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Social Learning

Hyowon Gweon[1]

[1]Stanford University

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Social learning broadly refers to learning that occurs through the learner's social experiences, such as observing or interacting with others. In contrast, asocial or individual learning refers to learning that takes place in the absence of social input, such as through the exploration of one's physical environment. Although many nonhuman species exhibit some forms of social learning, it has gained particular attention in cognitive science due to its role in language acquisition and transmission of cumulative culture. In some cases, social learning can be as simple as an individual observing and reproducing the behavior of another. Social learning in humans, however, can also manifest in more complex ways. In particular, human social learning often occurs in communicative contexts; through the use of language and deliberate teaching, humans can effectively communicate abstract, causal knowledge about the world, complex skills, and social norms. Many societies also leverage cultural institutions such as schools and other forms of formal and informal education to facilitate social learning at scale. Although there is some cultural and individual variability, social learning is ubiquitous, emerges early in life, and continues throughout the lifespan.

History

The idea that humans learn from others has been recognized in ancient philosophy, dating back to Confucius (551–479 BCE) and Plato (429–347 BCE). In particular, Aristotle (384–322 BCE) noted the early-emerging human proclivity for imitation and its role in language learning (Shields, 2023). In modern psychology, Vygotsky (1978) and Bandura (1977) are among the pioneers who emphasized the importance of social and environmental influences on learning.

Social learning has often been characterized as a relatively passive process in which a learner benefits from observing a model's behavior. This simple characterization has been useful in studying social learning in nonhuman species or modeling the process of cultural transmission over multiple generations at the population level (Rendell et al., 2010; Thompson et al., 2022). In humans, however, social learning is often active, communicative, and context dependent; young children ask questions and seek social input from others, share their own knowledge with others, and consider various factors to decide when or from whom to learn (e.g., Gergely, Bekkering, & Kiraly, 2002; Harris, 2012). Today, how humans learn from others and help others learn is an active area of research that employs a range of methodological approaches, including behavioral experiments with children and adults, computational modeling, and neuroimaging.

Core concepts

Imitation has been extensively studied as a form of social learning in which a learner observes and reproduces a model's behavior. Compared to emulation, which refers to modeling the goal rather than the action itself, imitation often emphasizes re-enactment of the observed action. While imitation emerges early in life, studies suggest that even infants show rational imitation rather than indiscriminate re-enactment, meaning that they tend to imitate—rather than emulate—when the action is considered as a rational means toward the goal

(Gergely, Bekkering, & Kiraly, 2002). In some contexts, children may also re-enact actions that are clearly unnecessary for the goal (overimitation; Lyons, Young, & Keil, 2007), which may have implications for acquiring cultural practices or complex sequences of actions that are causally opaque, such as rituals or skills that serve functions that are not obvious to a naïve observer.

Social learning is particularly crucial for language acquisition; at the same time, language acquisition enables children to leverage verbal communication to learn about the world [see Language Acquisition]. While young children generally tend to trust information provided by adults, they also become increasingly adept at reasoning about others' knowledge to decide whom to trust (epistemic trust, or trust in testimony; Harris et al., 2018).

On the flip side of learning from others is facilitating others' social learning via informing, or teaching (Kline, 2015). From joint attention and simple communicative gestures (e.g., pointing) [see Gesture] to pedagogical demonstrations and verbal instructions, the human ability to help others learn by communicating their knowledge undergoes significant developmental change throughout early childhood.

Questions, controversies, and new developments

Rather than indiscriminately copying observed behaviors, many species, including humans, exhibit selective social learning. Yet, theories differ in how they explain the mechanisms that underlie such decisions. Some accounts are grounded in the idea that different species have evolved different social learning strategies triggered by specific cues (e.g., the body size or age of the model; Kendal et al., 2018); others appeal to domain-general learning mechanisms, such as associative learning or reinforcement learning, that allow learners to prioritize learning from those whose actions are more successful or yield higher rewards (Heyes, 2015; Olsson, Knapska, & Lindström, 2020).

Given the complexity of human social behavior, it is unlikely that a single mechanism is responsible for all aspects of social learning. As such, different theoretical accounts have emphasized various aspects of human cognition to explain what makes human social learning so distinctive and powerful. Natural pedagogy refers to the idea that humans are predisposed to interpret social input as generalizable, especially when it is highlighted by ostensive cues such as eye gaze and child-directed speech (Csibra & Gergely, 2009). The human proclivity for joint attention, teaching, and cooperative communication may also help cultural knowledge to accumulate and evolve over time, giving rise to the ratchet effect (Tomasello, Kruger, & Ratner, 1993), in which cultural knowledge tends to accumulate across generations. Other accounts (e.g., inferential social learning, Gweon, 2021) emphasize early-emerging inferential abilities, suggesting that humans draw rich inferences from both individual and social experiences and, in particular, leverage mental-state reasoning in social contexts [see Theory of Mind] to learn from others and help others learn.

Broader connections

Social learning has immediate connections to topics in cognitive science, such as cognitive development, social cognition (in particular theory of mind), and animal cognition.

Social learning in humans can also be studied in varying timescales (from early development to evolutionary processes), scope (from specific contents such as word learning or causal reasoning to its role in culture and society), and levels of analysis (from neural and cellular mechanisms to multiagent environments). As such, social learning is a topic of interest in many other fields that deal with human behavior, including anthropology, linguistics, education, evolutionary biology, economics, and artificial intelligence.

Further reading

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