

The Influence of Infant Care Costs on Cooperative Infant Care Behaviour in Tamarin Monkeys

Cooperative Infant Care²

The Behaviour:

Breeder
Helper
Both participate in:

- Infant carrying
- Food sharing
- Group defence
- Vigilance

Amount of contribution to infant care by helpers depends on the balancing act between the costs and benefits of helping².

Costs²

- Death/injury
- Increased energetic costs
- Lost opportunities
- Reduced food consumption

Benefits²

- Parenting experience
- Social prestige
- Inclusive fitness
- Future reproductive opportunities
- Improved survival

These factors are influenced by²:

- Age
- Sex
- Group size
- Physical condition

Through a systematic review of studies, researchers determined that the costs of infant care depends on relative infant weight and home range size¹.

Large infants and large home range size results in high infant care costs¹

High costs result in:

- Multiple males mating and providing infant care¹
- High suppression of breeding in subordinate females¹
- Decreased delay in natal dispersal¹
- Increased reproduction by the dominant female¹



Example: High infant care cost in tamarin monkeys

Large home range size and large infant size → High costs for infant transportation¹

Dominant female monopolizes reproduction¹

Groups usually contain one breeding female¹

Males reproduce equally¹

Males provide extensive infant care¹

Tamarin Monkeys



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References:

[1] Díaz-Muñoz, S. L. (2016). Complex cooperative breeders: Using infant care costs to explain variability in callitrichine social and reproductive behavior. *American Journal of Primatology*, 78(3), 372–387. <https://doi.org/10.1002/ajp.22431>

[2] Erb, W. M., & Porter, L. M. (2020). Variable infant care contributions in cooperatively breeding groups of wild saddleback tamarins. *American Journal of Primatology*, 82(12), e2319. <https://doi.org/10.1002/ajp.23190>