**Supplementary Material for Harrison *et al*. 2020**

*S1 - Calculating I2*

We extracted *I*2 from our meta-analytic intercept-only models (see Supplementary Table S1) using the following equation:

Where is the total variance, is the phylogenetic variance, is the between-study variance, is the species-specific variance, is the study-specific variance (observation-level random effect), and is the remaining within-study sampling variance (random effects) (Nakagawa & Santos 2012).

Further, we can then partition *I*2 to calculate study-level *I*2 and species-level *I*2 (*I*2s and *I*2u, respectively) (Nakagawa & Santos 2012):

*I*2s = / ,

*I*2u = /

Finally, we can determine the strength of phylogenetic variance …

Where = 0 there is no phylogenetic signal, but when = 1 there is a strong effect of phylogeny on heterogeneity (Nakagawa & Santos 2012).

*S2 - Keyword search terms and exclusion*

Move table of keywords into here, then expand on exclusion terms, what was excluded (i.e. papers that were missing sample sizes, error, means were 0 so we couldn’t use them in our models etc). lots of ns for transparency…

*S3 - Exploratory analysis*

What we did and why it was just exploratory analysis … maybe cut and paste from the methods section in ms

*S3.1 - Data collection*

We searched *ISI Web of Science, Scopus* and *Google Scholar* using the search terms: “species name” AND mating system for mating system and “species name” AND parental care for parental care. For birds, we also searched the *CRC Handbook of Avian Body Masses* (Dunning Jr 2007) and the online reference database *Birds of the World* (birdsoftheworld.org; accessed via an ANU library subscription in 2019) by searching “species name”. We noted whether the mating system of the species was characterised by ‘multiple mating’ or ‘monogamy’, and whether the species provided ‘maternal’, ‘paternal’, ‘biparental’, ‘cooperative’ or ‘no care’. However, after data collection we decided to drop parental care from subsequent analysis because we did not have enough data for enough species to run our proposed meta-regression models. The location of data collected for both parental care and mating system are provided in the provided Supplementary data files.

*S3.2 - Results - Mating system, age, population, study environment and study type can influence personality*

Monogamous and multiple mating systems were not significantly different from each other for means or variability for any of the taxonomic groups (Supplementary Table S7). Mean personality effect sizes for adults were marginally significantly different to juveniles for invertebrates (intercept: =0.24, 95% CIs: -0.03, 0.51, *t* = 1.74, *p*=0.08; juvenile: =-0.03, 95% CIs: -0.34, 0.28, *t* = -0.18, *p*=0.86), but not any other taxonomic group, and not for variability (Supplementary Table S8). Fish from the wild had greater differences in variability than fish from lab populations (intercept: =-0.09, 95% CIs: -0.18, -0.01, *t* = -2.11, *p*=0.04; lab: =0.08, 95% CIs: -0.02, 0.19, *t* = 1.55, *p*=0.12), but not for mean personality differences (Supplementary Table S9). Studies conducted in the lab were significantly different to field studies for mammals (intercept: =0.24, 95% CIs: -0.09, 0.57, *t* = 1.44, *p*=0.15; lab: = -0.31, 95% CIs: -0.56, -0.05, *t* = -2.34, *p*=0.02), but not for variability, and not for any other taxonomic group (Supplementary Table S10). Finally, effect sizes from observational studies were significantly different from experimental studies for mammals (intercept: =0.00, 95% CIs: -0.21, 0.22, *t* = 0.03, *p*=0.98; observation: = 0.39, 95% CIs: 0.13, 0.64, *t* = 2.39, *p*=0.004), but not for variability, and not for any other taxonomic group (Supplementary Table S11).