

The effect of temperature environment on moral decision-making: Investigating the reproducibility

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論文名	The effect of temperature environment on moral decision-making: Investigating the reproducibility (温度環境が道徳的意思決定に及ぼす影響：再現性の観点からの検討)			
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論文審査の結果の要旨

In this research, four experiments were performed to examine the role of temperature in moral decision-making. Temperature is one of the major environmental factors that people are exposed to on a daily basis, often in conditions that do not afford control. It is known that heat and cold can influence a person's productivity and performance in simple tasks. With respect to social cognition, it has also been suggested that temperature impacts on relatively high-level forms of decision-making. Previous research demonstrated that cold temperature promotes utilitarian judgment in a moral dilemma task. This effect could be due to psychological processing, when a cool temperature primes a set of internal representations (associated with "coldness"). Alternatively, the promotion of utilitarian judgment in cold conditions could be due to physiological interference from temperature, impeding on social cognition. Refuting both explanations of psychological or physiological processing, however, it has been suggested that there may be problems of reproducibility in the literature on temperature modulating complex or abstract information processing.

To examine the temperature effect on moral decision-making, a series of experiments using ambient and haptic temperature was conducted with careful manipulation checks and modified task methodology. Experiment 1 manipulated room temperature with cool (21°C), control (24°C) and hot (27°C) conditions and found only a cool temperature effect, promoting utilitarian judgment as in the previous study. Experiment 2 manipulated the intensity of haptic temperature but failed to obtain the cool temperature effect. Experiments 3 and 4 examined the generalizability of the cool ambient temperature effect with another moral judgment task and with manipulation of exposure duration. However, again there were no cool temperature effects, suggesting a lack of reproducibility. Despite successful manipulations of temperature in all four experiments, as measured in body temperature and the participants' self-reported perception, no systematic influence of temperature was found on moral decision-making.

Taken together, the findings in this research trace the limited reproducibility of effects from temperature on moral judgment, and thus serve to caution against overinterpretation when psychologizing about the embodied "cold-heartedness" or "cool-headedness." The onset of psychological and physiological signatures of temperature does not co-occur with influences on

moral judgment. That is, awareness of cold does not lead to a change in moral judgment. In conclusion, it is proposed that, at least in the range of temperatures from 21 to 27 °C, the cool temperature effect in moral decision-making is not a robust phenomenon. In other words, moral judgment is not easily changed in a mild-range temperature environment, which is a finding with important societal implications. The findings in the present research realize a valuable achievement in the area of psychological science.

Therefore, we conclude that this thesis deserves to be acknowledged as a doctor's thesis (Systems Life Sciences).