# Journal of Avian Biology

## Supplementary material

**Appendix 1**

**Figure A1.** Principal component analysis (PCA) graphical representation for (a) *act-nest* and *act-tot* and (b) *beak* and *claws* (see text for details). Arrows represent the correlation of initial behavioural responses to each principal component (i.e. Dim).
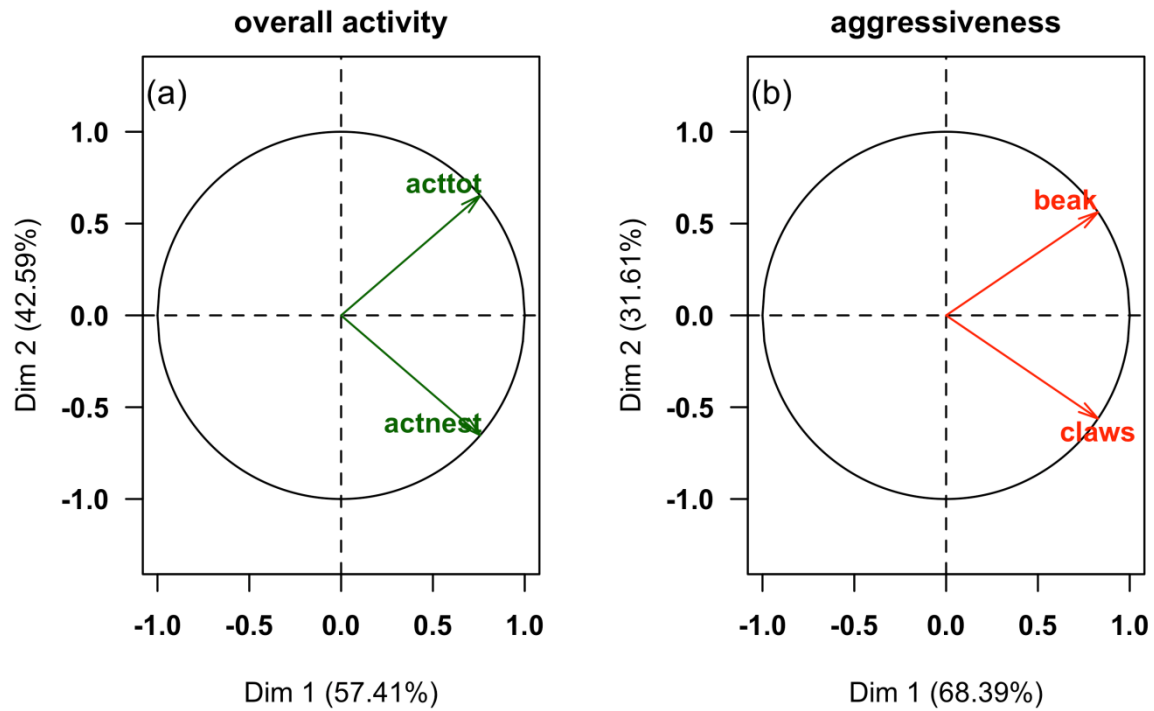
**Table A1.** Summary of the tasks for each experimenter identity (ID) for the two experimental groups. Tasks done by an experimenter are noted with x.

| ID | Group I | | Group NI | |
| :---: | :---: | :---: | :---: | :---: |
| | Chick capture Note taking | Morphometrics Blood sampling | Chick capture Note taking | Morphometrics Blood sampling |
| A | X | - | X | - |
| B | - | X | X | X |
| C | - | X | X | X |
| D | - | - | - | X |
| E | - | - | - | X |
| F | - | - | X | - |
| G | - | - | - | X |
| H | - | - | - | X |
| I | - | - | X | - |

**Table A2.** Summary of the LMMs analysing the effects of the experimental groups (I vs. NI), the rank of the nest visits and the sex of the chicks on single behavioural responses of Montagu's harrier chicks (see main text for details) and including statistic values and degrees of freedom. Significant effects are in bold. If the interaction group x visit rank was significant, simple effects (group and visit rank) were not tested.

| | Explanatory variables | $\chi^2$ | df | P |
|---|---|---|---|---|
| *Activity at the approach of the nest – act-nest* | | | | |
| | Group | 0.12 | 1 | 0.73 |
| | Visit rank | 113.73 | 3 | <0.0001 |
| | Sex | 0.41 | 1 | 0.52 |
| | **Group x Visit rank** | **18.60** | **3** | **<0.001** |
| *Activity during handling – act-tot* | | | | |
| | Group | 0.33 | 1 | 0.57 |
| | Visit rank | 12.15 | 3 | 0.007 |
| | Sex | 0.03 | 1 | 0.87 |
| | **Group x Visit rank** | **15.36** | **3** | **0.002** |
| *Attacks with beak – beak* | | | | |
| | Group | 0.007 | 1 | 0.94 |

| | | | | |
|---|---|---|---|---|
| Visit rank | 43.66 | 3 | <0.0001 |
| Sex | 0.37 | 1 | 0.54 |
| **Group x Visit rank** | **15.64** | **3** | **0.001** |

*Attacks with claws – claws*

| | | | | |
|---|---|---|---|---|
| Group | 0.02 | 1 | 0.88 |
| Visit rank | 13.54 | 3 | 0.004 |
| Sex | 0.64 | 1 | 0.43 |
| **Group x Visit rank** | **13.18** | **3** | **0.004** |

**Table A3.** Summary of the LMMs analysing the effects of the experimental group (I vs. NI), the rank of the nest visits and the sex of the chicks on behavioural and physiological responses of Montagu's harrier chicks including the parameter estimates ± standard error (s.e.), statistic values and degrees of freedom.

| Explanatory variables | Parameter estimate ± s.e. | df | t | P |
|---|---|---|---|---|
| *PC1-activity* | | | | |
| Intercept | -0.66 ± 0.30 | 40.15 | -2.23 | 0.03 |
| Group NI | 0.11 ± 0.42 | 38.62 | 0.27 | 0.79 |
| Visit 2 | -0.39 ± 0.34 | 71.41 | -1.15 | 0.26 |
| Visit 3 | 0.58 ± 0.34 | 71.41 | 1.70 | 0.09 |
| Visit 4 | 2.02 ± 0.34 | 71.41 | 5.95 | <0.0001 |
| Sex male | 0.04 ± 0.24 | 35.50 | 0.16 | 0.88 |
| Group NI x Visit 2 | 1.05 ± 0.47 | 72.24 | 2.23 | 0.03 |
| Group NI x Visit 3 | 0.36 ± 0.47 | 72.24 | 0.77 | 0.44 |
| Group NI x Visit 4 | -1.34 ± 0.47 | 72.24 | -2.84 | 0.006 |
| *PC1-attacks* | | | | |
| Intercept | -0.47 ± 0.31 | 79.72 | -1.51 | 0.14 |
| Group NI | 0.07 ± 0.42 | 82.49 | 0.18 | 0.86 |

| | | | | |
|---|---|---|---|---|
| Visit 2 | 0.00 ± 0.41 | 66 | 0 | 1 |
| Visit 3 | 0.94 ± 0.41 | 66 | 2.32 | 0.02 |
| Visit 4 | 2.18 ± 0.41 | 66 | 5.36 | 0.02 |
| Sex male | -0.22 ± 0.24 | 21 | -0.91 | 0.37 |
| Group NI x Visit 2 | 0.48 ± 0.55 | 66 | 0.87 | 0.39 |
| Group NI x Visit 3 | -0.30 ± 0.55 | 66 | -0.55 | 0.59 |
| Group NI x Visit 4 | -1.85 ± 0.55 | 66 | -3.34 | 0.001 |
| *Baseline corticosterone* | | | | |
| Intercept | 3.93 ± 1.70 | 12.87 | 2.31 | 0.04 |
| Group NI | -1.18 ± 2.32 | 10.32 | -0.51 | 0.62 |
| Visit 4 | 2.17 ± 1.15 | 10.54 | 1.88 | 0.09 |
| Sex male | 0.04 ± 1.66 | 10.25 | 0.03 | 0.98 |
| Group NI x Visit 4 | 1.99 ± 1.62 | 10.86 | 1.23 | 0.24 |
| *Stress-induced corticosterone* | | | | |
| Intercept | 19.06 ± 4.3 | 13.81 | 4.43 | 0.0006 |
| Group NI | 6.50 ± 6.43 | 11.36 | 1.01 | 0.33 |
| Visit 4 | 18.38 ± 3.56 | 19.47 | 5.16 | <0.0001 |
| Sex male | -3.02 ± 4.22 | 25.61 | -0.72 | 0.48 |
| Group NI x Visit 4 | -12.33 ± 5.38 | 19.47 | -2.29 | 0.03 |

*Respiratory frequency*

| | | | | |
|---|---|---|---|---|
| Intercept | 14.43 ± 1.45 | 69.28 | 9.97 | <0.0001 |
| Group NI | -1.94 ± 1.94 | 64.66 | -1.0 | 0.32 |
| Visit 2 | -0.79 ± 1.91 | 76.47 | -0.41 | 0.68 |
| Visit 3 | -1.06 ± 1.91 | 76.47 | -0.56 | 0.58 |
| Visit 4 | -0.73 ± 1.91 | 76.47 | -0.38 | 0.70 |
| Sex male | -0.09 ± 1.06 | 25.20 | -0.08 | 0.94 |
| Group NI x Visit 2 | 4.35 ± 2.59 | 76.47 | 1.68 | 0.10 |
| Group NI x Visit 3 | 4.83 ± 2.59 | 76.47 | 1.86 | 0.07 |
| Group NI x Visit 4 | 5.45 ± 2.59 | 76.47 | 2.1 | 0.04 |

*Body condition*

| | | | | |
|---|---|---|---|---|
| Intercept | 306.25 ± 9.85 | 8.91 | 31.09 | <0.0001 |
| Group NI | -16.88 ± 12.79 | 4.68 | -1.32 | 0.25 |
| Sex male | 11.51 ± 11.39 | 19.99 | 1.01 | 0.32 |