 23.1 | 0.000 |
| **Pz horses** | **1** | **-0.74** | **-0.42** |  |  | **5** | **-970.2** | **1977.3** | **0.0** | **1.000** |
| 2 | -0.71 | - |  |  | 4 | -997.1 | 2023.6 | 46.4 | 0.000 |

**Table S14.** Summary of the model output for the effect ofthe **acoustic parameters of sounds A** in each question on ratings of **arousal** as high/low (AP= acoustic parameter: Md = model; Int = Intercept; SA = fixed factor ‘acoustic parameter value of sound A’; Sp = factor species; df = degrees of freedom; LogLik = log-likelihood; BIC = Bayes Information Criterion of the model (0 indicates best model); ΔBIC = difference in BIC compared to the best model; ωi = weight (probability to be the best model)). Competitive models appear in bold. ‘-‘ means that the factor was not included in the model.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **AP** | **Md** | **Int** | **Parameters** | |  | **df** | **logLik** | **BIC** | **ΔBIC** | **ωi** |
| ***Dur*** | Arousal ~ SADur \* Sp + (1 | countryOrigin / responseID / Sp) + (1 | Sp) + (1 | countryResidence) | | | | | | | | | |
|  |  |  | **SADur** | **Sp** | **SADur\*Sp** |  |  |  |  |  |
|  | **1** | **0.06** | **0.12** | **-** | **-** | **7** | **-6017.0** | **12097.5** | **0.0** | **0.713** |
|  | **2** | **0.05** | **-** | **-** | **-** | **6** | **-6022.4** | **12099.3** | **1.8** | **0.287** |
|  | 3 | 0.28 | 0.15 | + | - | 12 | -6006.9 | 12122.6 | 25.2 | 0.000 |
|  |  |  |  |  |  |  |  |  |  |  |
| ***f0*** | Arousal ~ SAF0 \* Sp + (1 | countryOrigin / responseID / Sp) + (1 | Sp) + (1 | countryResidence) | | | | | | | | | |
|  |  |  | **SAF0** | **Sp** | **SAF0\*Sp** |  |  |  |  |  |
|  | **1** | **0.05** | **-** | **-** | **-** | **6** | **-6022.4** | **12099.3** | **0.0** | **0.949** |
|  | **2** | **0.06** | **0.06** | **-** | **-** | **7** | **-6020.8** | **12105.1** | **5.8** | **0.051** |
|  | 3 | 0.30 | - | + | - | 11 | -6013.1 | 12125.9 | 26.6 | 0.000 |
| ***Q50%*** | Arousal ~ SAQ50 \* Sp + (1 | countryOrigin / responseID / Sp) + (1 | Sp) + (1 | countryResidence) | | | | | | | | | |
|  |  |  | **SAQ50** | **Sp** | **SAQ50\*Sp** |  |  |  |  |  |
|  | **1** | **0.06** | **0.15** | **-** | **-** | **7** | **-6014.1** | **12091.6** | **0.0** | **0.979** |
|  | 2 | 0.05 | - | - | - | 6 | -6022.4 | 12099.3 | 7.7 | 0.021 |
| ***AM*** | Arousal ~ SAAM \* Sp + (1 | countryOrigin / responseID / Sp) + (1 | Sp) + (1 | countryResidence) | | | | | | | | | |
|  |  |  | **SAAM** | **Sp** | **SAAM\*Sp** |  |  |  |  |  |
|  | **1** | **0.05** | **-0.19** | **-** | **-** | **7** | **-6010.2** | **12083.9** | **0.0** | **1.000** |
|  | 2 | 0.05 | - | - | - | 6 | -6022.4 | 12099.3 | 15.4 | 0.000 |

**Table S15.** Summary of the model output for the effect ofthe **duration of sounds A** in each question on ratings of **valence** as positive/negative (Sp = species; Md = model; Int = Intercept; SA = fixed factor ‘acoustic parameter value of sound A’; df = degrees of freedom; LogLik = log-likelihood; BIC = Bayes Information Criterion of the model (0 indicates best model); ΔBIC = difference in BIC compared to the best model; ωi = weight (probability to be the best model)). Competitive models appear in bold. ‘-‘ means that the factor was not included in the model.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Sp** | **Md** | **Int** | **Parameters** | |  | **df** | **LogLik** | **BIC** | **ΔBIC** | **ωi** |
| **All** | Valence ~ SADur \* Sp + (1 | countryOrigin / responseID / Sp) + (1 | Sp) + (1 | countryResidence) | | | | | | | | | |
|  |  |  | **SADur** | **Sp** | **SADur\*Sp** |  |  |  |  |  |
|  | **1** | **0.22** | **0.51** | **+** | **+** | **17** | **-5510.1** | **11174.1** | **0.0** | **1.000** |
|  | 2 | 0.44 | 0.20 | - | - | 7 | -5713.8 | 11491.1 | 317.0 | 0.000 |
|  | Valence ~ SADur + (1 | countryOrigin / responseID) + (1 | countryResidence) | | | | | | | | | |
|  |  |  | **SADur** |  |  |  |  |  |  |  |
| **Pigs** | **1** | **0.33** | **-** |  |  | **4** | **-852.5** | **1733.6** | **0.0** | **0.964** |
|  | **2** | **0.33** | **0.04** |  |  | **5** | **-852.3** | **1740.2** | **6.6** | **0.036** |
| **Horses** | **1** | **0.46** | **-0.44** |  |  | **5** | **-950.7** | **1937.7** | **0.0** | **1.000** |
|  | 2 | 0.44 | - |  |  | 4 | -982.1 | 1993.3 | 55.5 | 0.000 |
| **Goats** | **1** | **0.43** | **-** |  |  | **4** | **-924.0** | **1876.9** | **0.0** | **0.972** |
|  | 2 | 0.43 | -0.02 |  |  | 5 | -923.9 | 1884.0 | 7.1 | 0.028 |
| **Cattle** | **1** | **0.21** | **0.26** |  |  | **5** | **-1083.5** | **2203.9** | **0.0** | **1.000** |
|  | 2 | 0.21 | - |  |  | 4 | -1096.6 | 2222.7 | 18.8 | 0.000 |
| **Wild boars** | **1** | **0.41** | **-** |  |  | **4** | **-884.2** | **1797.2** | **0.0** | **0.677** |
| **2** | **0.41** | **-0.13** |  |  | **5** | **-881.4** | **1798.7** | **1.5** | **0.323** |
| **Pz horses** | **1** | **0.99** | **1.11** |  |  | **5** | **-814.3** | **1665.3** | **0.0** | **1.000** |
| 2 | 0.77 | - |  |  | 4 | -977.3 | 1984.1 | 318.8 | 0.000 |

**Table S16.** Summary of the model output for the effect ofthe ***f0* of sounds A** in each question on ratings of **valence** as positive/negative (Sp = species; Md = model; Int = Intercept; SA = fixed factor ‘acoustic parameter value of sound A’; df = degrees of freedom; LogLik = log-likelihood; BIC = Bayes Information Criterion of the model (0 indicates best model); ΔBIC = difference in BIC compared to the best model; ωi = weight (probability to be the best model)). Competitive models appear in bold. ‘-‘ means that the factor was not included in the model.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Sp** | **Md** | **Int** | **Parameters** | |  | **df** | **LogLik** | **BIC** | **ΔBIC** | **ωi** |
| **All** | Valence ~ SAF0 \* Sp + (1 | countryOrigin / responseID / Sp) + (1 | Sp) + (1 | countryResidence) | | | | | | | | | |
|  |  |  | **SAF0** | **Sp** | **SAF0\*Sp** |  |  |  |  |  |
|  | **1** | **0.00** | **-1.00** | **+** | **+** | **17** | **-5609.3** | **11372.6** | **0.0** | **1.000** |
|  | 2 | 0.45 | 0.35 | - | - | 7 | -5697.8 | 11459.0 | 86.4 | 0.000 |
|  | Valence ~ SAF0 + (1 | countryOrigin / responseID) + (1 | countryResidence) | | | | | | | | | |
|  |  |  | **SAF0** |  |  |  |  |  |  |  |
| **Pigs** | **1** | **0.33** | **-** |  |  | **4** | **-852.5** | **1733.6** | **0.0** | **0.735** |
|  | **2** | **0.33** | **0.13** |  |  | **5** | **-850.0** | **1735.7** | **2.0** | **0.265** |
| **Horses** | **1** | **0.44** | **-** |  |  | **4** | **-982.1** | **1993.3** | **0.0** | **0.971** |
|  | 2 | 0.44 | -0.03 |  |  | 5 | -981.9 | 2000.3 | 7.0 | 0.029 |
| **Goats** | **1** | **0.43** | **-** |  |  | **4** | **-924.0** | **1876.9** | **0.0** | **0.973** |
|  | 2 | 0.43 | -0.01 |  |  | 5 | -924.0 | 1884.0 | 7.2 | 0.027 |
| **Cattle** | **1** | **0.22** | **-0.29** |  |  | **5** | **-1081.1** | **2199.0** | **0.0** | **1.000** |
|  | 2 | 0.21 | - |  |  | 4 | -1096.6 | 2222.7 | 23.7 | 0.000 |
| **Wild boars** | **1** | **0.41** | **0.16** |  |  | **5** | **-880.1** | **1796.2** | **0.0** | **0.623** |
| **2** | **0.41** | **-** |  |  | **4** | **-884.2** | **1797.2** | **1.0** | **0.377** |
| **Pz horses** | **1** | **0.95** | **0.91** |  |  | **5** | **-890.0** | **1816.8** | **0.0** | **1.000** |
| 2 | 0.77 | - |  |  | 4 | -977.3 | 1984.1 | 167.3 | 0.000 |

**Table S17.** Summary of the model output for the effect ofthe ***Q50%* of sounds A** in each question on ratings of **valence** as positive/negative (Sp = species; Md = model; Int = Intercept; SA = fixed factor ‘acoustic parameter value of sound A’; df = degrees of freedom; LogLik = log-likelihood; BIC = Bayes Information Criterion of the model (0 indicates best model); ΔBIC = difference in BIC compared to the best model; ωi = weight (probability to be the best model)). Competitive models appear in bold. ‘-‘ means that the factor was not included in the model.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Sp** | **Md** | **Int** | **Parameters** | |  | **df** | **LogLik** | **BIC** | **ΔBIC** | **ωi** |
| **All** | Valence ~ SAQ50 \* Sp + (1 | countryOrigin / responseID / Sp) + (1 | Sp) + (1 | countryResidence) | | | | | | | | | |
|  |  |  | **SAQ50** | **Sp** | **SAQ50\*Sp** |  |  |  |  |  |
|  | **1** | **0.43** | **-0.24** | **-** | **-** | **7** | **-5703.4** | **11470.3** | **0.0** | **1.000** |
|  | 2 | 0.15 | -0.26 | + | - | 12 | -5690.1 | 11489.0 | 18.7 | 0.000 |

**Table S18.** Summary of the model output for the effect ofthe ***AM* of sounds A** in each question on ratings of **valence** as positive/negative (Sp = species; Md = model; Int = Intercept; SA = fixed factor ‘acoustic parameter value of sound A’; df = degrees of freedom; LogLik = log-likelihood; BIC = Bayes Information Criterion of the model (0 indicates best model); ΔBIC = difference in BIC compared to the best model; ωi = weight (probability to be the best model)). Competitive models appear in bold. ‘-‘ means that the factor was not included in the model.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Sp** | **Md** | **Int** | **Parameters** | |  | **df** | **LogLik** | **BIC** | **ΔBIC** | **ωi** |
| **All** | Valence ~ SAAM \* Sp + (1 | countryOrigin / responseID / Sp) + (1 | Sp) + (1 | countryResidence) | | | | | | | | | |
|  |  |  | **SAAM** | **Sp** | **SAAM\*Sp** |  |  |  |  |  |
|  | **1** | **-0.01** | **-0.61** | **+** | **+** | **17** | **-5607.8** | **11369.6** | **0.0** | **1.000** |
|  | 2 | 0.44 | 0.32 | - | - | 7 | -5706.6 | 11476.6 | 107.0 | 0.000 |
|  | Valence ~ SAAM + (1 | countryOrigin / responseID) + (1 | countryResidence) | | | | | | | | | |
|  |  |  | **SAAM** |  |  |  |  |  |  |  |
| **Pigs** | **1** | **0.33** | **-** |  |  | **4** | **-852.5** | **1733.6** | **0.0** | **0.823** |
|  | **2** | **0.33** | **-0.12** |  |  | **5** | **-850.5** | **1736.7** | **3.1** | **0.177** |
| **Horses** | **1** | **0.44** | **-** |  |  | **4** | **-982.1** | **1993.3** | **0.0** | **0.974** |
|  | 2 | 0.44 | 0.00 |  |  | 5 | -982.1 | 2000.5 | 7.3 | 0.026 |
| **Goats** | **1** | **0.43** | **-** |  |  | **4** | **-924.0** | **1876.9** | **0.0** | **0.828** |
|  | **2** | **0.43** | **-0.11** |  |  | **5** | **-921.9** | **1880.0** | **3.1** | **0.172** |
| **Cattle** | **1** | **0.22** | **-0.16** |  |  | **5** | **-1091.8** | **2220.4** | **0.0** | **0.753** |
|  | **2** | **0.21** | **-** |  |  | **4** | **-1096.6** | **2222.7** | **2.2** | **0.247** |
| **Wild boars** | **1** | **0.41** | **-** |  |  | **4** | **-884.2** | **1797.2** | **0.0** | **0.943** |
| **2** | **0.41** | **-0.07** |  |  | **5** | **-883.5** | **1802.8** | **5.6** | **0.057** |
| **Pz horses** | **1** | **0.92** | **0.90** |  |  | **5** | **-875.9** | **1788.7** | **0.0** | **1.000** |
| 2 | 0.77 | - |  |  | 4 | -977.3 | 1984.1 | 195.4 | 0.000 |