

Social Learning

Theory and Its Applications to Transportation

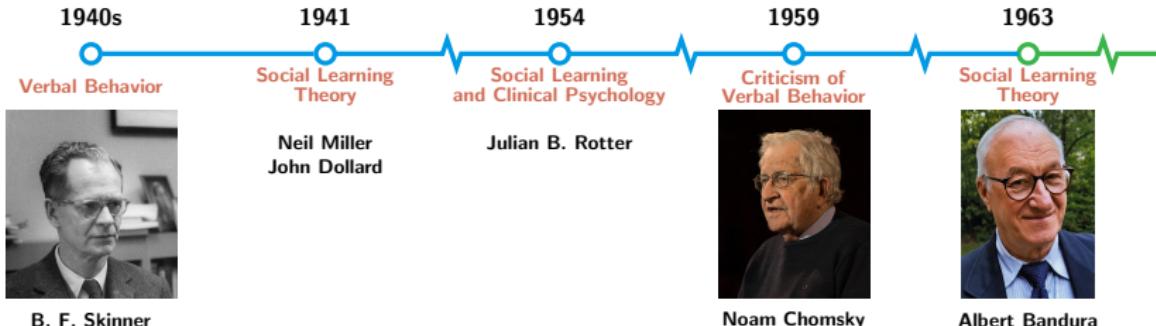
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Outline

- ▶ Background
- ▶ Bobo doll experiments
- ▶ People can learn through observation
- ▶ Sustainable transport innovations
- ▶ An interesting research idea

Background



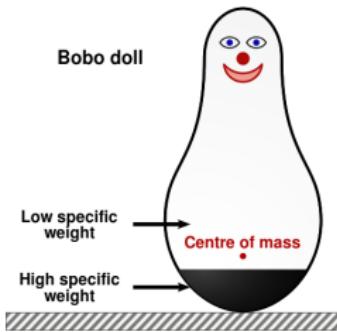
Contribution of Bandura's Theory:

Elements: **attention, retention, reproduction, motivation**

Social Learning = **Observational learning** + **Behavior learning**

Responses to **environmental stimuli**

Bobo Doll Experiments



Bobo Doll Experiments



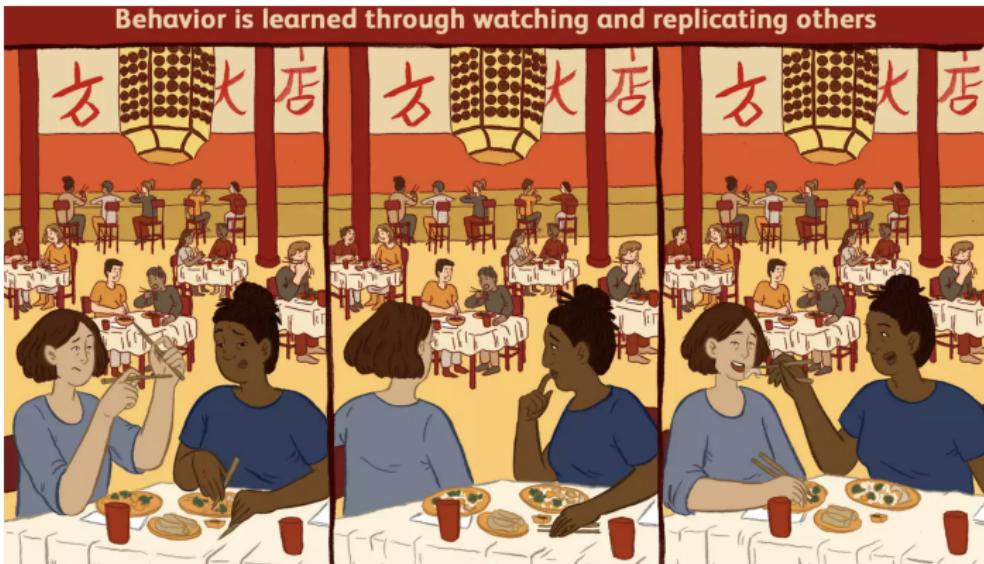
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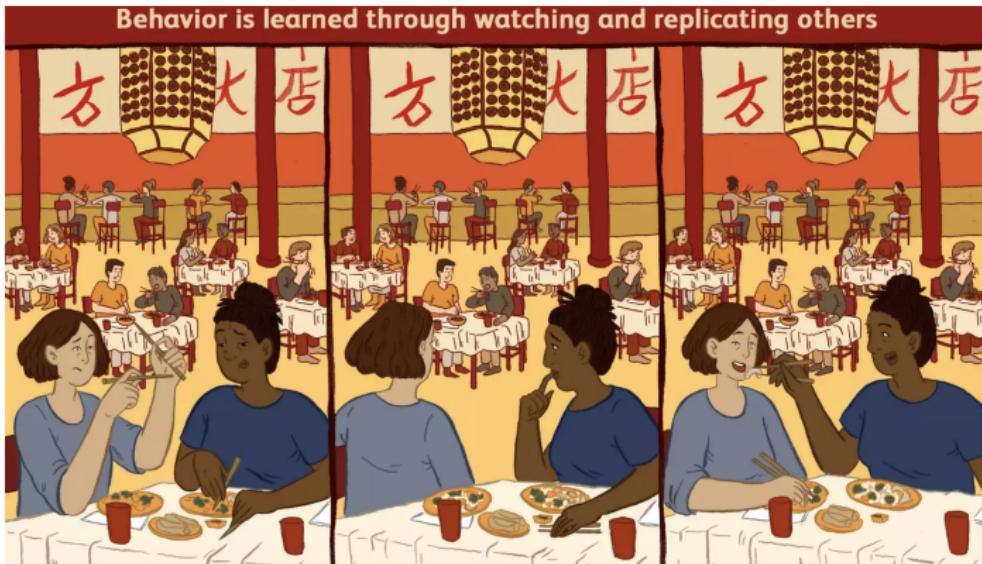
Social Learning = **Observational learning** + **Behavior learning**

Responses to environmental stimuli

People Can Learn Through Observation



People Can Learn Through Observation



Elements of social learning:

- **Attention:** Dedicate attention to learning.
- **Retention:** Ability to store information.
- **Reproduction:** Perform the behavior you observed.
- **Motivation:** Be motivated to imitate the behavior that has been modeled.

- Sustainable Transport Innovations

- Sustainable transport projects (Netherlands)¹:

Public transport travel info.

Traintaxi

Catalytic converter

Autodate

Leiden park & ride

Public transport pass for students

Electronic road pricing

Alternating carpool lane

- How to do?

- Identify sustainable transport innovation projects
- Define factors (e.g., technological, administrative, political, economic)
- Collect data from interviewees
- Apply social learning mechanism

¹J.C.J.M. van den Bergh et al., Social learning by doing in sustainable transport innovations: Ex-post analysis of common factors behind successes and failures. Research Policy, 2007, 36: 247-259.

- Sustainable Transport Innovations

- Sustainable transport projects (Netherlands)²:

Success	Ambiguous	Failure
Public transport travel info.	Autodate	Electronic road pricing
Traintaxi	Leiden park & ride	Alternating carpool lane
Catalytic converter	Public transport pass for students	

- Findings by using social learning:

- **Predominant factors:** Political, process-related, socio-cultural, and psychological factors
- **Less important factors:** Technical and economic factors
- **Communication is an important element of social learning to foster innovations.**

²J.C.J.M. van den Bergh et al., Social learning by doing in sustainable transport innovations: Ex-post analysis of common factors behind successes and failures. Research Policy, 2007, 36: 247-259.

A Potential Research Idea



WeChat



[Idea] Social learning and social network of taxi drivers³

► Idea from In China, it is very common that taxi drivers have some certain Wechat teams for communication. They share and discuss travel demands and traffic conditions with other taxi drivers on Wechat.

[Question] Can social learning and social network help improve the income of taxi drivers?

³Y. Sunitiyoso, et al., On the potential for recognising of social interaction and social learning in modelling travellers' change of behaviour under uncertainty. *Transportmetrica*, 2011, 7(1): 5-30.

Reference

1. Social learning on wikipedia. [[website](#)]
2. Bobo doll experiment on wikipedia. [[website](#)]
3. How social learning theory works. [[post](#)]
4. How observational learning affects behavior. [[post](#)]
5. J.C.J.M. van den Bergh et al., Social learning by doing in sustainable transport innovations: Ex-post analysis of common factors behind successes and failures. *Research Policy*, 2007, 36: 247-259.
6. Y. Sunitiyoso, et al., On the potential for recognising of social interaction and social learning in modelling travellers' change of behaviour under uncertainty. *Transportmetrica*, 2011, 7(1): 5-30.

Thanks for your attention!