Hasset et al

Monkey Toy preference:

Background

Sex differences in toy preference based on the nature/nurture debate

Is it one's upbringing with societal pressures of gender stereotypes?
Is it the features of the toy itself?
Is it biological pre-programming that affect toy choice and play?

Research findings among boys and girls has shown:

Boys tend to interact With masculine-type toys (wheeled trucks) as girls tend to favor feminine-type toys (e.g. stuffed animals)

Boys tend to stick to stereotypical masculine toys as girls will play ~~with dolls, playhouses, and kitchen sets~~. With a range of masculine and feminine toys.

Studies looking at bio differences among boys & girls point to the notion that girls with **CAH (congenital adrenal hyperplasia)** producing more androgens favor masculine toys even with ~~increased socialization to encourage female-appropriate activities~~ stereotypical upbringings

Previous study with Vervet monkeys (Alexander & Hines, 2002) looked into sex differences in nonhuman primates with human toys available

*The study used a single masculine or feminine toy and recorded how long the monkey would play with it Contradicting human boy & girl play trends, the male monkeys spent similar time with both masculine & feminine toys, whereas the female monkeys spent more time with the feminine toys

Hassett et al. argues that this did not display toy preference ^ itself among nonhuman primates, but rather simply the amount of time playing with a type of toy--This is the basis for the current study in using Rhesus monkeys is a methodological weakness as the Vervet monkeys were not given a masculine or feminine toy choice

Purpose

Overall, to investigate potential sex differences among Rhesus monkeys ^ for toy preference
To investigate **if toy preference is related to biological factors** rather than socialization
To compare **the toy preference of male and female** Rhesus monkeys to previous research findings for human children

Hypothesis

Toy preference among sexes is due to biological causes (that influence behavioral and cognitive biases) rather than learned differences

Type of study: natural ^ Field experiment

Variables of the study

IV=

(a) Sex of monkey (natural IV)

(b) Category of toy-Wheeled (masculine) or plush (feminine)

(c) rank/age of monkey (natural IV)

DV=

(a) frequency of playing with toy

(b) duration of playing with toy

(c) magnitude of preference score

Design of the study Independent groups

(a) gender of monkey

(b) one exposure to each available toy (one truck was repeated)

Sample

Opportunity sample from Yerkes National Primate Research Center / Vla Emory University in ATL

N=82... 61 females and 21 males met the criteria for the study

Sample chosen from a large social grup of 135 that have lived there for 25+ years...14 excluded b/c of participating in other prenatal hormone study & 39 babies excluded as it was too difficult to tell them apart in observations.

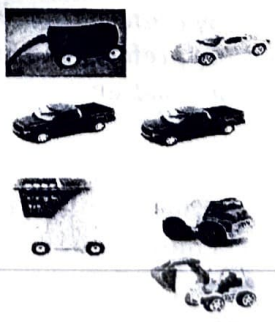
Monkeys were pre-coded for social rank & age (used for later data analysis)
Social rank was previously determined by behavioral observations of grooming, dominance, and submissive behavior
E.g.- monkey being groomed has higher social status compared to the groomer

APPARATUS

- Apparatuses
  - Available toys were categorized by object properties rather than traditional gender assignments

The colors/shapes of the toys varied

'Plush' toys	'Wheeled' toys
Winnie-the-Pooh	Wagon
Raggedy-Ann	Truck
Scooby-Doo	Car
Koala hand puppet	Construction vehicle
Armadillo	Shopping cart
Teddy bear	Dump truck
Turtle	(one truck was repeated)

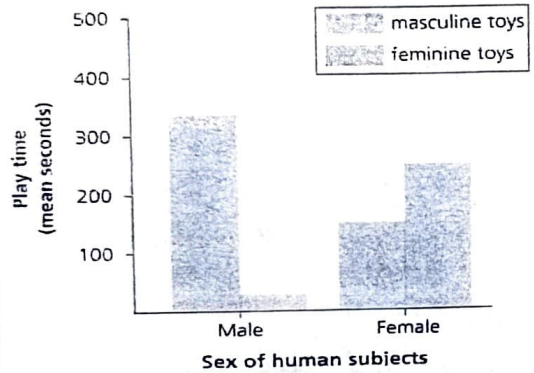


Summary

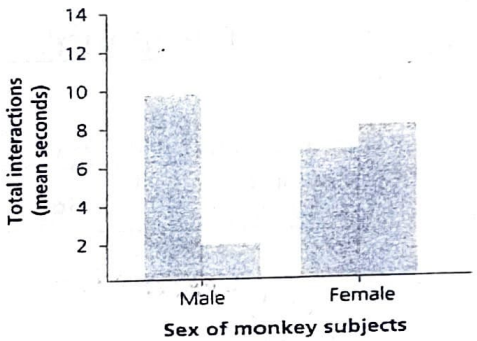
Comparison of Rhesus monkeys to human children study (Berenbaum & Hines, 1992)
Human study looked at 3-8-year-old girls w/CAH compared to boys and found that the girls exposed to higher levels of prenatal androgen preferred 'boy toys' over girl toys. (hormonal cause)

Both Rhesus monkeys and human children showed gender differences
Males strongly preferred the masculine toys as females slightly preferred the feminine toys
This preferences was greater among males in both studies

Sex difference in play with stereotypical masculine and feminine toys in a choice paradigm



Sex difference in total frequency of interactions with plush and wheeled toys by rhesus monkeys



CONCLUSIONS:

Hassett et al. note that their findings support a biological basis for differences in toy preference.

In both this study and the Berenbaum & Hines (1992) one, biological hormones influenced the preference for masculine toys

These hormones "influence behavioral and cognitive biases" **which in turn are influenced by learning experiences and social pressures**

Not found in monkeys due to absence of socialization influences (such as mass media)
Found in humans, such as if boys were to choose to play with 'girl toys,' they would likely receive negative feedback from society than if girls were to choose to play with 'boy toys'

May explain why boys are much more likely to choose masculine toys **whereas girls are more likely to have variation in toy choices.**

ETHICS

Study was met ethical guidelines while working with animals
Study conducted in accordance with NIH Guide for the Care & Use of Laboratory Animals
Took place at the Yerkes National Primate Research Center
Approved by the Emory University Ethical committee on animal care and use

Proper housing

Lived in social/family groups (as in the wild) in large, safe enclosures with access to indoor temperature-controlled areas and outside areas

Fed monkey chow 2x daily & fruits/veggies 1x daily

Water was always available

Unlikely distress

Were bred/raised in captivity, familiar with keepers who entered the facility & cared for them

Toy choices did not pose potential harm

Use of video cameras reduced researcher involvement

Strengths

Standardized procedure with counterbalancing

Counterbalancing

Use of video cameras

Use of inter-rater reliability

Use of a set behavioral checklist

Consideration and data analysis of potential confounding variables of social rank & age

Weaknesses

Only selected data used

Comparing the monkey to human child data was not identical as the monkey toys were based on category (wheeled or plush) and the human data was on gender stereotyped toys

Quan. data only, no descriptive qual data included

Lower generalizability

Nature/Nurture Debate

Nature support

Findings provide evidence that biological differences (hormones) can play a main role in toy preference among the sexes among human and non-human primates

In particular, the amount of androgen looks to play a role.

Nurture support

Social rank among the female monkeys positively correlated with time spent interacting with both wheeled and plush toys

But then again, female dominance can be affected by testosterone levels, so that could also be nature side

Application to Everyday Life (Usefulness)

May be helpful in choosing toys to give as gifts

Can be helpful for toy makers and advertisers