

What Have You Done? Moral Evaluation of Human and Robot Victimizers in Japanese Preschoolers

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Studies on moral development in pre-schoolers classically involve a human character as violator of moral norms (Arsenio and Lover, 1995; Kim et al., 2016; Malti et al., 2016; Turiel, 2015). No studies have ever analysed the situation in which the violator is a robotic agent, although growing empirical and theoretical evidence shows that robotic agents can be perceived as social partners in the child-robot interaction (Di Dio et al., 2018; Manzi et al., 2017; Marchetti et al., 2018). Investigating moral judgment to a moral transgression through use of the Happy Victorizer Task, as well as its effects on prosocial behaviour measured by means of the Dictator Game (DG), Gummerum et al. (2010) showed that children's emotion attribution to a human victimizer can predict children's altruistic behaviour (see also, Krettenauer et al., 2008). On the basis of this study, which underlines children's sensitivity to violations of moral norms by a human partner, a recent study (Manzi et al., 2019) was aimed at replicating the effects observed in Gummerum et al. in Japanese pre-schoolers aged 5 years. Crucially, this study involved, besides a child victimizer (CV), a robot victimizer (RV). The victimizer's agency effect on the children's evaluation of moral transgressions and on children's altruistic behaviour was investigated. The results on the DG showed no differences in children's altruistic behaviour toward another human as a function of the victimizer's agency. Nevertheless, children found it more difficult to attribute emotions to RV when breaking the norm with respect to CV. These results indicate that, although there was a tendency in children to distinguish the victimizers' emotional engagement when violating norms, the human and the robot still possibly represented for children similar moral entities – at least within this experimental frame –, as shown by the lack of differences in children' altruistic behaviour.

References

1. Arsenio, W., & Lover, A. (1995). Children's conceptions of sociomoral affect: Happy victimizers, mixed emotions, and other expectancies. *Morality in everyday life: Developmental perspectives*, 87-128.
2. Di Dio, C., Manzi, F., Itakura, S., Kanda, T., Ishiguro, H., Massaro, D., & Marchetti, A. (in press). It does not matter who you are: fairness in preschoolers interacting with human and robotic partners. *International Journal of Social Robotics*
3. Gummerum, M., Hanoch, Y., Keller, M., Parsons, K., & Hummel, A. (2010). Preschoolers' allocations in the dictator game: The role of moral emotions. *Journal of Economic Psychology*, 31(1), 25-34.
4. Kim, E. B., Chen, C., Smetana, J. G., & Greenberger, E. (2016). Does children's moral compass waver under social pressure? Using the conformity paradigm to test preschoolers' moral and social-conventional judgments. *Journal of experimental child psychology*, 150, 241-251.
5. Krettenauer, T., Malti, T., & Sokol, B. W. (2008). The development of moral emotion expectancies and the happy victimizer phenomenon: A critical review of theory and application. *International Journal of Developmental Science*, 2(3), 221-235.
6. Malti, T., Colasante, T., Zuffianò, A., & de Bruine, M. (2016). The physiological correlates of children's emotions in contexts of moral transgression. *Journal of experimental child psychology*, 142, 372-381.

7. Manzi F., Massaro D., Kanda T., Tomita K., Itakura S., & Marchetti A. (2017, September). Teoria della Mente, bambini e robot: l'attribuzione di stati mentali. Paper presented at XXX Congresso AIP Sezione di Psicologia dello Sviluppo e dell'Educazione, Messina, September 14th-16th, 2017.
8. Manzi, F., Di Dio, C., Massaro D., Itakura, S., Kanda, T., Ishiguro, H., & Marchetti, A. (in prep). Can we do the same thing? A study on the attribution of emotions to a robot and a human in a situation of moral transgression in Japanese pre-schoolers
9. Marchetti, A., Manzi, F., Itakura, S., & Massaro, D. (2018). Theory of mind and humanoid robots from a lifespan perspective. *Zeitschrift für Psychologie*, 226, pp. 98-109
10. Turiel, E. (2015). Moral development. *Handbook of child psychology and developmental science*, 1-39.