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SYNCHRONIZED RANK CHANGES IN JUVENILES AND THEIR MOTHERS AND RELATED BEHAVIOR OBSERVED IN A CAPTIVE GROUP OF JAPANESE MACAQUES

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Synchronized rank change in juveniles and their mothers was studied in a captive group of Japanese macaques (*Macaca fuscata fuscata*), a species characterized by highly despotic hierarchical relations. This study aimed to evaluate whether rank changes of mothers lead to rank changes among their offspring and whether any observed correlation is due to 1) agonistic support by mother, the commonly made prediction, or 2) recognition by juveniles of an "opportunity" to change rank. We systematically recorded behaviors of 18 juvenile subjects belonging to two cohorts, together with their mothers. A total of 1854, 30-minute continuous focal recording sessions combined with all occurrence-sampling methods were collected. Our analyses allowed us to clarify the role support received from mother and other individuals and of some associated behavior patterns. Most rank changes among mothers were followed by a change of rank in their offspring (21 out of 26 cases) within several days (mean 5.1 ± 4.5 SD). Support provided by mothers or other individuals was not often observed and did not increase, even when a juvenile outranked their targets. Alternatively, juveniles started to perform intensive head-flagging, agonistic intervention, and successive aggression toward certain individuals after their mothers outranked them. These results suggest that juvenile macaques recognize opportunities and take the initiative to outrank others because of the rank change of their mothers. We highlight the importance of spontaneous behavioral changes in juvenile macaques for the inheritance of matrilineal rank.

Keywords: Japanese macaque; dominance rank; agonistic support; spontaneous behavior