Electronic Supplementary Material

Sex Differences in the Development of Social Relationships in Rhesus Macaques (*Macaca mulatta*)

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Appendix S1 Supplementary Figures
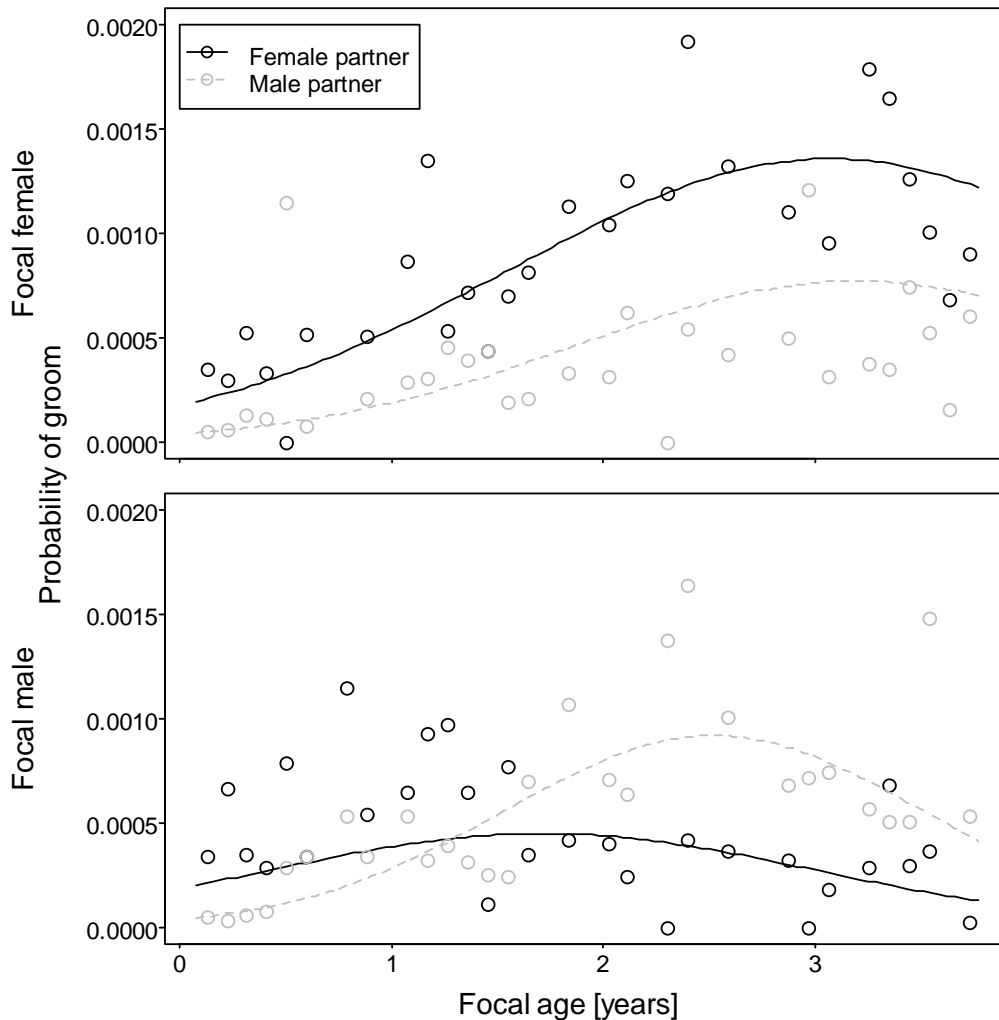
(i) The effect of partner's sex

Fig. S1 The development of sex differences in grooming, depending on the partner's sex (three-way interaction focal subject's age × focal subject's sex × partner's sex: LRT: $\chi^2 = 27.236$, d.f. = 2, $P < 0.001$). Both sexes had a higher probability of grooming with female partners, but male focal subjects preferentially groomed male partners from around 2 yr of age. Generally, the probability of grooming increased in the first years and then declined around 3 yr of age. The lines represent the calculated model and the points the binned and averaged observed values.
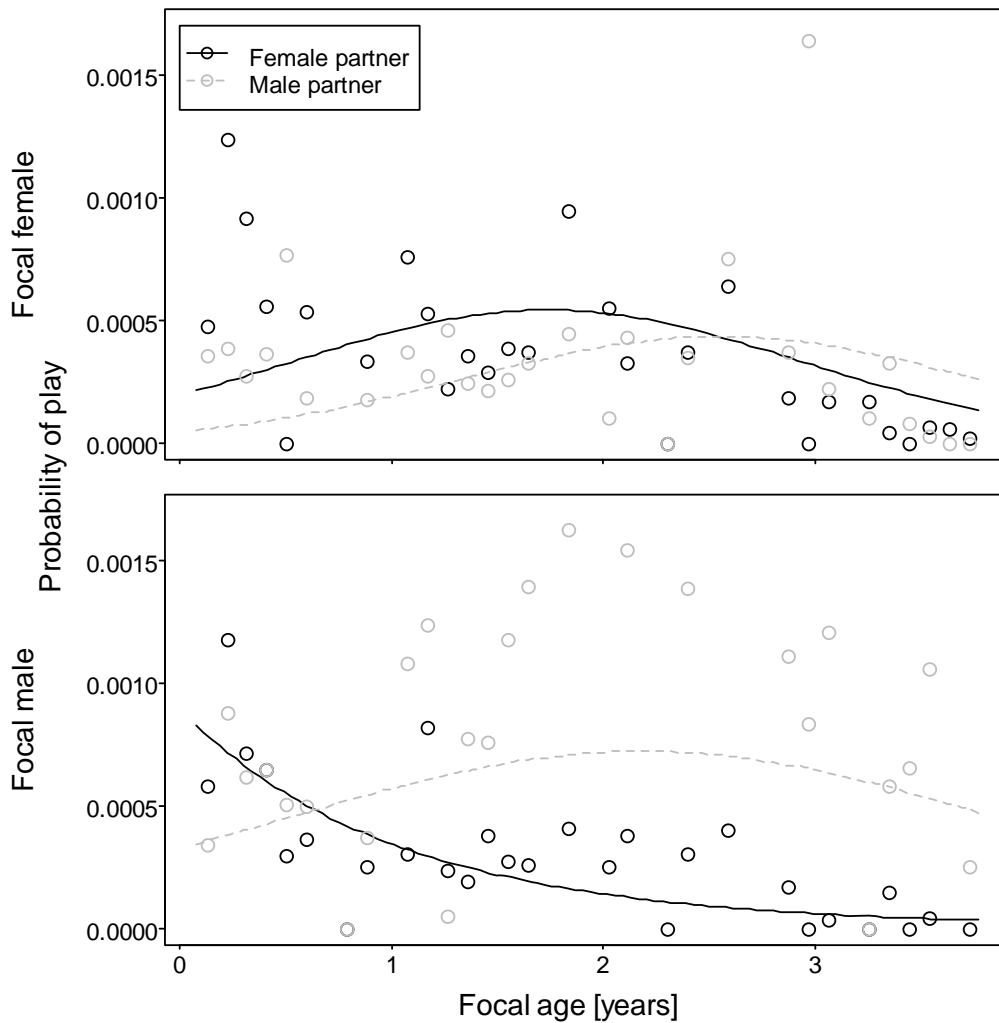
Fig. S2 The development of sex differences in play, depending on the partner's sex (three-way interaction focal subject's age × focal subject's sex × partner's sex: LRT: $\chi^2 = 32.189$, d.f. = 2, $P < 0.001$). Both sexes had a higher probability of playing with female partners in the very first months of their life, but afterwards male focal subjects played clearly more with male than with female partners. Focal males showed higher probabilities of play than female focal subjects from a very early age. Moreover, the probability of play increased in the first 2 yr and declined afterwards, except for male focal subjects, who showed a decreasing probability of play with female partners continuously from the beginning. The lines represent the calculated model and the points the binned and averaged observed values.

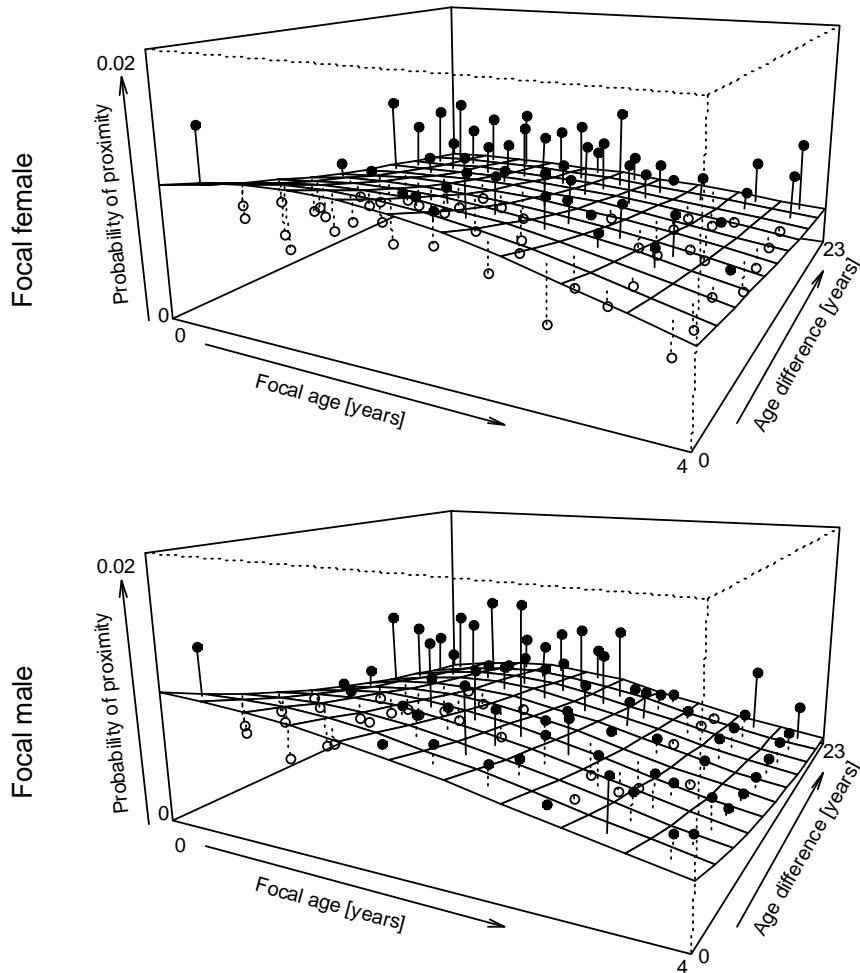(ii) The effect of age difference between focal subject and partner

Fig. S3 The effect of age difference between focal subject and partner on the development of sex differences in spatial proximity (three-way interaction focal subject's age × focal subject's sex × age difference: LRT: χ^2 = 48.634, d.f. = 2, P < 0.001). Regardless of the age difference from focal partners, female focal subjects were generally closer to social partners than male focal subjects. Both sexes preferred partners being close in age across the study period as compared to partners of different age. The preference for age peers was already high at an early age, but then decreased over time. The points represent the mean response for each cell (white points have a mean below and black points have a mean above the plane representing the model).
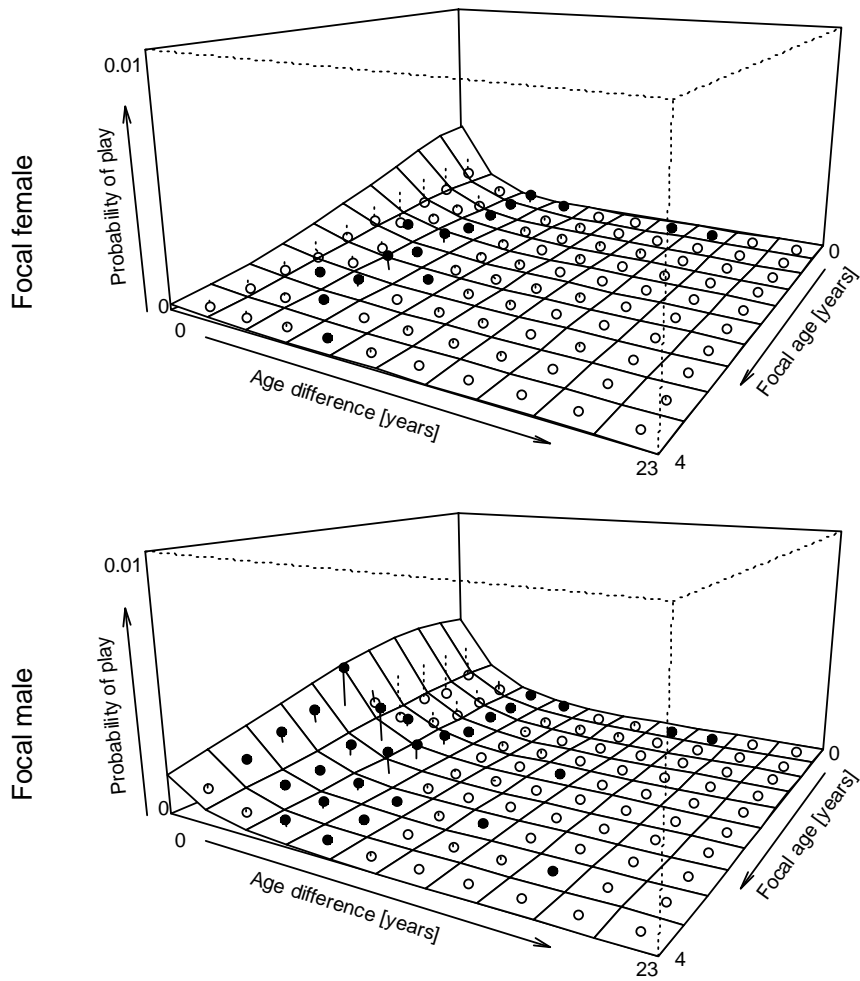
Fig. S4 The effect of age difference between focal subject and partner on the development of sex differences in play (three-way interaction focal subject's age × focal subject's sex × age difference: LRT: $\chi^2 = 60.39$, d.f. = 2, $P < 0.001$). Both sexes preferred to play with age peers and this preference was high from an early age and then decreased over time. Focal males had higher probabilities to play from a very early age than females, and until they were older. The points represent the mean response for each cell (white points have a mean below and black points have a mean above the plane representing the model).
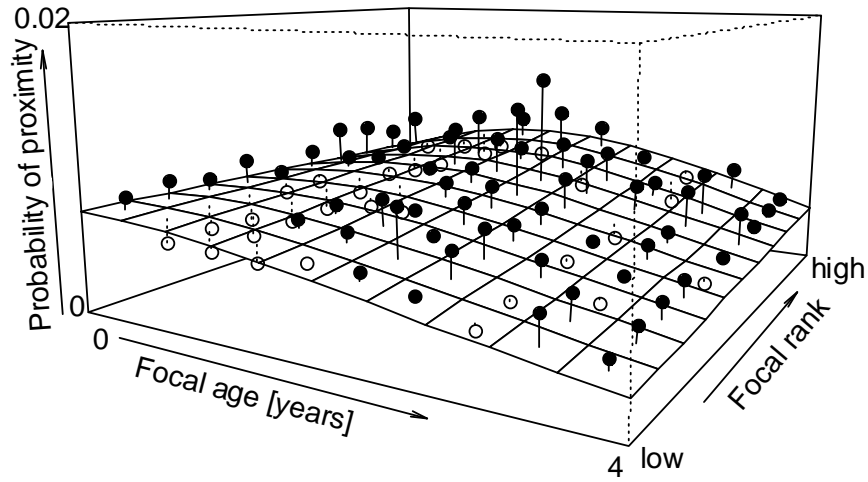
(iii) The effect of focal subject's rank

Fig. S5 The effect of focal subject's rank on the development of sex differences in spatial proximity (two-way interaction focal subject's age × focal subject's rank: LRT: χ^2 = 124.08, d.f. = 2, $P < 0.001$). Male and female high-ranking focal subjects had a higher probability of spatial proximity than low-ranking focal subjects. The probability of spatial proximity decreased more for low-ranking focal subjects than for high-ranking ones over time. The points represent the mean response for each cell (white points have a mean below and black points have a mean above the plane representing the model).
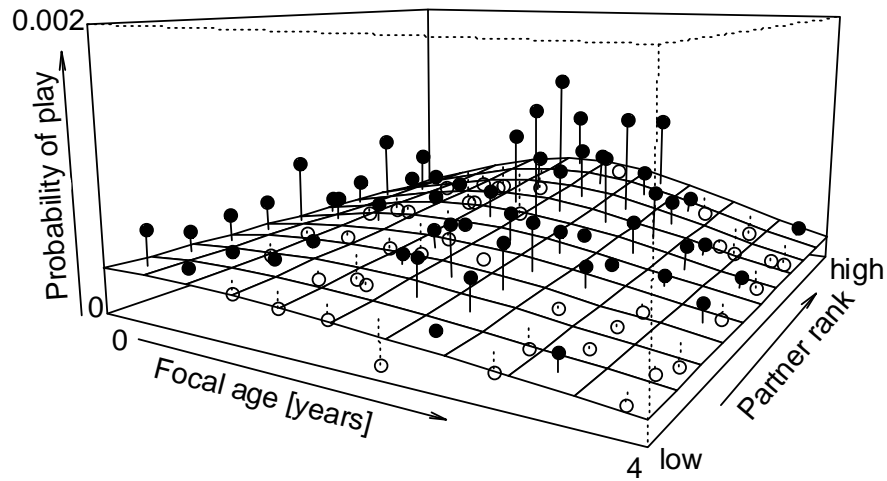
(iv) The effect of partner's rank

Fig. S6 The effect of partner's rank on the development of play (two-way interaction focal subject's age × partner's rank: LRT: $\chi^2 = 14.349$, d.f. = 2, p = 0.001). As both sexes got older, the probability to play with low-ranking partners decreased, while the probability to play with high-ranking partners increased. The points represent the mean response for each cell (white points have a mean below and black points have a mean above the plane representing the model).
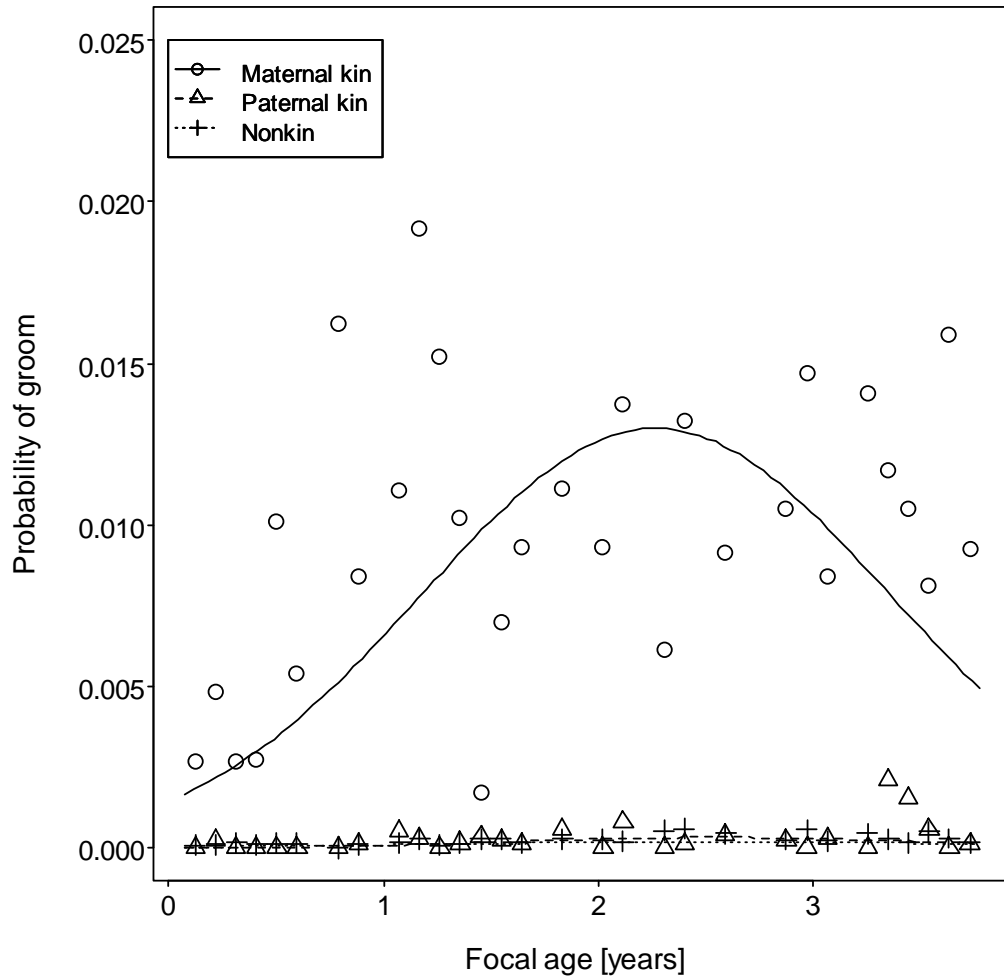
(v) The effect of kin line

Fig. S7 The effect of kin on the development of grooming (two-way interaction focal subject's age × kin line: LRT: $\chi^2 = 24.455$, d.f. = 4, $P < 0.001$). Focals of both sexes had a higher probability of grooming with maternal kin, while the probability of grooming paternal kin and nonkin was very low. The probability to groom maternal kin increased over age, with a peak at around 2 yr of age. The lines represent the calculated model and the symbols the binned and averaged observed values.
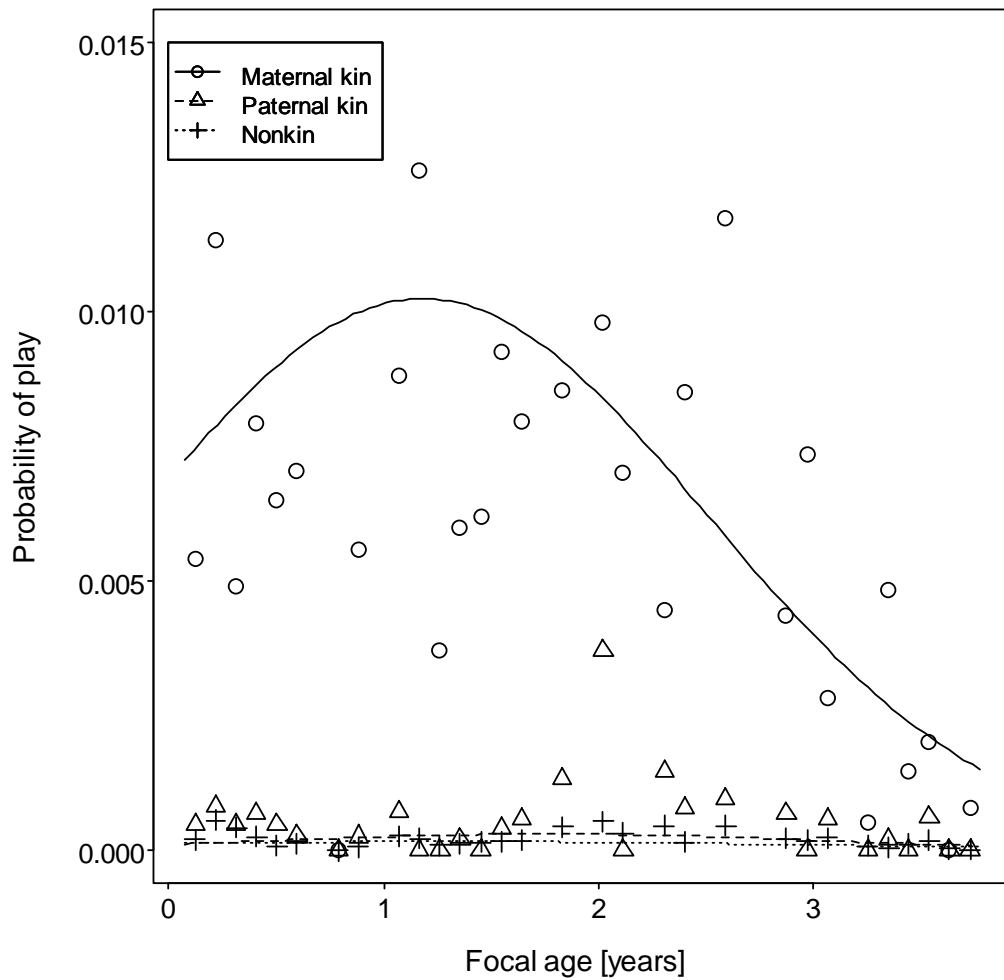
Fig. S8 The effect of kin on the development of play (two-way interaction focal subject's age ×
kin line: LRT: $\chi^2 = 29.894$, d.f. = 4, $P < 0.001$). Both male and female focal subjects had a higher
probability to play with maternal kin, while the probability was very low for interactions with
paternal kin and nonkin. The probability of playing with maternal kin increased in the first year
and declined afterward. The lines represent the calculated model and the symbols the binned and
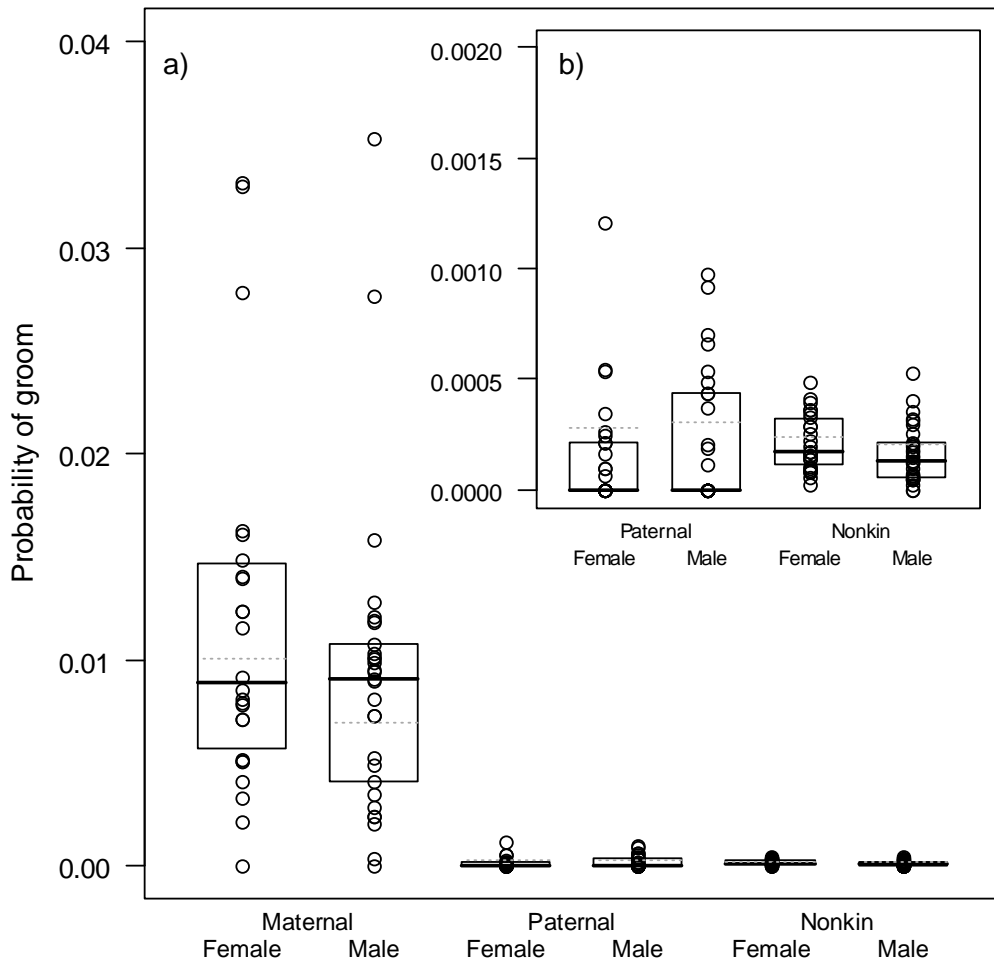averaged observed values.

Fig. S9 The effect of kin line on groom, depending on the focal subject's sex (two-way interaction focal subject's sex × kin line: LRT: $\chi^2 = 33.016$, d.f. = 2, $P < 0.001$). Boxes represent the first to third quartile of observed values, solid lines show the median, dashed lines show the values fitted by the model, and each circle represents a data point for a focal subject. The plot comprises global comparison over three kin categories and sex of focal subject (**a**), and magnifies the section for paternal kin and nonkin only (**b**). Independent of age, male focal subjects had a higher probability of groom with maternal and paternal kin as compared to female focal subjects, while both sexes showed roughly the same probability of groom with nonkin.