Perception of Experience Influences Altruism and Perception of Agency Influences Trust in Human-Machine Interactions (Extended Abstract)

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Abstract

It has been argued that human social and economic interactions depend on the perception of mind of the interacting partner. Minds are perceived along two dimensions: experience, i.e., the ability to feel, and agency, i.e., the ability to act and take responsibility for one's actions. Here, we pair participants with bots in a dictator game (to measure altruism) and a trust game (to measure trust) while varying the bots' perceived experience and agency. Here, we pair participants with bots in a dictator game (to measure altruism) and a trust game (to measure trust) while varying the bots' perceived experience and agency. Results demonstrate that the perception of experience influences altruism, while the perception of agency influences trust.

The seminal work of Gray et al. (Gray, Gray, and Wegner 2007) demonstrated that people perceive the minds of others along two dimensions: (i) experience, i.e., the capacity to feel emotions; and (ii) agency, i.e., the capacity to plan and act. Despite numerous studies examining the perception of agency and experience, the role that these two dimensions play in altruism and trust is unknown. We hypothesize that the perception of experience in an interaction partner predicts acting altruistically towards them. Another hypothesis we put forward is that the perception of agency in an interaction partner predicts trust towards them. To test these hypotheses, we employ two canonical games: a one-shot Dictator Game (DG) and a one-shot Trust Game (TG). The amount shared in DG serves as a proxy measure for altruism and prosocial behavior, while the amount shared in TG reflects the allocator's assessment of the receiver's trustworthiness. We paired 150 participants with bot partners in DG and TG while manipulating the bot's experience by writing *'This robot is [capable / not capable] of feeling pain'* and manipulating the bot's agency by writing: *'This robot is [capable / not capable] of planning actions and exercising self-control*.'

Results

In Figure 1, participants act more altruistically toward bots that are described as having experience, regardless of whether they have agency. Similarly, as shown in Figure 1b, participants show greater trust in bots that are described as having agency, regardless of whether these bots have experience. These findings provide causal evidence that the perception of experience influence altruism and perception of agency influences trust.

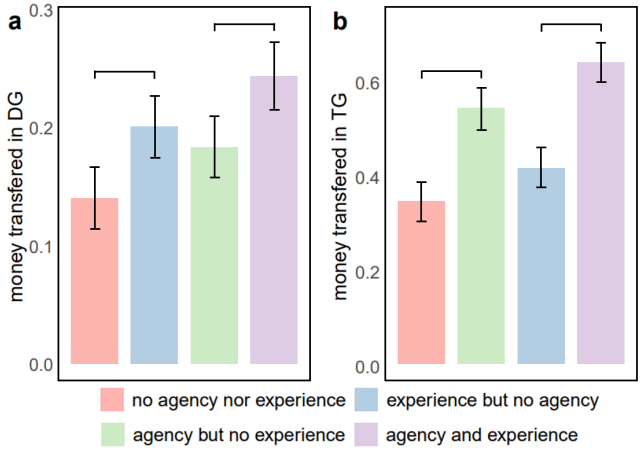

Figure 1: Money transferred in DG and TG.

References

Gray, H. M.; Gray, K.; and Wegner, D. M. 2007. Dimensions of mind perception. *science*, 315(5812): 619–619.