Hassett et al. (2008): Monkey toy preferences

Lesson 1.1.2 | Concepts and methods

1. Psychology and background

The biological approach explains behaviour through brain processes, hormones, genes and evolution, interacting with experience. **Socialisation** is learning expectations through social experience; **hormones** are chemical messengers. **Play** includes exploring and manipulating objects.

Children show sex differences in toy preferences, but biology and gendered socialisation overlap. Rhesus monkeys do not receive the same explicit human toy teaching. Earlier monkey work offered toys separately; simultaneous access permits a more direct preference comparison.

2. Aim and sample

Test sex differences in interaction with wheeled and plush toys, and compare the pattern with earlier human findings. No children were newly tested.

The established troop contained 135 monkeys. Fourteen with prenatal hormone-treatment histories and 39 newborn infants were excluded, leaving 82 eligible animals. The final analysed sample was **34: 11 males and 23 females**, after excluding animals with too little coded behaviour. This was an available captive group, not a random population sample.

3. Design and procedure

A field experiment with structured observation in the familiar enclosure. Toy type was within animals; sex was a natural between-animal comparison. DVs were frequency and duration of toy-directed behaviours.

Seven planned 25-minute trials offered one wheeled and one plush toy simultaneously, 10 metres apart. Positions were counterbalanced. Separate cameras recorded interaction; one trial ended seven minutes early when a plush toy tore.

Operationalisation: preference meant greater recorded interaction with one category. It did not mean that a monkey understood a toy as being "for boys" or "for girls".

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Lesson 1.1.2 | Evidence and interpretation

1. Recording behaviour

A fixed checklist included touch, hold, sit on, carry, drag, manipulate, turn, sniff, mouth, destroy, jump away and throw. Continuous actions had start/end times; brief actions were counted. Two observers reached consensus on identity and behaviour.

Counts and durations were divided by each animal's number of participating trials, then combined across coded behaviours. Frequencies count occurrences; durations measure time. They are different outcomes.

2. Main findings

Comparison	Frequency result
Males: wheeled versus plush	More interaction with wheeled toys.
Females: wheeled versus plush	No significant category preference.
Males versus females: wheeled	No significant frequency difference.
Males versus females: plush	Females interacted more frequently.

Mean duration (minutes)	Wheeled	Plush
Males	4.76	0.53
Females	1.27	1.49

Males spent significantly longer with wheeled toys than plush toys. Females showed no significant duration preference. Between-sex duration differences for either toy type were not significant.

3. Individual variation and interpretation

Individual preferences: males 73% wheeled, 9% plush, 18% no significant preference; females 39% wheeled, 30% plush, 30% no preference (rounding applies). Group averages do not describe every animal.

Higher-ranking females interacted more; age did not show significant differences. Authors proposed biologically influenced activity preferences shaped by social experience. **Hormones were not manipulated in this toy study**; sex differences alone cannot establish a hormonal cause.

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Lesson 1.1.2 | Evaluation and connections

1. Strengths

Direct choice: both categories were available together, improving the interpretation of relative preference.
Systematic measurement: video and operational definitions allowed actions to be revisited and coded consistently.
Familiar setting: animals remained within their established social environment, reducing some disruption.

2. Limitations

Selective sample: only sufficiently interactive animals contributed to the final analysis; one captive troop limits generalisation.
Confounds: toys differed in size, colour and shape as well as wheels/plush material. Rank and group access may affect opportunities to play.
Reliability: consensus is useful, but is not independent blind coding with a reported agreement coefficient.

3. Animal ethics

Reported care included group housing, outdoor and temperature-controlled indoor areas, continuously available water, normal food and approved oversight. Animals were not forced to approach toys. These details support welfare, but material safety and social access still need evaluation; the torn toy was a potential hazard, not proof of injury.

Consider replacement, species choice, justified numbers, harm/benefit and procedures. A human study cannot directly answer whether non-human preferences arise without explicit human toy teaching, but human transfer remains uncertain.

4. Debates and application

Nature/nurture: findings suggest a possible biological contribution, while social experience and preferences may interact. **Individual/situational:** sex and individual variation combine with group rank and access. The study can inform play research; it cannot prescribe toys for an individual child.

> Remember: 135 in the troop, 82 eligible, 34 analysed. "Females were more variable" is not the same as "females preferred plush toys".

Hint: State whether a result concerns frequency, duration, within-sex preference or a between-sex comparison before interpreting it.