|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Birds** | | | | | |
| ***SMD*** | | | | | |
| Q=2804.93 | P<0.0001 |  | | | |
| *Variance* | *Estimate* | *SQRT* | *I2* | *95% CIs* | *n* |
| Study ID | 0.59 | 0.77 | 0.73 | 0.63, 0.80 | 50 |
| Species Name | 0 | 0.01 | 0 | 0, 0 | 106 |
| Obs | 0.16 | 0.40 |  |  | 483 |
| Phylo |  |  | 0 | 0, 0 |  |
| Total |  |  | 0.93 | 0.90, 0.95 |  |
| *Model* | *Estimate* | *95% CIs* | *t-score* | *Prediction Interval* | *p-value* |
|  | -0.14 | -0.36, 0.09 | -1.17 | -1.82, 1.57 | 0.24 |
| ***lnCVR*** |  |  |  |  |  |
| Q=3820.60 | P<0.0001 |  |  |  |  |
| *Variance* | *Estimate* | *SQRT* | *I2* | *95% CIs* | *n* |
| Study ID | 0.01 | 0.12 | 0.02 | 0.01, 0.02 | 50 |
| Species Name | 0.36 | 0.60 | 0.44 | 0.37, 0.51 | 106 |
| Obs | 0.40 | 0.63 |  |  | 483 |
| Phylo |  |  | 0.47 | 0.39, 0.54 |  |
| Total |  |  | 0.94 | 0.94, 0.95 |  |
| *Model* | *Estimate* | *95% CIs* | *t-score* | *Prediction Interval* | *p-value* |
|  | -0.14 | -0.65, 0.37 | -0.56 | -1.94, 1.64 | 0.58 |
| **Fish** | | | | | |
| ***SMD*** | | | | | |
| Q=1385.84 | P<0.0001 |  | | | |
| *Variance* | *Estimate* | *SQRT* | *I2* | *95% CIs* | *n* |
| Study ID | 0.04 | 0.21 | 0.14 | 0.09, 0.19 | 44 |
| Species Name | 0.04 | 0.20 | 0.13 | 0.07, 0.20 | 22 |
| Obs | 0.13 | 0.36 |  |  | 493 |
| Phylo |  |  | 0.19 | 0.11, 0.29 |  |
| Total |  |  | 0.70 | 0.66, 0.73 |  |
| *Model* | *Estimate* | *95% CIs* | *t-score* | *Prediction Interval* | *p-value* |
|  | -0.04 | -0.35, 0.28 | -0.24 | -1.00, 0.93 | 0.81 |
| ***lnCVR*** |  |  |  |  |  |
| Q=924.06 | P<0.0001 |  |  |  |  |
| *Variance* | *Estimate* | *SQRT* | *I2* | *95% CIs* | *n* |
| Study ID | 0.01 | 0.09 | 0.04 | 0.03, 0.06 | 44 |
| Species Name | 0.00 | 0.00 | 0 | 0, 0 | 22 |
| Obs | 0.08 | 0.29 |  |  | 493 |
| Phylo |  |  | 0 | 0, 0 |  |
| Total |  |  | 0.49 | 0.46, 0.52 |  |
| *Model* | *Estimate* | *95% CIs* | *t-score* | *Prediction Interval* | *p-value* |
|  | -0.04 | -0.09, 0.01 | -1.44 | -0.64, 0.56 | 0.15 |
| **Inverts** | | | | | |
| ***SMD*** | | | | | |
| Q=2678.23 | P<0.0001 |  | | | |
| *Variance* | *Estimate* | *SQRT* | *I2* | *95% CIs* | *n* |
| Study ID | 0.90 | 0.95 | 0.70 | 0.60, 0.79 | 37 |
| Species Name | 0 | 0 | 0 | 0, 0 | 36 |
| Obs | 0.31 | 0.56 |  |  | 422 |
| Phylo |  |  | 0 | 0, 0 |  |
| Total |  |  | 0.96 | 0.94, 0.97 |  |
| *Model* | *Estimate* | *95% CIs* | *t-score* | *Prediction Interval* | *p-value* |
|  | 0.30 | -0.02, 0.62 | 1.82 | -1.89, 2.48 | 0.07 |
| ***lnCVR*** |  |  |  |  |  |
| Q=1459.70 | P<0.0001 |  |  |  |  |
| *Variance* | *Estimate* | *SQRT* | *I2* | *95% CIs* | *n* |
| Study ID | 0.04 | 0.20 | 0.20 | 0.13, 0.28 | 37 |
| Species Name | 0 | 0.06 | 0.02 | 0.01, 0.02 | 36 |
| Obs | 0.11 | 0.33 |  |  | 422 |
| Phylo |  |  | 0.02 | 0.01, 0.03 |  |
| Total |  |  | 0.76 | 0.74, 0.79 |  |
| *Model* | *Estimate* | *95% CIs* | *t-score* | *Prediction Interval* | *p-value* |
|  | 0.00 | -0.11, 0.10 | -0.04 | -0.77, 0.76 | 0.97 |
| **Mammals** | | | | | |
| ***SMD*** | | | | | |
| Q=2218.15 | P<0.0001 |  | | | |
| *Variance* | *Estimate* | *SQRT* | *I2* | *95% CIs* | *n* |
| Study ID | 0.10 | 0.31 | 0.23 | 0.16, 0.29 | 61 |
| Species Name | 0.08 | 0.29 | 0.19 | 0.13, 0.26 | 45 |
| Obs | 0.16 | 0.39 |  |  | 674 |
| Phylo |  |  | 0.24 | 0.16, 0.33 |  |
| Total |  |  | 0.78 | 0.75, 0.81 |  |
| *Model* | *Estimate* | *95% CIs* | *t-score* | *Prediction Interval* | *p-value* |
|  | 0.08 | -0.28, 0.45 | 0.44 | -1.10, 1.27 | 0.66 |
| ***lnCVR*** |  |  |  |  |  |
| Q=1074.96 | P<0.0001 |  |  |  |  |
| *Variance* | *Estimate* | *SQRT* | *I2* | *95% CIs* | *n* |
| Study ID | 0.03 | 0.18 | 0.17 | 0.12, 0.22 | 61 |
| Species Name | 0.05 | 0.22 | 0.25 | 0.18, 0.34 | 45 |
| Obs | 0.03 | 0.19 |  |  | 674 |
| Phylo |  |  | 0.43 | 0.31, 0.53 |  |
| Total |  |  | 0.60 | 0.55, 0.65 |  |
| *Model* | *Estimate* | *95% CIs* | *t-score* | *Prediction Interval* | *p-value* |
|  | 0.07 | -0.20, 0.34 | 0.51 | -0.64, 0.79 | 0.61 |
| **Reptiles / Amphibians** | | | | | |
| ***SMD*** | | | | | |
| Q=163.37 | P<0.0001 |  | | | |
| *Variance* | *Estimate* | *SQRT* | *I2* | *95% CIs* | *n* |
| Study ID | 0.03 | 0.17 | 0.15 | 0.06, 0.28 | 11 |
| Species Name | 0 | 0.01 | 0 | 0, 0 | 10 |
| Obs | 0.05 | 0.23 |  |  | 95 |
| Phylo |  |  | 0 | 0, 0 |  |
| Total |  |  | 0.45 | 0.36, 0.54 |  |
| *Model* | *Estimate* | *95% CIs* | *t-score* | *Prediction Interval* | *p-value* |
|  | 0.07 | -0.08, 0.22 | 0.94 | -0.52, 0.67 | 0.35 |
| ***lnCVR*** |  |  |  |  |  |
| Q=77.72 | P=0.89 |  |  |  |  |
| *Variance* | *Estimate* | *SQRT* | *I2* | *95% CIs* | *n* |
| Study ID | 0 | 0.02 | 0 | 0, 0 | 11 |
| Species Name | 0 | 0.02 | 0 | 0, 0.01 | 10 |
| Obs | 0 | 0 |  |  | 95 |
| Phylo |  |  | 0.65 | 0.34, 0.87 |  |
| Total |  |  | 0.01 | 0.00, 0.01 |  |
| *Model* | *Estimate* | *95% CIs* | *t-score* | *Prediction Interval* | *p-value* |
|  | 0.05 | -0.04, 0.14 | 1.13 | -0.06, 0.15 | 0.26 |

S2 Random Effects Multilevel Models – Personality traits and taxonomic group.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Birds** | | | | | |
| ***SMD*** | | | | | |
| QE=2670.89 | P<0.0001 |  | | | |
| F=3.76 | P=0.002 |  | | | |
| *Variance* | *Estimate* | *SQRT* | *n* |  |  |
| Study ID | 0.59 | 0.77 | 50 |  |  |
| Species Name | 0 | 0.01 | 106 |  |  |
| Obs | 0.16 | 0.40 | 483 |  |  |
| *Personality Trait* | *Estimate* | *95% CIs* | *t-score* | *Prediction Interval* | *p-value* |
| Activity | -0.14 | -0.43, 0.15 | -0.93 | -1.90, 1.62 | 0.35 |
| Aggression | -0.14 | -0.43, 0.14 | -0.97 | -1.90, 1.62 | 0.33 |
| Boldness | -0.19 | -0.44, 0.06 | -1.50 | -1.95, 1.56 | 0.13 |
| Exploration | 0.09 | -0.18, 0.36 | 0.66 | -1.67, 1.85 | 0.51 |
| **Sociality** | **-0.68** | **-1.16, -0.21** | **-2.81** | **-2.48, 1.12** | **0.005\*\*** |
| ***lnCVR*** |  |  |  |  |  |
| QE=3711.80 | P<0.0001 |  |  |  |  |
| F=1.17 | P=0.32 |  |  |  |  |
| *Variance* | *Estimate* | *SQRT* | *n* |  |  |
| Study ID | 0.31 | 0.55 | 50 |  |  |
| Species Name | 0 | 0 | 106 |  |  |
| Obs | 0.39 | 0.62 | 483 |  |  |
| *Personality Trait* | *Estimate* | *95% CIs* | *t-score* | *Prediction Interval* | *p-value* |
| Activity | 0.05 | -0.24, 0.34 | 0.36 | -1.61, 1.71 | 0.72 |
| Aggression | -0.07 | -0.39, 0.25 | -0.41 | -1.74, 1.60 | 0.68 |
| Boldness | -0.01 | -0.23, 0.22 | -0.04 | -1.66, 1.65 | 0.97 |
| Exploration | -0.25 | -0.50, 0.01 | -1.92 | -1.91, 1.41 | 0.06 |
| Sociality | 0.14 | -0.38, 0.66 | 0.53 | -1.58, 1.86 | 0.60 |
| **Fish** | | | | | |
| ***SMD*** | | | | | |
| QE=1347.79 | P<0.0001 |  | | | |
| F=1.80 | P=0.11 |  | | | |
| *Variance* | *Estimate* | *SQRT* | *n* |  |  |
| Study ID | 0.03 | 0.17 | 44 |  |  |
| Species Name | 0.10 | 0.32 | 22 |  |  |
| Obs | 0.13 | 0.37 | 493 |  |  |
| *Personality Trait* | *Estimate* | *95% CIs* | *t-score* | *Prediction Interval* | *p-value* |
| Activity | -0.16 | -0.65, 0.33 | -0.63 | -1.28, 0.97 | 0.53 |
| Aggression | -0.05 | -0.52, 0.42 | -0.22 | -1.17, 1.06 | 0.83 |
| Boldness | -0.16 | -0.63, 0.32 | -0.65 | -1.27, 0.96 | 0.52 |
| Exploration | -0.05 | -0.54, 0.44 | -0.20 | -1.17, 1.07 | 0.84 |
| Sociality | -0.40 | -1.53, 0.73 | -1.55 | -1.53, 0.73 | 0.12 |
| ***lnCVR*** |  |  |  |  |  |
| QE=915.16 | P<0.0001 |  |  |  |  |
| F=1.14 | P=0.34 |  |  |  |  |
| *Variance* | *Estimate* | *SQRT* | *n* |  |  |
| Study ID | 0.01 | 0.10 | 44 |  |  |
| Species Name | 0 | 0 | 22 |  |  |
| Obs | 0.08 | 0.29 | 493 |  |  |
| *Personality Trait* | *Estimate* | *95% CIs* | *t-score* | *Prediction Interval* | *p-value* |
| Activity | -0.03 | -0.16, 0.09 | -0.49 | -0.65, 0.58 | 0.63 |
| **Aggression** | **-0.13** | **-0.25, -0.01** | **-2.10** | **-0.74, 0.49** | **0.04\*** |
| Boldness | -0.02 | -0.11, 0.06 | -0.54 | -0.63, 0.59 | 0.59 |
| Exploration | -0.03 | -0.65, 0.58 | -0.50 | -0.65, 0.58 | 0.62 |
| Sociality | 0.07 | -0.56, 0.69 | 0.72 | -0.56, 0.69 | 0.47 |
| **Inverts** | | | | | |
| ***SMD*** | | | | | |
| QE=2657.20 | P<0.0001 |  | | | |
| F=1.46 | P=0.02 |  | | | |
| *Variance* | *Estimate* | *SQRT* | *n* |  |  |
| Study ID | 0.92 | 0.96 | 37 |  |  |
| Species Name | 0 | 0 | 36 |  |  |
| Obs | 0.32 | 0.56 | 422 |  |  |
| *Personality Trait* | *Estimate* | *95% CIs* | *t-score* | *Prediction Interval* | *p-value* |
| Activity | 0.33 | -0.04, 0.70 | 1.77 | -1.89, 2.55 | 0.08 |
| Aggression | 0.35 | -0.36, 1.06 | 0.97 | -1.95, 2.65 | 0.33 |
| Boldness | 0.31 | -0.05, 0.67 | 1.70 | -1.91, 2.53 | 0.09 |
| Exploration | 0.00 | -0.44, 0.45 | 0.02 | -2.23, 2.37 | 0.98 |
| Sociality | 0.39 | -0.38, 1.16 | 1.00 | -1.93, 2.71 | 0.32 |
| ***lnCVR*** |  |  |  |  |  |
| QE=1427.81 | P<0.0001 |  |  |  |  |
| F=1.03 | P=0.40 |  |  |  |  |
| *Variance* | *Estimate* | *SQRT* | *n* |  |  |
| Study ID | 0.03 | 0.18 | 37 |  |  |
| Species Name | 0 | 0 | 36 |  |  |
| Obs | 0.09 | 0.30 | 422 |  |  |
| *Personality Trait* | *Estimate* | *95% CIs* | *t-score* | *Prediction Interval* | *p-value* |
| Activity | -0.06 | -0.19, 0.08 | -0.83 | -0.82, 0.70 | 0.40 |
| Aggression | 0.17 | -0.10, 0.43 | 1.22 | -0.63, 0.96 | 0.22 |
| Boldness | -0.04 | -0.15, 0.08 | -0.61 | -0.79, 0.72 | 0.55 |
| Exploration | 0.07 | -0.12, 0.26 | 0.73 | -0.70, 0.84 | 0.47 |
| Sociality | 0.27 | -0.14, 0.68 | 1.29 | -0.59, 1.12 | 0.20 |
| **Mammals** | | | | | |
| ***SMD*** | | | | | |
| QE=2158.51 | P<0.0001 |  | | | |
| F=1.40 | P=0.22 |  | | | |
| *Variance* | *Estimate* | *SQRT* | *n* |  |  |
| Study ID | 0.13 | 0.36 | 61 |  |  |
| Species Name | 0.07 | 0.26 | 45 |  |  |
| Obs | 0.15 | 0.39 | 674 |  |  |
| *Personality Trait* | *Estimate* | *95% CIs* | *t-score* | *Prediction Interval* | *p-value* |
| Activity | -0.17 | -0.56, 0.23 | -0.84 | -1.38, 1.05 | 0.40 |
| Aggression | 0.10 | -0.27, 0.48 | 0.55 | -1.10, 1.31 | 0.59 |
| Boldness | 0.15 | -0.20, 0.50 | 0.85 | -1.05, 1.35 | 0.39 |
| Exploration | 0.05 | -0.31, 0.41 | 0.26 | -1.56, 1.25 | 0.79 |
| Sociality | 0.09 | -0.29, 0.47 | 0.46 | -1.12, 1.30 | 0.64 |
| ***lnCVR*** |  |  |  |  |  |
| QE=1044.60 | P<0.0001 |  |  |  |  |
| F=0.26 | P=0.93 |  |  |  |  |
| *Variance* | *Estimate* | *SQRT* | *n* |  |  |
| Study ID | 0.03 | 0.18 | 61 |  |  |
| Species Name | 0 | 0 | 45 |  |  |
| Obs | 0.09 | 0.30 | 674 |  |  |
| *Personality Trait* | *Estimate* | *95% CIs* | *t-score* | *Prediction Interval* | *p-value* |
| Activity | 0.10 | -0.20, 0.41 | 0.67 | -0.64, 0.85 | 0.50 |
| Aggression | 0.11 | -0.20, 0.42 | 0.69 | -0.64, 0.85 | 0.49 |
| Boldness | 0.06 | -0.22, 0.34 | 0.43 | -0.67, 0.79 | 0.67 |
| Exploration | 0.04 | -0.25, 0.34 | 0.28 | -0.69, 0.78 | 0.78 |
| Sociality | 0.06 | -0.25, 0.37 | 0.39 | -0.68, 0.80 | 0.70 |
| **Reptiles / Amphibians** | | | | | |
| ***SMD*** | | | | | |
| QE=151.82 | P<0.0001 |  | | | |
| F=1.29 | P=0.28 |  | | | |
| *Variance* | *Estimate* | *SQRT* | *n* |  |  |
| Study ID | 0.02 | 0.13 | 11 |  |  |
| Species Name | 0 | 0 | 10 |  |  |
| Obs | 0.06 | 0.24 | 95 |  |  |
| *Personality Trait* | *Estimate* | *95% CIs* | *t-score* | *Prediction Interval* | *p-value* |
| Activity | -0.05 | -0.45, 0.36 | -0.23 | -0.72, 0.63 | 0.82 |
| Aggression | -0.07 | -0.32, 0.19 | -0.52 | -0.66, 0.53 | 0.60 |
| Boldness | 0.12 | -0.09, 0.33 | 1.11 | -0.46, 0.70 | 0.27 |
| **Exploration** | **0.25** | **0.05, 0.45** | **2.44** | **-0.33, 0.83** | **0.02\*** |
| Sociality | -0.05 | -0.60, 0.50 | -0.18 | -0.82, 0.73 | 0.86 |
| ***lnCVR*** |  |  |  |  |  |
| QE=73.79 | P=0.89 |  |  |  |  |
| F=1.31 | P=0.27 |  |  |  |  |
| *Variance* | *Estimate* | *SQRT* | *n* |  |  |
| Study ID | 0.04 | 0.20 | 11 |  |  |
| Species Name | 0 | 0 | 10 |  |  |
| Obs | 0 | 0 | 95 |  |  |
| *Personality Trait* | *Estimate* | *95% CIs* | *t-score* | *Prediction Interval* | *p-value* |
| Activity | -0.11 | -0.51, 0.29 | -0.53 | -0.67, 0.46 | 0.60 |
| Aggression | 0.33 | -0.05, 0.72 | 1.73 | -0.22, 0.89 | 0.09 |
| Boldness | 0.10 | -0.13, 0.33 | 0.83 | -0.36, 0.56 | 0.41 |
| Exploration | -0.10 | -0.35, 0.14 | -0.84 | -0.57, 0.36 | 0.40 |
| Sociality | -0.12 | -0.76, 0.52 | -0.38 | -0.87, 0.63 | 0.70 |

S3 Subset SSD Models – Activity (intercept) and SSD

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ***Activity*** |  |  |  |  |
| **Inverts** |  |  |  |  |
| ***SMD*** |  |  |  |  |
| QE = 1069.50 | P<0.0001 |  |  |  |
| F=0.67 | P=0.41 |  |  |  |
| *Variance* | *Estimate* | *SQRT* | *n* |  |
| Study ID | 2.23 | 1.49 | 18 |  |
| Species Name | 0 | 0.01 | 16 |  |
| Obs | 0.15 | 0.39 | 165 |  |
| *Model* | *Estimate* | *95% CIs* | *t-score* | *p-value* |
| Intercept | 0.31 | -0.42, 1.04 | 0.83 | 0.38 |
| SSD | -0.66 | -2.26, 0.93 | -0.82 | 0.70 |
| ***lnCVR*** |  |  |  |  |
| QE = 475.98 | P = 0.12 |  |  |  |
| F = 0.45 | P = 0.50 |  |  |  |
| *Variance* | *Estimate* | *SQRT* | *n* |  |
| Study ID | 0.12 | 0.35 | 18 |  |
| Species Name | 0 | 0 | 16 |  |
| Obs | 0.05 | 0.23 | 165 |  |
| *Model* | *Estimate* | *95% CIs* | *t-score* | *p-value* |
| Intercept | -0.04 | -0.25, 0.17 | -0.36 | 0.72 |
| SSD | 0.27 | -0.53, 1.07 | 0.67 | 0.50 |
| **Mammals** |  |  |  |  |
| ***SMD*** |  |  |  |  |
| QE = 321.40 | P<0.0001 |  |  |  |
| F=5.46 | P=0.02 |  |  |  |
| *Variance* | *Estimate* | *SQRT* | *n* |  |
| Study ID | 0.10 | 0.32 | 14 |  |
| Species Name | 2.13 | 1.46 | 12 |  |
| Obs | 0.21 | 0.45 | 84 |  |
| *Model* | *Estimate* | *95% CIs* | *t-score* | *p-value* |
| Intercept | 0.44 | -1.74, 2.62 | 0.40 | 0.69 |
| **SSD** | **-2.16** | **-3.99, -0.32** | **-2.34** | **0.02\*** |
| ***lnCVR*** |  |  |  |  |
| QE = 146.26 | P <0.0001 |  |  |  |
| F = 5.46 | P = 0.02 |  |  |  |
| *Variance* | *Estimate* | *SQRT* | *n* |  |
| Study ID | 0.03 | 0.32 | 14 |  |
| Species Name | 2.13 | 1.46 | 12 |  |
| Obs | 0.21 | 0.45 | 84 |  |
| *Model* | *Estimate* | *95% CIs* | *t-score* | *p-value* |
| Intercept | 0.05 | -0.15, 0.25 | 0.52 | 0.60 |
| SSD | 0.13 | -0.56, 0.81 | 0.36 | 0.72 |
| ***Aggression*** |  |  |  |  |
| **Fish** |  |  |  |  |
| ***SMD*** |  |  |  |  |
| QE=334.17 | P<0.0001 |  |  |  |
| F=0.23 | P=0.63 |  |  |  |
| *Variance* | *Estimate* | *SQRT* | *n* |  |
| Study ID | 0.02 | 0.14 | 16 |  |
| Species Name | 0.33 | 0.58 | 13 |  |
| Obs | 0.17 | 0.41 | 93 |  |
| *Model* | *Estimate* | *95% CIs* | *t-score* | *p-value* |
| Intercept | -0.16 | -0.96, 0.63 | -0.41 | 0.68 |
| SSD | 0.27 | -0.84, 1.37 | 0.48 | 0.63 |
| ***lnCVR*** |  |  |  |  |
| QE=68.27 | P=0.96 |  |  |  |
| F=0.15 | P=0.70 |  |  |  |
| *Variance* | *Estimate* | *SQRT* | *n* |  |
| Study ID | 0.02 | 0.15 | 16 |  |
| Species Name | 0 | 0 | 13 |  |
| Obs | 0 | 0 | 93 |  |
| *Model* | *Estimate* | *95% CIs* | *t-score* | *p-value* |
| **Intercept** | **-0.12** | **-0.23, 0.00** | **-1.95** | **0.05\*** |
| SSD | -0.13 | -0.81, 0.55 | -0.39 | 0.70 |
| **Mammals** |  |  |  |  |
| ***SMD*** |  |  |  |  |
| QE=313.78 | P<0.0001 |  |  |  |
| F=3.92 | P=0.05 |  |  |  |
| *Variance* | *Estimate* | *SQRT* | *n* |  |
| Study ID | 0 | 0 | 15 |  |
| Species Name | 0.69 | 0.83 | 13 |  |
| Obs | 0.14 | 0.38 | 85 |  |
| *Model* | *Estimate* | *95% CIs* | *t-score* | *p-value* |
| Intercept | -0.09 | -1.29, 1.10 | -0.16 | 0.88 |
| **SSD** | **1.36** | **-0.01, 2.73** | **1.98** | **0.05\*** |
| ***lnCVR*** |  |  |  |  |
| QE=201.50 | P<0.0001 |  |  |  |
| F=0.01 | P=0.94 |  |  |  |
| *Variance* | *Estimate* | *SQRT* | *n* |  |
| Study ID | 0.18 | 0.42 | 15 |  |
| Species Name | 0 | 0.01 | 13 |  |
| Obs | 0.15 | 0.39 | 85 |  |
| *Model* | *Estimate* | *95% CIs* | *t-score* | *p-value* |
| Intercept | 0.09 | -0.21, 0.39 | 0.59 | 0.56 |
| SSD | -0.05 | -1.43, 1.33 | -0.07 | 0.94 |
| ***Boldness*** |  |  |  |  |
| **Birds** |  |  |  |  |
| ***SMD*** |  |  |  |  |
| QE=1592.83 | P<0.0001 |  |  |  |
| F=0.15 | P=0.70 |  |  |  |
| *Variance* | *Estimate* | *SQRT* | *n* |  |
| Study ID | 1.82 | 1.35 | 21 |  |
| Species Name | 0 | 0.01 | 78 |  |
| Obs | 0.11 | 0.33 | 233 |  |
| *Model* | *Estimate* | *95% CIs* | *t-score* | *p-value* |
| Intercept | -0.27 | -0.87, 0.33 | -0.88 | 0.38 |
| SSD | -0.23 | -1.45, 0.98 | -0.38 | 0.70 |
| ***lnCVR*** |  |  |  |  |
| QE=256.10 | P=0.12 |  |  |  |
| F=0.59 | P=0.44 |  |  |  |
| *Variance* | *Estimate* | *SQRT* | *n* |  |
| Study ID | 0 | 0 | 21 |  |
| Species Name | 0 | 0.06 | 78 |  |
| Obs | 0 | 0 | 233 |  |
| *Model* | *Estimate* | *95% CIs* | *t-score* | *p-value* |
| Intercept | 0.03 | -0.04, 0.11 | 0.89 | 0.37 |
| SSD | 0.11 | -0.16, 0.37 | 0.77 | 0.44 |
| **Fish** |  |  |  |  |
| ***SMD*** |  |  |  |  |
| QE=614.58 | P<0.0001 |  |  |  |
| F=1.07 | P=0.30 |  |  |  |
| *Variance* | *Estimate* | *SQRT* | *n* |  |
| Study ID | 0.02 | 0.13 | 23 |  |
| Species Name | 0.03 | 0.16 | 12 |  |
| Obs | 0.06 | 0.24 | 172 |  |
| *Model* | *Estimate* | *95% CIs* | *t-score* | *p-value* |
| Intercept | -0.04 | -0.33, 0.25 | -0.28 | 0.78 |
| SSD | 0.10 | -0.31, 0.52 | 0.49 | 0.63 |
| ***lnCVR*** |  |  |  |  |
| QE=307.62 | P<0.0001 |  |  |  |
| F=0.24 | P=0.63 |  |  |  |
| *Variance* | *Estimate* | *SQRT* | *n* |  |
| Study ID | 0.18 | 0.42 | 23 |  |
| Species Name | 0 | 0.01 | 12 |  |
| Obs | 0.15 | 0.39 | 172 |  |
| *Model* | *Estimate* | *95% CIs* | *t-score* | *p-value* |
| Intercept | 0.09 | -0.21, 0.39 | 0.59 | 0.56 |
| SSD | -0.05 | -1.43, 1.33 | -0.07 | 0.94 |
| **Inverts** |  |  |  |  |
| ***SMD*** |  |  |  |  |
| QE=923.09 | P<0.0001 |  |  |  |
| F=0.46 | P=0.50 |  |  |  |
| *Variance* | *Estimate* | *SQRT* | *n* |  |
| Study ID | 0.90 | 0.31 | 22 |  |
| Species Name | 0 | 0 | 22 |  |
| Obs | 0.32 | 0.56 | 161 |  |
| *Model* | *Estimate* | *95% CIs* | *t-score* | *p-value* |
| Intercept | 0.18 | -0.03, 0.38 | 1.68 | 0.09 |
| SSD | 0.28 | -0.54, 1.10 | 0.68 | 0.50 |
| ***lnCVR*** |  |  |  |  |
| QE=561.57 | P<0.0001 |  |  |  |
| F=0.00 | P=0.95 |  |  |  |
| *Variance* | *Estimate* | *SQRT* | *n* |  |
| Study ID | 0.03 | 0.16 | 22 |  |
| Species Name | 0 | 0.01 | 22 |  |
| Obs | 0.10 | 0.32 | 161 |  |
| *Model* | *Estimate* | *95% CIs* | *t-score* | *p-value* |
| Intercept | -0.04 | -0.16, 0.09 | -0.58 | 0.56 |
| SSD | 0.02 | -0.47, 0.51 | 0.07 | 0.95 |
| **Mammals** |  |  |  |  |
| ***SMD*** |  |  |  |  |
| QE=402.76 | P<0.0001 |  |  |  |
| F=0.92 | P=0.34 |  |  |  |
| *Variance* | *Estimate* | *SQRT* | *n* |  |
| Study ID | 0.02 | 0.16 | 26 |  |
| Species Name | 0 | 0.05 | 26 |  |
| Obs | 0.15 | 0.39 | 163 |  |
| *Model* | *Estimate* | *95% CIs* | *t-score* | *p-value* |
| Intercept | 0.09 | -0.09, 0.27 | 0.96 | 0.34 |
| SSD | -0.16 | -0.50, 0.17 | -0.96 | 0.34 |
| ***lnCVR*** |  |  |  |  |
| QE=175.27 | P<0.0001 |  |  |  |
| F=0.88 | P=0.35 |  |  |  |
| *Variance* | *Estimate* | *SQRT* | *n* |  |
| Study ID | 0 | 0.03 | 26 |  |
| Species Name | 0 | 0 | 26 |  |
| Obs | 0.02 | 0.14 | 163 |  |
| *Model* | *Estimate* | *95% CIs* | *t-score* | *p-value* |
| Intercept | 0.07 | -0.03, 0.16 | 1.37 | 0.16 |
| SSD | 0.08 | -0.09, 0.25 | 0.94 | 0.35 |
| ***Exploration*** |  |  |  |  |
| **Mammals** |  |  |  |  |
| ***SMD*** |  |  |  |  |
| QE=658.46 | P<0.0001 |  |  |  |
| F=0.04 | P=0.85 |  |  |  |
| *Variance* | *Estimate* | *SQRT* | *n* |  |
| Study ID | 0.05 | 0.22 | 19 |  |
| Species Name | 0 | 0 | 16 |  |
| Obs | 0.13 | 0.36 | 213 |  |
| *Model* | *Estimate* | *95% CIs* | *t-score* | *p-value* |
| Intercept | 0.00 | -0.18, 0.18 | -0.02 | 0.99 |
| SSD | -0.05 | -0.60, 0.50 | -0.19 | 0.85 |
| ***lnCVR*** |  |  |  |  |
| QE=361.16 | P<0.0001 |  |  |  |
| F=0.27 | P=0.61 |  |  |  |
| *Variance* | *Estimate* | *SQRT* | *n* |  |
| Study ID | 0.02 | 0.14 | 19 |  |
| Species Name | 0.03 | 0.16 | 16 |  |
| Obs | 0.03 | 0.18 | 213 |  |
| *Model* | *Estimate* | *95% CIs* | *t-score* | *p-value* |
| Intercept | -0.06 | -0.36, 0.24 | -0.40 | 0.69 |
| SSD | 0.13 | -0.37, 0.64 | 0.52 | 0.61 |

S9 Sensitivity models – publication bias

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Birds** | | | | | |
| ***SMD*** | | | | | |
| QE=2670.88 | P<0.0001 |  | | | |
| F=3.20 | P=0.004 |  | | | |
| *Variance* | *Estimate* | *SQRT* | *n* |  |  |
| Study ID | 0.65 | 0.81 | 50 |  |  |
| Species Name | 0 | 0 | 106 |  |  |
| Obs | 0.14 | 0.38 | 483 |  |  |
| *Personality Trait* | *Estimate* | *95% CIs* | *t-score* | *p-value* |  |
| Activity | -0.20 | -0.54, 0.14 | -1.16 | 0.25 |  |
| Aggression | -0.21 | -0.56, 0.14 | -1.19 | 0.23 |  |
| Boldness | -0.26 | -0.57, 0.05 | -1.16 | 0.11 |  |
| Exploration | 0.03 | -0.29, 0.35 | 0.18 | 0.86 |  |
| **Sociality** | **-0.74** | **-1.25, -0.24** | **-2.88** | **0.004\*\*** |  |
| Precision | 0.01 | -0.02, 0.05 | 0.69 | 0.49 |  |
| ***lnCVR*** |  |  |  |  |  |
| QE=3683.35 | P<0.0001 |  |  |  |  |
| F=0.99 | P=0.43 |  |  |  |  |
| *Variance* | *Estimate* | *SQRT* | *n* |  |  |
| Study ID | 0.31 | 0.56 | 50 |  |  |
| Species Name | 0 | 0 | 106 |  |  |
| Obs | 0.39 | 0.62 | 483 |  |  |
| *Personality Trait* | *Estimate* | *95% CIs* | *t-score* | *p-value* |  |
| Activity | 0.04 | -0.29, 0.36 | 0.21 | 0.83 |  |
| Aggression | -0.09 | -0.43, 0.26 | -0.48 | 0.63 |  |
| Boldness | -0.03 | -0.30, 0.25 | -0.18 | 0.86 |  |
| Exploration | -0.27 | -0.58, 0.04 | -1.73 | 0.08 |  |
| Sociality | 0.12 | -0.42, 0.66 | 0.44 | 0.66 |  |
| Precision | 0.00 | -0.03, 0.04 | 0.26 | 0.80 |  |
| **Fish** | | | | | |
| ***SMD*** | | | | | |
| QE=1342.38 | P<0.0001 |  | | | |
| F=1.56 | P=0.16 |  | | | |
| *Variance* | *Estimate* | *SQRT* | *n* |  |  |
| Study ID | 0.03 | 0.17 | 44 |  |  |
| Species Name | 0.11 | 0.32 | 22 |  |  |
| Obs | 0.13 | 0.37 | 493 |  |  |
| *Personality Trait* | *Estimate* | *95% CIs* | *t-score* | *p-value* |  |
| Activity | -0.23 | -0.79, 0.33 | -0.81 | 0.42 |  |
| Aggression | -0.11 | -0.63, 0.41 | -0.43 | 0.67 |  |
| Boldness | -0.22 | -0.76, 0.31 | -0.82 | 0.41 |  |
| Exploration | -0.11 | -0.64, 0.42 | -0.40 | 0.69 |  |
| Sociality | -0.47 | -1.03, 0.09 | -1.64 | 0.10 |  |
| Precision | 0.02 | -0.05, 0.08 | 0.55 | 0.58 |  |
| ***lnCVR*** |  |  |  |  |  |
| QE=912.54 | P<0.0001 |  |  |  |  |
| F=0.98 | P=0.44 |  |  |  |  |
| *Variance* | *Estimate* | *SQRT* | *n* |  |  |
| Study ID | 0.01 | 0.10 | 44 |  |  |
| Species Name | 0 | 0 | 22 |  |  |
| Obs | 0.08 | 0.29 | 493 |  |  |
| *Personality Trait* | *Estimate* | *95% CIs* | *t-score* | *p-value* |  |
| Activity | -0.07 | -0.26, 0.13 | -0.67 | 0.50 |  |
| **Aggression** | -0.15 | -0.32, 0.01 | -1.83 | 0.07 |  |
| Boldness | -0.06 | -0.22, 0.11 | -0.67 | 0.50 |  |
| Exploration | -0.06 | -0.22, 0.11 | -0.68 | 0.50 |  |
| Sociality | 0.03 | -0.19, 0.26 | 0.29 | 0.77 |  |
| Precision | 0.01 | -0.03, 0.05 | 0.46 | 0.65 |  |
| **Inverts** | | | | | |
| ***SMD*** | | | | | |
| QE=2656.83 | P<0.0001 |  | | | |
| F=2.58 | P=0.02 |  | | | |
| *Variance* | *Estimate* | *SQRT* | *n* |  |  |
| Study ID | 0.87 | 0.93 | 37 |  |  |
| Species Name | 0 | 0 | 36 |  |  |
| Obs | 0.32 | 0.57 | 422 |  |  |
| *Personality Trait* | *Estimate* | *95% CIs* | *t-score* | *p-value* |  |
| **Activity** | **0.62** | **0.21, 1.03** | **2.95** | **0.003\*\*** |  |
| Aggression | 0.66 | -0.08, 1.39 | 1.76 | 0.08 |  |
| **Boldness** | **0.63** | **0.22, 1.05** | **2.99** | **0.003\*\*** |  |
| Exploration | 0.33 | -0.17, 0.82 | 1.30 | 0.19 |  |
| Sociality | 0.75 | -0.06, 1.56 | 1.83 | 0.07 |  |
| **Precision** | **-0.08** | **-0.13, -0.02** | **-2.84** | **0.005\*\*** |  |
| ***lnCVR*** |  |  |  |  |  |
| QE=1427.27 | P<0.0001 |  |  |  |  |
| F=0.87 | P=0.52 |  |  |  |  |
| *Variance* | *Estimate* | *SQRT* | *n* |  |  |
| Study ID | 0.04 | 0.19 | 37 |  |  |
| Species Name | 0 | 0 | 36 |  |  |
| Obs | 0.11 | 0.33 | 422 |  |  |
| *Personality Trait* | *Estimate* | *95% CIs* | *t-score* | *p-value* |  |
| Activity | -0.07 | -0.23, 0.09 | -0.84 | 0.40 |  |
| Aggression | 0.16 | -0.13, 0.44 | 0.19 | 0.85 |  |
| Boldness | -0.05 | -0.21, 0.11 | -0.30 | 0.76 |  |
| Exploration | 0.06 | -0.16, 0.27 | 0.56 | 0.58 |  |
| Sociality | 0.26 | -0.17, 0.68 | 1.41 | 0.16 |  |
| Precision | 0.00 | -0.02, 0.03 | -0.03 | 0.97 |  |
| **Mammals** | | | | | |
| ***SMD*** | | | | | |
| QE=2147.01 | P<0.0001 |  | | | |
| F=1.36 | P=0.23 |  | | | |
| *Variance* | *Estimate* | *SQRT* | *n* |  |  |
| Study ID | 0.13 | 0.36 | 61 |  |  |
| Species Name | 0.05 | 0.23 | 45 |  |  |
| Obs | 0.15 | 0.39 | 674 |  |  |
| *Personality Trait* | *Estimate* | *95% CIs* | *t-score* | *p-value* |  |
| Activity | -0.05 | -0.47, 0.37 | -0.24 | 0.81 |  |
| Aggression | 0.23 | -0.18, 0.64 | 1.10 | 0.27 |  |
| Boldness | 0.27 | -0.12, 0.65 | 1.37 | 0.17 |  |
| Exploration | 0.17 | -0.23, 0.56 | 0.82 | 0.41 |  |
| Sociality | 0.22 | -0.20, 0.63 | 1.02 | 0.31 |  |
| Precision | -0.03 | -0.09, 0.03 | -1.04 | 0.30 |  |
| ***lnCVR*** |  |  |  |  |  |
| QE=1039.19 | P<0.0001 |  |  |  |  |
| F=0.26 | P=0.95 |  |  |  |  |
| *Variance* | *Estimate* | *SQRT* | *n* |  |  |
| Study ID | 0.04 | 0.19 | 61 |  |  |
| Species Name | 0.04 | 0.21 | 45 |  |  |
| Obs | 0.04 | 0.19 | 674 |  |  |
| *Personality Trait* | *Estimate* | *95% CIs* | *t-score* | *p-value* |  |
| Activity | 0.08 | -0.23, 0.39 | 0.48 | 0.63 |  |
| Aggression | 0.08 | -0.23, 0.39 | 0.51 | 0.61 |  |
| Boldness | 0.03 | -0.26, 0.32 | 0.21 | 0.83 |  |
| Exploration | 0.01 | -0.29, 0.31 | 0.09 | 0.93 |  |
| Sociality | 0.03 | -0.28, 0.34 | 0.20 | 0.84 |  |
| Precision | 0.01 | -0.02, 0.03 | 0.51 | 0.61 |  |
| **Reptiles / Amphibians** | | | | | |
| ***SMD*** | | | | | |
| QE=149.09 | P<0.0001 |  | | | |
| F=1.14 | P=0.35 |  | | | |
| *Variance* | *Estimate* | *SQRT* | *n* |  |  |
| Study ID | 0.03 | 0.16 | 11 |  |  |
| Species Name | 0 | 0 | 10 |  |  |
| Obs | 0.05 | 0.23 | 95 |  |  |
| *Personality Trait* | *Estimate* | *95% CIs* | *t-score* | *p-value* |  |
| Activity | 0.66 | -0.43, 1.74 | 1.20 | 0.23 |  |
| Aggression | 0.80 | -0.51, 2.11 | 1.21 | 0.23 |  |
| Boldness | 0.78 | -0.19, 1.76 | 1.60 | 0.11 |  |
| Exploration | 0.87 | -0.06, 1.79 | 1.86 | 0.07 |  |
| Sociality | 0.60 | -0.45, 1.66 | 1.14 | 0.26 |  |
| Precision | -0.23 | -0.56, 0.10 | -1.40 | 0.17 |  |
| ***lnCVR*** |  |  |  |  |  |
| QE=73.63 | P=0.88 |  |  |  |  |
| F=1.10 | P=0.37 |  |  |  |  |
| *Variance* | *Estimate* | *SQRT* | *n* |  |  |
| Study ID | 0.04 | 0.20 | 11 |  |  |
| Species Name | 0 | 0 | 10 |  |  |
| Obs | 0 | 0 | 95 |  |  |
| *Personality Trait* | *Estimate* | *95% CIs* | *t-score* | *p-value* |  |
| Activity | -0.14 | -0.76, 0.49 | -0.43 | 0.67 |  |
| Aggression | 0.32 | -0.19, 0.82 | 1.24 | 0.22 |  |
| Boldness | 0.07 | -0.42, 0.56 | 0.28 | 0.78 |  |
| Exploration | -0.13 | -0.55, 0.30 | -0.59 | 0.56 |  |
| Sociality | -0.14 | -0.85, 0.56 | -0.40 | 0.69 |  |
| Precision | 0.01 | -0.12, 0.14 | 0.12 | 0.90 |  |

S9 Sensitivity models – scores

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Birds** | | | | | |
| ***SMD*** | | | | | |
| Q=2723.54 | P<0.0001 |  | | | |
| F=0.25 | P=0.62 |  | | | |
| *Variance* | *Estimate* | *SQRT* | *n* |  |  |
| Study ID | 0.59 | 0.77 | 50 |  |  |
| Species Name | 0 | 0.01 | 106 |  |  |
| Obs | 0.16 | 0.40 | 483 |  |  |
| *Model* | *Estimate* | *95% CIs* | *t-score* | *p-value* | *k* |
| Intercept | -0.12 | -0.352, 0.11 | -1.02 | 0.31 | 426 |
| Scores | -0.06 | -0.30, 0.18 | -0.50 | 0.62 | 57 |
| ***lnCVR*** | | | | | |
| Q=3819.02 | P<0.0001 |  | | | |
| F=0.02 | P=0.88 |  | | | |
| *Variance* | *Estimate* | *SQRT* | *n* |  |  |
| Study ID | 0.01 | 0.12 | 50 |  |  |
| Species Name | 0.36 | 0.6 | 106 |  |  |
| Obs | 0.4 | 0.63 | 483 |  |  |
| *Model* | *Estimate* | *95% CIs* | *t-score* | *p-value* | *k* |
| Intercept | -0.15 | -0.66, 0.36 | -0.57 | 0.57 | 426 |
| Scores | 0.02 | -0.24, 0.28 | 0.16 | 0.88 | 57 |
| **Fish** | | | | | |
| ***SMD*** | | | | | |
| Q=1380.98 | P<0.0001 |  | | | |
| F=0.62 | P=0.43 |  | | | |
| *Variance* | *Estimate* | *SQRT* | *n* |  |  |
| Study ID | 0.04 | 0.21 | 44 |  |  |
| Species Name | 0.04 | 0.21 | 22 |  |  |
| Obs | 0.13 | 0.36 | 493 |  |  |
| *Model* | *Estimate* | *95% CIs* | *t-score* | *p-value* | *k* |
| Intercept | -0.07 | -0.40, 0.27 | -0.4 | 0.69 | 435 |
| Scores | 0.08 | -0.12, 0.28 | 0.79 | 0.43 | 58 |
| ***lnCVR*** | | | | | |
| Q=915.16 | P<0.0001 |  | | | |
| F=1.32 | P=0.25 |  | | | |
| *Variance* | *Estimate* | *SQRT* | *n* |  |  |
| Study ID | 0.01 | 0.07 | 44 |  |  |
| Species Name | 0 | 0 | 22 |  |  |
| Obs | 0.09 | 0.29 | 493 |  |  |
| *Model* | *Estimate* | *95% CIs* | *t-score* | *p-value* | *k* |
| Intercept | -0.03 | -0.08, 0.03 | -0.98 | 0.33 | 435 |
| Scores | -0.08 | -0.22, 0.06 | -1.15 | 0.25 | 58 |
| **Inverts** | | | | | |
| ***SMD*** | | | | | |
| Q=2891.60 | P<0.0001 |  | | | |
| F=4.45 | P=0.04 |  | | | |
| *Variance* | *Estimate* | *SQRT* | *n* |  |  |
| Study ID | 0.73 | 0.85 | 44 |  |  |
| Species Name | 0 | 0 | 41 |  |  |
| Obs | 0.27 | 0.52 | 483 |  |  |
| *Model* | *Estimate* | *95% CIs* | *t-score* | *p-value* | *k* |
| **Intercept** | **0.3** | **0.02, 0.57** | **2.12** | **0.03\*** | **422** |
| **Scores** | **-0.29** | **-0.57, -0.02** | **-2.11** | **0.04\*** | **61** |
| ***lnCVR*** | | | | | |
| Q=1536.77 | P<0.0001 |  | | | |
| F=1.92 | P=0.17 |  | | | |
| *Variance* | *Estimate* | *SQRT* | *n* |  |  |
| Study ID | 0.04 | 0.2 | 44 |  |  |
| Species Name | 0 | 0 | 41 |  |  |
| Obs | 0.09 | 0.3 | 483 |  |  |
| *Model* | *Estimate* | *95% CIs* | *t-score* | *p-value* | *k* |
| Intercept | 0.00 | -0.08, 0.08 | 0.00 | 0.999 | 422 |
| Scores | -0.11 | -0.26, 0.05 | -1.38 | 0.17 | 61 |
| **Mammals** | | | | | |
| ***SMD*** | | | | | |
| Q=2190.73 | P<0.0001 |  | | | |
| F=2.64 | P=0.10 |  | | | |
| *Variance* | *Estimate* | *SQRT* | *n* |  |  |
| Study ID | 0.1 | 0.32 | 61 |  |  |
| Species Name | 0.07 | 0.26 | 45 |  |  |
| Obs | 0.16 | 0.39 | 674 |  |  |
| *Model* | *Estimate* | *95% CIs* | *t-score* | *p-value* | *k* |
| Intercept | 0.13 | -0.21, 0.48 | 0.75 | 0.45 | 582 |
| Scores | -0.21 | -0.47, 0.04 | -1.62 | 0.10 | 92 |
| ***lnCVR*** | | | | | |
| Q=1074.89 | P<0.0001 |  | | | |
| F=0.14 | P=0.71 |  | | | |
| *Variance* | *Estimate* | *SQRT* | *n* |  |  |
| Study ID | 0.03 | 0.18 | 61 |  |  |
| Species Name | 0.05 | 0.23 | 45 |  |  |
| Obs | 0.03 | 0.19 | 674 |  |  |
| *Model* | *Estimate* | *95% CIs* | *t-score* | *p-value* | *k* |
| Intercept | 0.08 | -0.20, 0.36 | 0.55 | 0.58 | 582 |
| Scores | -0.03 | -0.22, 0.15 | -0.38 | 0.71 | 92 |
| **Reptiles / Amphibians** | | | | | |
| ***SMD*** | | | | | |
| Q=163.14 | P<0.0001 |  | | | |
| F=0.17 | P=0.68 |  | | | |
| *Variance* | *Estimate* | *SQRT* | *n* |  |  |
| Study ID | 0.03 | 0.19 | 11 |  |  |
| Species Name | 0 | 0.01 | 10 |  |  |
| Obs | 0.06 | 0.23 | 95 |  |  |
| *Model* | *Estimate* | *95% CIs* | *t-score* | *p-value* | *k* |
| Intercept | 0.06 | -0.11, 0.23 | 0.70 | 0.49 | 92 |
| Scores | -0.42 | -0.44, 0.67 | 0.42 | 0.68 | 3 |
| ***lnCVR*** | | | | | |
| Q=77.56 | P=0.88 |  | | | |
| F=0.23 | P=0.63 |  | | | |
| *Variance* | *Estimate* | *SQRT* | *n* |  |  |
| Study ID | 0 | 0.01 | 11 |  |  |
| Species Name | 0 | 0.05 | 10 |  |  |
| Obs | 0 | 0.01 | 95 |  |  |
| *Model* | *Estimate* | *95% CIs* | *t-score* | *p-value* | *k* |
| Intercept | 0.06 | -0.04, 0.16 | 1.15 | 0.26 | 92 |
| Scores | -0.09 | -0.46, 0.28 | -0.48 | 0.63 | 3 |

S9 Sensitivity models – D matrices rho = 0.8, intercept only models

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Birds** | | | | | |
| ***SMD*** | | | | | |
| Q=2804.93 | P<0.0001 |  | | | |
| *Variance* | *Estimate* | *SQRT* | *n* |  |  |
| Study ID | 0.45 | 0.67 | 50 |  |  |
| Species Name | 0 | 0.01 | 106 |  |  |
| Obs | 0.27 | 0.52 | 483 |  |  |
| *Model* | *Estimate* | *95% CIs* | *t-score* | *Prediction Interval* | *p-value* |
|  | -0.12 | -0.34, 0.97 | -1.09 | -1.80, 1.55 | 0.27 |
| ***lnCVR*** | | | | | |
| Q=3820.60 | P<0.0001 |  | | | |
| *Variance* | *Estimate* | *SQRT* | *n* |  |  |
| Study ID | 0 | 0 | 50 |  |  |
| Species Name | 0 | 0 | 106 |  |  |
| Obs | 1.26 | 1.12 | 483 |  |  |
| *Model* | *Estimate* | *95% CIs* | *t-score* | *Prediction Interval* | *p-value* |
|  | -0.05 | -0.23, 0.13 | -0.54 | -2.26, 2.16 | 0.59 |
| **Fish** | | | | | |
| ***SMD*** | | | | | |
| Q=1385.84 | P<0.0001 |  | | | |
| *Variance* | *Estimate* | *SQRT* | *n* |  |  |
| Study ID | 0.01 | 0.1 | 44 |  |  |
| Species Name | 0.02 | 0.13 | 22 |  |  |
| Obs | 0.26 | 0.51 | 493 |  |  |
| *Model* | *Estimate* | *95% CIs* | *t-score* | *Prediction Interval* | *p-value* |
|  | 0.05 | -0.19, 0.28 | 0.41 | -1.02, 1.12 | 0.68 |
| ***lnCVR*** | | | | | |
| Q=924.06 | P<0.0001 |  | | | |
| *Variance* | *Estimate* | *SQRT* | *n* |  |  |
| Study ID | 0 | 0 | 44 |  |  |
| Species Name | 0 | 0 | 22 |  |  |
| Obs | 0.09 | 0.31 | 493 |  |  |
| *Model* | *Estimate* | *95% CIs* | *t-score* | *Prediction Interval* | *p-value* |
|  | -0.03 | -0.09, 0.03 | -0.98 | -0.64, 0.57 | 0.33 |
| **Inverts** | | | | | |
| ***SMD*** | | | | | |
| Q=2678.23 | P<0.0001 |  | | | |
| *Variance* | *Estimate* | *SQRT* | *n* |  |  |
| Study ID | 0.9 | 0.95 | 37 |  |  |
| Species Name | 0 | 0 | 36 |  |  |
| Obs | 0.77 | 0.88 | 422 |  |  |
| *Model* | *Estimate* | *95% CIs* | *t-score* | *Prediction Interval* | *p-value* |
|  | 0.31 | -0.05, 0.67 | 1.69 | -2.26, 2.87 | 0.09 |
| ***lnCVR*** | | | | | |
| Q=1459.70 | P<0.0001 |  | | | |
| *Variance* | *Estimate* | *SQRT* | *n* |  |  |
| Study ID | 0.01 | 0.11 | 37 |  |  |
| Species Name | 0.01 | 0.08 | 36 |  |  |
| Obs | 0.24 | 0.49 | 422 |  |  |
| *Model* | *Estimate* | *95% CIs* | *t-score* | *Prediction Interval* | *p-value* |
|  | 0.00 | -0.13, 0.13 | -0.01 | -1.00, 1.00 | 0.99 |
| **Mammals** | | | | | |
| ***SMD*** | | | | | |
| Q=2218.15 | P<0.0001 |  | | | |
| *Variance* | *Estimate* | *SQRT* | *n* |  |  |
| Study ID | 0.02 | 0.15 | 61 |  |  |
| Species Name | 0.08 | 0.29 | 45 |  |  |
| Obs | 0.32 | 0.56 | 674 |  |  |
| *Model* | *Estimate* | *95% CIs* | *t-score* | *Prediction Interval* | *p-value* |
|  | 0.07 | -0.30, 0.43 | 0.36 | -1.26, 1.39 | 0.72 |
| ***lnCVR*** | | | | | |
| Q=1074.96 | P<0.0001 |  | | | |
| *Variance* | *Estimate* | *SQRT* | *n* |  |  |
| Study ID | 0.02 | 0.15 | 61 |  |  |
| Species Name | 0.12 | 0.13 | 45 |  |  |
| Obs | 0.04 | 0.21 | 674 |  |  |
| *Model* | *Estimate* | *95% CIs* | *t-score* | *Prediction Interval* | *p-value* |
|  | 0.05 | -0.12, 0.23 | 0.59 | -0.54, 0.65 | 0.55 |
| **Reptiles / Amphibians** | | | | | |
| ***SMD*** | | | | | |
| Q=163.37 | P<0.0001 |  | | | |
| *Variance* | *Estimate* | *SQRT* | *n* |  |  |
| Study ID | 0.03 | 0.18 | 11 |  |  |
| Species Name | 0 | 0.01 | 10 |  |  |
| Obs | 0.05 | 0.23 | 95 |  |  |
| *Model* | *Estimate* | *95% CIs* | *t-score* | *Prediction Interval* | *p-value* |
|  | 0.07 | -0.09, 0.23 | 0.84 | -0.54, 0.67 | 0.40 |
| ***lnCVR*** | | | | | |
| Q=77.72 | P=0.89 |  | | | |
| *Variance* | *Estimate* | *SQRT* | *n* |  |  |
| Study ID | 0 | 0 | 11 |  |  |
| Species Name | 0 | 0.03 | 10 |  |  |
| Obs | 0.01 | 0.11 | 95 |  |  |
| *Model* | *Estimate* | *95% CIs* | *t-score* | *Prediction Interval* | *p-value* |
|  | 0.05 | -0.05, 0.14 | 0.98 | -0.20, 0.30 | 0.33 |

S9 Sensitivity models – D matrices rho = 0.8, personality trait models

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Birds** | | | | | |
| ***SMD*** | | | | | |
| QE=2670.89 | P<0.0001 |  | | | |
| F=2.19 | P=0.05 |  | | | |
| *Variance* | *Estimate* | *SQRT* | *n* |  |  |
| Study ID | 0.52 | 0.72 | 50 |  |  |
| Species Name | 0 | 0 | 106 |  |  |
| Obs | 0.23 | 0.48 | 483 |  |  |
| *Personality Trait* | *Estimate* | *95% CIs* | *t-score* | *Prediction Interval* | *p-value* |
| Activity | -0.11 | -0.47, 0.25 | -0.60 | -1.85, 1.63 | 0.55 |
| Aggression | -0.05 | -0.39, 0.30 | -0.26 | -1.78, 1.69 | 0.79 |
| Boldness | -0.20 | -0.45, 0.06 | -1.51 | -1.92, 1.53 | 0.13 |
| Exploration | 0.03 | -0.24, 0.30 | 0.24 | -1.69, 1.76 | 0.81 |
| **Sociality** | **-0.60** | **-1.18, -0.02** | **-2.02** | **-2.40, 1.20** | **0.04\*** |
| ***lnCVR*** |  |  |  |  |  |
| QE=3711.80 | P<0.0001 |  |  |  |  |
| F=0.20 | P=0.96 |  |  |  |  |
| *Variance* | *Estimate* | *SQRT* | *n* |  |  |
| Study ID | 0 | 0 | 50 |  |  |
| Species Name | 0 | 0 | 106 |  |  |
| Obs | 1.27 | 1.13 | 483 |  |  |
| *Personality Trait* | *Estimate* | *95% CIs* | *t-score* | *Prediction Interval* | *p-value* |
| Activity | -0.24 | -0.73, 0.26 | -0.94 | -2.51, 2.04 | 0.35 |
| Aggression | -0.01 | -0.47, 0.45 | -0.04 | -2.27, 2.26 | 0.97 |
| Boldness | -0.03 | -0.27, 0.21 | -0.24 | -2.26, 2.20 | 0.81 |
| Exploration | -0.04 | -0.34, 0.26 | -0.25 | -2.28, 2.20 | 0.80 |
| Sociality | 0.08 | -0.63, 0.79 | 0.22 | -2.25, 2.41 | 0.82 |
| **Fish** | | | | | |
| ***SMD*** | | | | | |
| QE=1347.79 | P<0.0001 |  | | | |
| F=0.59 | P=0.71 |  | | | |
| *Variance* | *Estimate* | *SQRT* | *n* |  |  |
| Study ID | 0 | 0 | 44 |  |  |
| Species Name | 0.06 | 0.24 | 22 |  |  |
| Obs | 0.26 | 0.51 | 493 |  |  |
| *Personality Trait* | *Estimate* | *95% CIs* | *t-score* | *Prediction Interval* | *p-value* |
| Activity | 0.07 | -0.36, 0.50 | 0.31 | -1.12, 1.26 | 0.75 |
| Aggression | 0.05 | -0.35, 0.45 | 0.25 | -1.12, 1.23 | 0.80 |
| Boldness | -0.02 | -0.42, 0.37 | -0.12 | -1.20, 1.15 | 0.90 |
| Exploration | -0.01 | -0.43, 0.42 | -0.04 | -1.19, 1.17 | 0.97 |
| Sociality | -0.21 | -0.69, 0.26 | -0.87 | -1.41, 0.99 | 0.38 |
| ***lnCVR*** |  |  |  |  |  |
| QE=915.16 | P<0.0001 |  |  |  |  |
| F=1.04 | P=0.39 |  |  |  |  |
| *Variance* | *Estimate* | *SQRT* | *n* |  |  |
| Study ID | 0 | 0 | 44 |  |  |
| Species Name | 0 | 0 | 22 |  |  |
| Obs | 0.1 | 0.31 | 493 |  |  |
| *Personality Trait* | *Estimate* | *95% CIs* | *t-score* | *Prediction Interval* | *p-value* |
| Activity | -0.06 | -0.22, 0.11 | -0.71 | -0.69, 0.57 | 0.48 |
| **Aggression** | **-0.13** | **-0.26, 0.00** | **-1.95** | **-0.76, 0.50** | **0.05\*** |
| Boldness | 0.02 | -0.08, 0.12 | 0.46 | -0.60, 0.64 | 0.65 |
| Exploration | -0.04 | -0.19, 0.11 | -0.57 | -0.67, 0.59 | 0.57 |
| Sociality | 0.06 | -0.16, 0.28 | 0.55 | -0.59, 0.71 | 0.58 |
| **Inverts** | | | | | |
| ***SMD*** | | | | | |
| QE=2657.20 | P<0.0001 |  | | | |
| F=1.44 | P=0.21 |  | | | |
| *Variance* | *Estimate* | *SQRT* | *n* |  |  |
| Study ID | 0.88 | 0.94 | 37 |  |  |
| Species Name | 0 | 0 | 36 |  |  |
| Obs | 0.78 | 0.89 | 422 |  |  |
| *Personality Trait* | *Estimate* | *95% CIs* | *t-score* | *Prediction Interval* | *p-value* |
| **Activity** | **0.56** | **0.12, 1.00** | **2.50** | **-2.01, 3.13** | **0.01\*** |
| Aggression | 0.22 | -0.71, 1.15 | 0.46 | -2.48, 2.92 | 0.65 |
| Boldness | 0.17 | -0.25, 0.59 | 0.79 | -2.40, 2.74 | 0.43 |
| Exploration | 0.10 | -0.52, 0.72 | 0.31 | -2.51, 2.71 | 0.76 |
| Sociality | 0.35 | -0.60, 1.31 | 0.72 | -2.35, 3.06 | 0.47 |
| ***lnCVR*** |  |  |  |  |  |
| QE=1427.81 | P<0.0001 |  |  |  |  |
| F=0.37 | P=0.87 |  |  |  |  |
| *Variance* | *Estimate* | *SQRT* | *n* |  |  |
| Study ID | 0.01 | 0.1 | 37 |  |  |
| Species Name | 0.01 | 0.08 | 36 |  |  |
| Obs | 0.24 | 0.49 | 422 |  |  |
| *Personality Trait* | *Estimate* | *95% CIs* | *t-score* | *Prediction Interval* | *p-value* |
| Activity | -0.04 | -0.21, 0.13 | -0.47 | -1.06, 0.97 | 0.64 |
| Aggression | 0.16 | -0.22, 0.54 | 0.85 | -0.91, 1.23 | 0.40 |
| Boldness | -0.01 | -0.18, 0.16 | -0.14 | -1.03, 1.00 | 0.89 |
| Exploration | 0.07 | -0.21, 0.35 | 0.47 | -0.97, 1.11 | 0.64 |
| Sociality | 0.23 | -0.33, 0.79 | 0.79 | -0.92, 1.37 | 0.43 |
| **Mammals** | | | | | |
| ***SMD*** | | | | | |
| QE=2158.51 | P<0.0001 |  | | | |
| F=1.01 | P=0.41 |  | | | |
| *Variance* | *Estimate* | *SQRT* | *n* |  |  |
| Study ID | 0.03 | 0.16 | 61 |  |  |
| Species Name | 0.06 | 0.24 | 45 |  |  |
| Obs | 0.32 | 0.57 | 674 |  |  |
| *Personality Trait* | *Estimate* | *95% CIs* | *t-score* | *Prediction Interval* | *p-value* |
| Activity | -0.18 | -0.59, 0.22 | -0.90 | -1.50, 1.13 | 0.37 |
| Aggression | 0.16 | -0.23, 0.56 | 0.80 | -1.15, 1.47 | 0.42 |
| Boldness | 0.08 | -0.25, 0.41 | 0.48 | -1.22, 1.38 | 0.63 |
| Exploration | 0.01 | -0.35, 0.37 | 0.06 | -1.29, 1.31 | 0.95 |
| Sociality | 0.18 | -0.22, 0.58 | 0.87 | -1.14, 1.49 | 0.38 |
| ***lnCVR*** |  |  |  |  |  |
| QE=1044.60 | P<0.0001 |  |  |  |  |
| F=0.64 | P=0.67 |  |  |  |  |
| *Variance* | *Estimate* | *SQRT* | *n* |  |  |
| Study ID | 0.02 | 0.15 | 61 |  |  |
| Species Name | 0.01 | 0.1 | 45 |  |  |
| Obs | 0.05 | 0.22 | 674 |  |  |
| *Personality Trait* | *Estimate* | *95% CIs* | *t-score* | *Prediction Interval* | *p-value* |
| Activity | 0.11 | -0.09, 0.31 | 1.09 | -0.48, 0.70 | 0.28 |
| Aggression | 0.08 | -0.12, 0.28 | 0.76 | -0.51, 0.67 | 0.45 |
| Boldness | 0.06 | -0.10, 0.21 | 0.71 | -0.52, 0.63 | 0.48 |
| Exploration | 0.00 | -0.17, 0.18 | 0.03 | -0.58, 0.58 | 0.98 |
| Sociality | -0.03 | -0.24, 0.18 | -0.29 | -0.62, 0.56 | 0.77 |
| **Reptiles / Amphibians** | | | | | |
| ***SMD*** | | | | | |
| QE=151.82 | P<0.0001 |  | | | |
| F=1.20 | P=0.32 |  | | | |
| *Variance* | *Estimate* | *SQRT* | *n* |  |  |
| Study ID | 0.02 | 0.13 | 11 |  |  |
| Species Name | 0 | 0 | 10 |  |  |
| Obs | 0.06 | 0.25 | 95 |  |  |
| *Personality Trait* | *Estimate* | *95% CIs* | *t-score* | *Prediction Interval* | *p-value* |
| Activity | -0.07 | -0.50, 0.36 | -0.34 | -0.77, 0.62 | 0.73 |
| Aggression | -0.08 | -0.34, 0.19 | -0.57 | -0.69, 0.53 | 0.57 |
| Boldness | 0.12 | -0.12, 0.36 | 0.97 | -0.48, 0.72 | 0.33 |
| **Exploration** | **0.26** | **0.04, 0.49** | **2.32** | **-0.33, 0.86** | **0.02\*** |
| Sociality | -0.04 | -0.62, 0.53 | -0.15 | -0.84, 0.75 | 0.88 |
| ***lnCVR*** |  |  |  |  |  |
| QE=73.79 | P=0.89 |  |  |  |  |
| F=1.19 | P=0.32 |  |  |  |  |
| *Variance* | *Estimate* | *SQRT* | *n* |  |  |
| Study ID | 0.04 | 0.19 | 11 |  |  |
| Species Name | 0 | 0 | 10 |  |  |
| Obs | 0 | 0 | 95 |  |  |
| *Personality Trait* | *Estimate* | *95% CIs* | *t-score* | *Prediction Interval* | *p-value* |
| Activity | -0.11 | -0.52, 0.30 | -0.53 | -0.71, 0.49 | 0.60 |
| Aggression | 0.32 | -0.05, 0.70 | 1.71 | -0.25, 0.90 | 0.09 |
| Boldness | 0.10 | -0.14, 0.33 | 0.80 | -0.40, 0.59 | 0.42 |
| Exploration | -0.10 | -0.35, 0.15 | -0.81 | -0.60, 0.40 | 0.42 |
| Sociality | -0.11 | -0.76, 0.54 | -0.33 | -0.89, 0.67 | 0.74 |