**Table 1.** Proportion of help given to nests belonging to at least one 1st order kin, at least one 2nd order kin, or two non-kin over three distance bands between helpers and recipients. Within each band, the proportion of kin helped is compared with that expected if help was given randomly within that range, based on 10000 permutations of potential nests for focal helpers within years (1994-2016). Relatedness between helpers and recipients is estimated using both genetic data and the social pedigree. Analyses were carried out on all helpers, male helpers and female helpers. The observed proportion was considered statistically significant it fell outside the 95% (p<0.05), 99% (p<0.01) or 99.9% (p<0.001) confidence interval of the random distribution.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **data** | **sex** | **distance (m)** | **kinship** | **helped nests** | **observed proportion** | **potential nests** | **expected proportion (mean ± SD)** | **p** |
| genetic | both | 0-300 | 0.5 | 66 | 0.67 | 184 | 0.31 ± 0.03 | <0.001 |
|  |  |  | 0.25 | 8 | 0.08 | 127 | 0.21 ± 0.02 | <0.001 |
|  |  |  | 0 | 25 | 0.25 | 296 | 0.47 ± 0.03 | <0.001 |
|  |  | 300-600 | 0.5 | 24 | 0.43 | 182 | 0.17 ± 0.02 | <0.001 |
|  |  |  | 0.25 | 12 | 0.21 | 281 | 0.21 ± 0.03 | NS |
|  |  |  | 0 | 20 | 0.36 | 831 | 0.62 ± 0.03 | <0.001 |
|  |  | 600-900 | 0.5 | 13 | 0.59 | 138 | 0.12 ± 0.02 | <0.001 |
|  |  |  | 0.25 | 4 | 0.18 | 325 | 0.24 ± 0.03 | NS |
|  |  |  | 0 | 5 | 0.23 | 921 | 0.65 ± 0.03 | <0.001 |
|  | males | 0-300 | 0.5 | 58 | 0.69 | 162 | 0.33 ± 0.03 | <0.001 |
|  |  |  | 0.25 | 6 | 0.07 | 105 | 0.21 ± 0.03 | <0.001 |
|  |  |  | 0 | 20 | 0.24 | 244 | 0.45 ± 0.03 | <0.001 |
|  |  | 300-600 | 0.5 | 22 | 0.49 | 161 | 0.18 ± 0.03 | <0.001 |
|  |  |  | 0.25 | 11 | 0.24 | 245 | 0.22 ± 0.03 | NS |
|  |  |  | 0 | 12 | 0.27 | 700 | 0.60 ± 0.03 | <0.001 |
|  |  | 600-900 | 0.5 | 9 | 0.60 | 109 | 0.11 ± 0.02 | <0.001 |
|  |  |  | 0.25 | 3 | 0.20 | 262 | 0.24 ± 0.03 | NS |
|  |  |  | 0 | 3 | 0.20 | 767 | 0.64 ± 0.03 | <0.001 |
|  | females | 0-300 | 0.5 | 8 | 0.53 | 22 | 0.24 ± 0.05 | <0.001 |
|  |  |  | 0.25 | 2 | 0.13 | 22 | 0.21 ± 0.05 | NS |
|  |  |  | 0 | 5 | 0.33 | 52 | 0.55 ± 0.04 | <0.001 |
|  |  | 300-600 | 0.5 | 2 | 0.18 | 21 | 0.13 ± 0.04 | NS |
|  |  |  | 0.25 | 1 | 0.09 | 36 | 0.18 ± 0.06 | NS |
|  |  |  | 0 | 8 | 0.73 | 131 | 0.68 ± 0.06 | NS |
|  |  | 600-900 | 0.5 | 4 | 0.57 | 29 | 0.12 ± 0.05 | <0.001 |
|  |  |  | 0.25 | 1 | 0.14 | 63 | 0.21 ± 0.06 | NS |
|  |  |  | 0 | 2 | 0.29 | 154 | 0.67 ± 0.07 | <0.001 |
| pedigree | both | 0-300 | 0.5 | 41 | 0.47 | 111 | 0.24 ± 0.03 | <0.001 |
|  |  |  | 0.25 | 10 | 0.11 | 35 | 0.09 ± 0.01 | NS |
|  |  |  | 0 | 36 | 0.41 | 316 | 0.67 ± 0.03 | <0.001 |
|  |  | 300-600 | 0.5 | 13 | 0.27 | 65 | 0.08 ± 0.02 | <0.001 |
|  |  |  | 0.25 | 8 | 0.17 | 47 | 0.05 ± 0.01 | <0.001 |
|  |  |  | 0 | 27 | 0.56 | 827 | 0.86 ± 0.02 | <0.001 |
|  |  | 600-900 | 0.5 | 7 | 0.35 | 23 | 0.03 ± 0.01 | <0.001 |
|  |  |  | 0.25 | 4 | 0.20 | 27 | 0.03 ± 0.03 | <0.001 |
|  |  |  | 0 | 9 | 0.45 | 960 | 0.94 ± 0.02 | <0.001 |
|  | males | 0-300 | 0.5 | 36 | 0.49 | 101 | 0.24 ± 0.03 | <0.001 |
|  |  |  | 0.25 | 8 | 0.11 | 31 | 0.08 ± 0.02 | <0.05 |
|  |  |  | 0 | 29 | 0.39 | 261 | 0.67 ± 0.03 | <0.001 |
|  |  | 300-600 | 0.5 | 13 | 0.32 | 60 | 0.09 ± 0.02 | <0.001 |
|  |  |  | 0.25 | 7 | 0.17 | 40 | 0.06 ± 0.02 | <0.001 |
|  |  |  | 0 | 21 | 0.51 | 717 | 0.86 ± 0.02 | <0.001 |
|  |  | 600-900 | 0.5 | 6 | 0.40 | 20 | 0.03 ± 0.01 | <0.001 |
|  |  |  | 0.25 | 2 | 0.13 | 16 | 0.02 ± 0.01 | <0.001 |
|  |  |  | 0 | 7 | 0.47 | 803 | 0.95 ± 0.02 | <0.001 |
|  | females | 0-300 | 0.5 | 5 | 0.36 | 10 | 0.22 ± 0.05 | <0.01 |
|  |  |  | 0.25 | 2 | 0.14 | 4 | 0.12 ± 0.03 | NS |
|  |  |  | 0 | 7 | 0.50 | 55 | 0.66 ± 0.05 | <0.01 |
|  |  | 300-600 | 0.5 | 0 | 0.00 | 5 | 0.04 ± 0.03 | NS |
|  |  |  | 0.25 | 1 | 0.14 | 7 | 0.06 ± 0.03 | <0.05 |
|  |  |  | 0 | 6 | 0.85 | 110 | 0.90 ± 0.05 | NS |
|  |  | 600-900 | 0.5 | 1 | 0.20 | 7 | 0.03 ± 0.03 | <0.001 |
|  |  |  | 0.25 | 2 | 0.40 | 7 | 0.05 ± 0.03 | <0.001 |
|  |  |  | 0 | 2 | 0.40 | 157 | 0.92 ± 0.05 | <0.001 |