

# Aggression (Bandura et al.)



# Psychology that is being investigated...

- Social learning:

- People **observe** and **imitate** behavior of others
- Individual pays **attention** to behavior of role models and **retain** this information in the brain
- Need to feel **motivated** and physically able to **reproduce** behavior
- Imitation- immediate or delayed

# Psychology that is being investigated...

- Aggression:
  - Aggression could be **physical** or **verbal**
  - **Intention to harm** another person or object
  - Good self-regulation inhibits aggression
  - **Bandura's study: investigated delayed imitation of aggression in terms of both verbal and physical**

## 02

# Background to the study

- **Previous research:**

- Children readily imitate model's behavior in the presence of model
- Bandura et al. wanted to see whether children imitate behavior when the **model was not present** and in a new setting
- Behavior investigated:  
***Aggression***



## Background to the study

- **Imitation of aggression:**

- Children exposed to aggressive and non-aggressive models
- Moved to a new setting to see whether or not children imitated behavior observed previously

**Prediction:** children exposed to aggressive model would copy aggressive acts, show different behavior to those who were exposed to non-aggressive model or no model at all

**Hypothesised:** children learn imitative behavior through prior reinforcement

## 02

# Background to the study

### Non-aggressive model:

- Observing non-aggressive model would actively inhibit aggressive behavior
- Show less aggressive behavior

## 02

# Background to the study

### Sex of the model:

→ Tendency to imitate same-sex models are more frequent

- Boys would more likely imitate male model
- Girls would more likely imitate female model
- **Aggression** is a more **masculine behavior**; greatest imitation would be from boys observing an aggressive model

# 03

## Aims of the study

1

**To investigate whether children imitate aggression of a model in the absence of the model**

2

**To investigate whether children are more likely to imitate the behavior of a same-sex model**



# 04

## Methodology

- Used an experiment (laboratory setting)
- Participants observed an aggressive model, a non-aggressive model or no model (in a controlling setting)
- Subsequent behavior was then observed via a one-way mirror in covert, structured, controlled observation

# 04 Methodology

- **Sample:** 72 children from Stanford University nursery (36 boys, 36 girls), aged 3-5 years.
- **Sampling:** Assessed prior for aggression levels by nursery teacher and experimenter **independently on their social aggression**
- (**5 point scale:** physical, verbal, aggression towards non-animate objects, aggressive inhibition)

# 04

## Methodology

- These **ratings were based on the children's everyday behavior in the nursery school** (before the Bobo doll sessions).
- Put into **groups of 3**: aggressive model, a non-aggressive model or no model

## Purpose of assessing prior aggression:

This allowed Bandura to **match children into groups with similar aggression levels before exposing them to different conditions:**

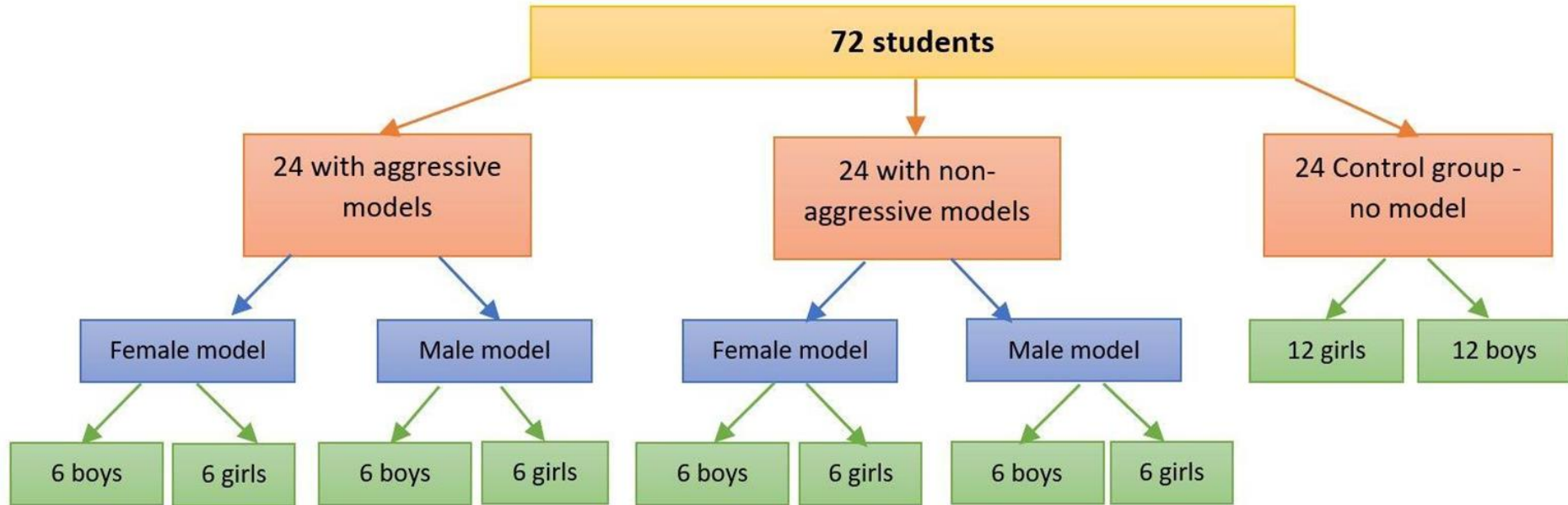
- Aggressive model
- Non-aggressive model
- Control (no model)

This matching ensured that **any differences seen afterward were due to the model's influence**, NOT the children's natural temperament.

# 04

## Methodology

### Design and variables:



### 1. Experimental conditions (involving a model):

- Participants' brought to a **room full of toys and seated at a table in the corner** by the experimenter, who showed them how to make pictures with **potato prints**.
- Multi-colored picture **stickers** were also provided.
- These 2 activities have shown by previous research to have high interest value for children.
- Experimenter then **took the model to another corner of the room** which had a table and chair, tinker toy set, **mallet** and **inflatable bobo doll**.



### Aggressive conditions

- After a minute of playing with the tinker toys, the **model focused on the Bobo doll** and was **aggressive towards it for the remaining 9 minutes.**
- Model laid the bobo doll on its side; **sitting on it and punching its nose.**
- **Lifted it and hit on the head with a mallet, threw the doll up in the air aggressively and kicked it around the room.**
- Sequence **repeated 3 times** along with **verbal aggressive comments.**



# 05

## Procedure

### Non-aggressive conditions

- Model played with tinker toys in a quiet manner and **ignored Bobo doll**.





## 2. Aggression arousal

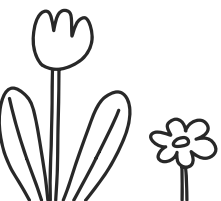


- Before the test for imitation, all participants in the experiment group were taken to a game room to **induce mild aggression arousal**.
- To **ensure all participants were primed to initiate aggressive acts equally**, regardless of the situation they had observed.
- Room had **attractive toys** and they were **told the toys were for them to play with**.
- But **as soon as they became engaged**, experimenter announced that the **toys were reserved for other children**.



### 3. Test for delayed imitation

- Experimental group contained a range of toys; **bobo doll, mallet**, other novel **aggressive toys** such as **two dart guns**, and **non-aggressive toys** such as tea set, crayons and paper, a ball, toy vehicles, and plastic farm animals.
- Participants spent **20 minutes in the room** while their **behavior was recorded using a behavioral checklist via one-way mirror**.
- Behavior was **recorded every 5 seconds**.
- The male model from the experiment observed all trials and for half of the trials, there was a second observer.



05

## Procedure (response measures)

### Imitation of physical aggression

Hitting the bobo doll with a mallet

Sitting on the bobo doll and punching the bobo doll on the nose

Kicking the bobo doll

Tossing the bobo doll into the air

### Imitative verbal aggression

"Sock him in the nose"

"Hit him down"

"Throw him in the air"

"Kick him"

"Pow"

### Imitative non-aggressive verbal response

"He keeps coming back for more"

"He sure is a tough fella"

# 05

## Procedure (response measures)

### Partially imitative behavior

Mallet aggression: striking something other than the bobo doll with the mallet

Sits on the bobo doll: putting the bobo doll on its side and sitting on it non-aggressively

### Non-imitative aggressive acts

Punches bobo doll: slapping or pushing the bobo doll aggressively

Non-imitative physical and verbal aggression: any acts or words that were not performed by the model (e.g.: "stupid bobo doll")

### Complete imitation of model's behavior

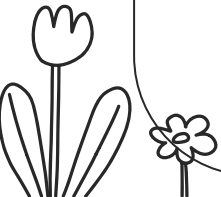
- Participants in the **aggressive model condition demonstrated more physical and verbal aggression** than the non-aggressive and control groups
- 1/3rd of the participants in the aggressive model condition imitated the model's non-aggressive comments





### Sex of the participant/model

- **Boys were more likely to imitate physical aggression** than girls
- **Girls were slightly more likely to imitate verbal aggression** than boys, but this difference was not statistically significant
- Participants who viewed the non-aggressive male model demonstrated significantly less physical aggression.



### Same-sex model

- **Children who viewed a same-sex model imitated them more than an opposite-sex model**
- **Boys who witnessed an aggressive male model has the highest imitative aggressive score; showed more imitative physical and verbal aggression.**
- **Girls were more verbally aggressive and showed more non-imitative aggression with a female aggressive model compared to boys**

### Partial imitation of models' behavior

- Exposure to a **non-aggressive model** inhibited **partially imitative malt aggression**, particularly in girls.
- In the **aggressive model** and **control groups**, partially imitative malt aggression was significantly higher for girls.
- **Sitting on the bobo doll** was initiated more frequently in the **aggressive model** condition than the other 2 conditions.



### Non-aggressive behavior

- Only sex differences in time spent playing with certain toys were:
  - **Girls spent more time playing with dolls**, tea set and coloring compared to boys
  - **Boys spent more time playing with the guns**
- The non-aggressive model had some significant effects on participant's behavior:
  - **Spent more time playing quietly with dolls** than the other 2 conditions
  - Spent more than twice as much time **sitting quietly than those aggressive model condition**

# Table of results

Response category	Children	Model	Experimental groups				Control groups
			Aggressive		Non-Aggressive		
			F	M	F	M	
Imitative Physical Aggression	Female		5.5	7.2	2.5	0.0	1.2
	Male		12.4	25.8	0.2	1.5	2.0
Imitative Verbal Aggression	Female		13.7	2.0	0.3	0.0	0.7
	Male		4.3	12.7	1.1	0.0	1.7
Mallet Aggression	Female		17.2	18.7	0.5	0.5	13.1
	Male		15.5	28.8	18.7	6.7	13.5
Punches Bobo doll	Female		6.3	16.5	5.8	4.3	11.7
	Male		18.9	11.9	15.6	14.8	15.7
Non-imitative aggression	Female		21.3	8.4	7.2	1.4	6.1
	Male		16.2	36.7	26.1	22.3	24.6
Aggressive gun play	Female		1.8	4.5	2.6	2.5	3.7
	Male		7.3	15.9	8.9	16.7	14.3

- Observing an aggressive model can lead to **imitative aggression** in the observer
- **Boys** are more likely to **imitate same-sex models** than girls
- **Boys** are more likely to imitate **physically aggressive behavior** than girls, while **girls** are slightly more likely to imitate **verbally aggressive behavior** than boys
- Behavior of male models is more likely to be imitated overall than the behavior of female models

## Evaluation of the study – Ethical issues



- One **weakness** is the **risk to the children of psychological harm**. 1/3<sup>rd</sup> witnessed aggressive behavior of a model. This group of children are more likely to imitate this aggressive behavior.
- **May demonstrate aggressive behavior even after the study** had ended when they returned home

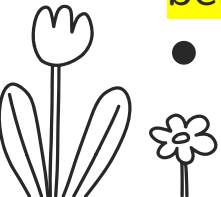


### Reliability (standardization):

- **Reliability:** refers to how **consistent** and **stable** the results of a psychological test, observation, or experiment are.
- Experiment is reliable **if it gives the same or very similar results when repeated under the same conditions.**

Layout of the toys in the experimental room was kept the same for all conditions, length of time the children were observed was the same (20 mins), used same behavioral checklist and behavior was recorded every 5 seconds.

- Hence study was standardized and reliable; a **strength** of the study.





### Reliability (inter-observer reliability):

- **Strength:** high levels of inter-observer reliability found.
- 2 observers independently observed and recorded participants' behavior using a behavioral checklist in 5 seconds intervals.
- Their **results were correlated** and similar (+0.90s)



### Reliability (inter-rater reliability):

- **Strength:** strong inter-rater reliability between the researcher and nursery teacher for aggression scores for children (correlation at +0.89)
- Indicates **high levels of consistency in how children were rated** across the aggression scales.



### Validity (Matched aggression scores):

- **Validity** means **accuracy**: how an experiment **actually measures what it claims to measure**.
- **Strength**: participants were **matched on prior aggression levels**. Using the total scores gained, participants were put into triplets and then randomly assigned to different conditions.
- This **increased validity** as individual differences in prior aggression levels should not have caused any differences between conditions.

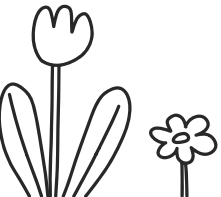


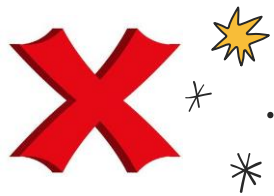




### Objectivity and subjectivity (quantitative data):

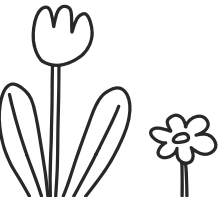
- **Strength:** quantitative data (numerical data) was collected **allowing for more objective comparisons to be made between conditions.**
- Data was collected on the **number of aggressive acts shown by each child**, using a behavioral checklist.
- Enabled comparison of numerical data regarding children's levels of aggression **without bias**, increasing validity.

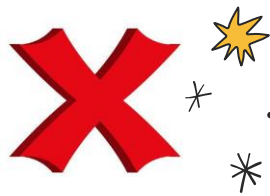




### Validity (only two stooges):

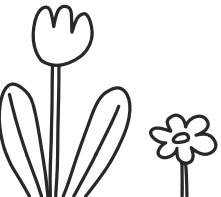
- Only one stooge was used in each male and female condition.
- Meaning, **children may have imitated the model due to some individual feature** that was unique to the model rather than their sex/gender.
- This **may have affected how frequently a model was imitated** and thus the validity of the study, hence it is **weakness**.

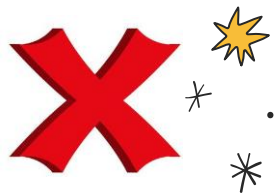




### Objectivity and subjectivity (Inside information):

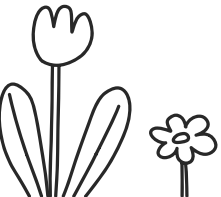
- Main observer for all trials was the **male model from the experiment**.
- He knew which children has been in the male model conditions and may have been **more subjective in his interpretation** of children's behaviors.
- This will **reduce the validity of the data for the male conditions**, as he may have expected the children to behave according to what they have seen.
- Hence this is a **weakness**.

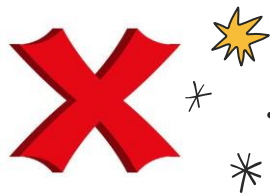




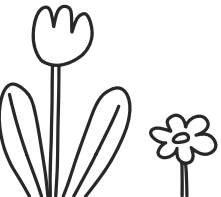
### Generalization and ecological validity:

- **Weakness** is that findings may not be generalized to participants from lower socioeconomic backgrounds.
- Children were all from prestigious university; children may have had educated parents and their home lives may not be representative of the rest of the population.
- This reduces the validity of the findings.





- The situation presented to the children **lacks mundane realism** as it was an unusual set-up, hence **low ecological validity**.
- It is rare that an adult will be seen attacking a toy,
- Children were seen hitting inflatable doll rather than a real person; therefore, it is not possible to assume that the aggressive behavior shown towards the toys would extend to violence towards real people.



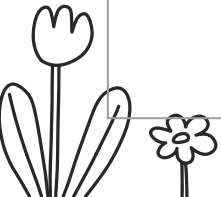


- Use of children in psychological research;

Children **may believe adults expect them to copy** behavior

Children are at **sensitive age of development**, which raises ethical issues for those being exposed to an aggressive model

Risk of **psychological harm due to long-term after-effects**



- Applications to everyday life;

## Television warning:

Physical and verbal aggression can be observed and imitated  
Important for TV networks to consider censoring and provide warning

## Parents:

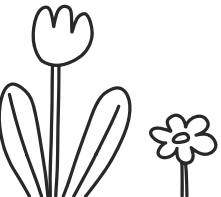
Direct children to watch TV programmes with models demonstrating prosocial behavior



# Test yourself



1. Explain how two results of the study by Bandura *et al.*, support one or more of the assumptions of learning approach [4]
2. Identify one act of physical aggression and one act of verbal aggression demonstrated by the aggressive model in the study by Bandura *et al* [2]
3. Describe how Bandura *et al.* induced mild aggression arousal in participants prior to the test for delayed imitation [2]
4. Suggest one advantage of covert observations using Bandura *et al.*'s study as an example [2]
5. Explain one similarity and one difference between the study by Bandura *et al.*, and one other core study from the learning approach [8]
6. Ellie believes that the findings from bandura *et al.*'s study support individual side of the debate while Sri believes it supports the situational side of the debate. Outline why you think either Ellie or Sri is correct using evidence from the study [10]





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