



BANDURA, ROSS AND ROSS (1961)

Aim: To see if children will imitate behaviour even without reward

The general aim of this study was to see whether or not children exposed to an aggressive model would imitate the behaviour, not straight away, but a while after it had been observed, even without reward.

Hypotheses:

- Participants who would see an aggressive model would later reproduce similar aggressive acts to those modelled
- Those exposed to a non-aggressive model and the control group would not produce aggressive acts
- Control group participants would actually produce more aggressive behaviour than the participants who saw a non-aggressive model, as the latter group is inhibited in their subsequent behaviour
- Participants are more likely to imitate same-sex models

PROCEDURE

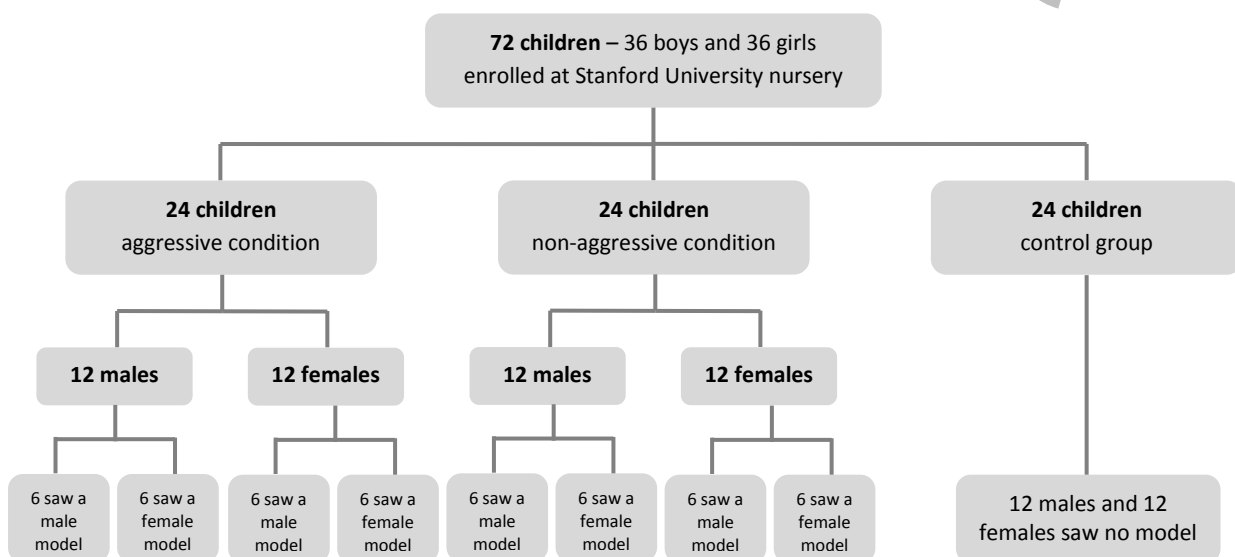
The participants used in the study were 36 boys and 36 girls between the ages of 37 and 69 months (between 3 and 5 years). The participants were taken into a room where they were shown how to design a picture at a table in the corner. The model then went to another corner where there was a table and chair, plus an inflatable Bobo doll, a mallet and a tinker toy set. The experimenter told the model that it was their "play area" and the child had no access to it, then left the room.

In the *non-aggressive condition*, the model played with the toy set. In the *aggressive condition*, the model played for a minute and then started acting aggressively towards the Bobo doll by (for example), laying it on its side and sitting on it and punching it, and hitting the doll with the mallet. In the *control condition*, the participants underwent the same procedure except without a model present.

After ten minutes, to ensure all participants were in the same frustrated mood before the next phase of the experiment, they were taken to another room and given more toys to play with. The toys were then taken away from them. Once again, each participant was then taken into another room, where they were given a variety of aggressive and non-aggressive toys to play with during 20 minutes of free play. These toys included a Bobo doll very similar to the one they had seen previously.

Their behaviour was then observed through a one-way mirror by two judges, one of whom did not know the child nor the condition which they had been allocated.

The diagram displays the structure of the participant groups, and how they were equally divided.



In total then, there were three different conditions:

- in the **aggressive condition**, the children would witness a model being aggressive towards the Bobo doll
- in the **non-aggressive condition**, the children would witness a model playing with a toy set
- in the **control group**, the children would not see a model during the experiment

THE PARTICIPANTS

All of the participants were children between the ages of 37 and 69 months, and they had all been enrolled at the nursery of Stanford University. The children were all matched for their original levels of aggression, in scales of *physical aggression*, *verbal aggression* and aggression towards objects

The participants were then grouped in threes on the basis of similar aggression ratings, making it a matched pairs design. They were then randomly assigned groups. This ensured an even spread of similar children across each condition, making the results more reliable

FINDINGS

The findings of the study were as follows:

- ❖ Children exposed to the aggressive model displayed much more direct imitation than children exposed to the non-aggressive model
- ❖ In the non-aggressive and control conditions, much less aggressive behaviour was observed, although even in those groups, boys were more aggressive than girls
- ❖ Watching an aggressive model generally had more of an effect on boys than it did on girls, especially when it was a same-sex model
- ❖ About one third of those in the aggressive condition also imitated the model's non-aggressive verbal responses, but no one in the other conditions did so
- ❖ In general, girls spent more time playing with the tea set and colouring books, whilst boys spent it with the guns
- ❖ There were no sex differences observed for toys such as the cars or animals
- ❖ Those in the non-aggressive condition spent more time sitting quietly, not playing than in the other groups

The results of the study are shown in the table below:

		Experimental group				Control group
		Aggressive condition		Non-aggressive condition		
		Male model	Female model	Male model	Female model	
Physical aggression	Girls	7.2	5.5	0.0	2.5	1.2
	Boys	25.8	12.4	1.5	0.2	2.0
Verbal aggression	Girls	2.0	13.7	0.0	0.3	0.7
	Boys	12.7	4.3	0.0	1.1	1.7
Mallet aggression	Girls	18.7	17.2	0.5	0.5	13.1
	Boys	28.8	15.5	6.7	18.7	13.5
Non-imitative aggression	Girls	8.4	21.3	1.4	7.2	6.1
	Boys	36.7	16.2	22.3	26.1	24.6
Gun play	Girls	4.5	1.8	2.3	2.6	3.7
	Boys	15.9	7.3	16.7	8.9	14.3

From the findings and the results obtained from the experiment, it was concluded:

- Not all behaviour depends on reward or punishment, some is learned through observation
- Behaviours can be learned without the reinforcement, and imitated after being witnessed by an individual

This study is particularly important because it did not involve any reinforcement of the behaviour, it was all done through observational learning. Even though there was no type of reinforcement present, the behaviour was still imitated – but not immediately, it was even imitated some time after having witnessed the model do so.

EVALUATION

Strengths:

- ✓ The study was set up very carefully with strong controls as a lab experiment, which meant that cause-and-effect conclusions could be drawn as there were isolated and operationalised variables
- ✓ There was high inter-rater reliability – there were two judges present assessing the levels of aggression, one of whom had no idea what condition the participant being observed had been allocated (a “**blind**” procedure which eliminates rater bias); so the findings were reliable

Weaknesses:

- ✗ Whilst the rooms had been set out to look like the rooms at the Stanford nursery, so it might be argued that there was some ecological validity, the study lacked experimental validity – it wasn’t very natural to find an adult deliberately being aggressive towards a Bobo doll
- ✗ Similarly, the Bobo doll and tools were placed in the room where the children were given time for free play, and those who witnessed the adult models being aggressive towards the Bobo doll may have felt that they had to do the same thing
- ✗ There are big concerns considering the ethics of the study: at no point during the write-up was there any reference made to the informed consent obtained from their parents; however, it might be assumed that the university had an ethics committee who oversaw the study