Physical Warmth and Perceptual Focus: A Replication of IJzerman and Semin (2009)

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Abstract

With the changing of modal research practices in psychology, the grounded cognition perspective (sometimes categorized under the more popular term of “social priming”) has become heavily criticized. Specifically, LeBel and Campbell (2013) reported a failed replication of a study involving what some would call “social priming.” We sought to replicate a study from our own lab (IJzerman & Semin, 2009), to investigate the reproducibility of the reported effect that physical warmth leads to a greater focus on perceptual relations. We also improved our methods to reduce potential experimenter’s bias (cf. Doyen, Klein, Pichon, & Cleeremans, 2012). We successfully replicated the finding that a simple cue of physical warmth makes people more likely to adopt a relational focus.

Methods

Participants

A power analysis using G*Power [20], based on IJ&S’ effect size, indicated that our study required 115 Participants to obtain...
Figure 1. Example of an item used in the perceptual focus task. The target object (in Dutch 'doelobject') is a triangle (pattern) consisting of three squares (individual properties). The alternative figure A represents the individual perspective (same individual objects). Alternative figure B represents the relational perspective (same pattern).

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A

B

The target object (in Dutch 'doelobject') is a triangle (pattern) consisting of three squares (individual properties). The alternative figure A represents the individual perspective (same individual objects). Alternative figure B represents the relational perspective (same pattern). A first experimenter filled the mugs and randomly assigned participants to the warm (N = 66) or the cold (N = 62) fluid condition (out of sight for the second experimenter). Then she put the mug in front of the participant without further interacting. The second experimenter, who approached and instructed participants, was thus not aware of the temperature condition. When a participant asked why the cup was filled with water, the second experimenter would state that this would provide a more accurate view of the consumer test. (See Table S1 in the Text S1).

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We replicated IJ&S' statistical analysis (a multiple regression analysis with temperature condition as independent variable, controlling for gender). Language abstraction score was not measured in this study as IJ&S did since we were interested in the association between physical warmth and perceptual focus for the current replication. The analysis confirmed that “warm” participants had a greater relational perspective than “cold” participants, $\text{sr} = .33, t(125) = 3.84, p < .01$. Controlling for gender, the residualized means and standard errors were $M = 1.69, SE = .03, 95\% \text{ CI} [1.63,1.76]$ for the ‘warm’ participants and $M = 1.51, SE = .03, 95\% \text{ CI} [1.44,1.58]$ for the ‘cold’ participants. In the original IJ&S study, residualized means and standard errors (controlling for gender) were, $M = 1.69, SE = .03, 95\% \text{ CI} [1.64,1.75]$ for the ‘warm’ participants and $M = 1.61, SE = .02, 95\% \text{ CI} [1.56,1.66]$, for the ‘cold’ participants. Our findings thus replicate IJ&S’ findings that a simple cue of warmth makes people more likely to adopt a relational perspective. A post-hoc power analysis indicated that the power of the current study was .79, approximating typically recommended standards [22]. Data of this study are publicly available.

Discussion

We replicated a study earlier reported by IJzerman and Semin [7] and found a comparable effect. Our finding provides empirical support for the notion that “warm” (as compared to “cold”) participants focus more on relational (vs. individual) properties. It is true that our replication was not “exact”, but no study in psychology can be so. Replications fall on a range from close to conceptual, and our study can be found more towards the anchor of being a “close replication” [17]. We thus acknowledge small changes in method (room vs. cup; lab vs. public space; Utrecht vs. Tilburg University), but we feel that we offered an improved method, further confirming IJ&S’ effect, and, because of our larger sample, more accurately estimated the effect size. A limitation is that neither study included a neutral condition (e.g., a mug with water that has room temperature). This way, it is not possible to...
determine whether differences are due to the effect of the cold mug (temperature decrease), the warm mug (temperature increase), or both. Future studies might address this issue.

The current findings further add to the present debate on the reproducibility of “warmth priming” and the issue of the experimenter bias, typically associated with this related field of “social priming” [8]. As a closing comment, we highly encourage researchers from independent labs to further replicate these social embodiment findings, as replicability is an ever-increasing important facet of psychological research.

Supporting Information

Text S1 The inclusion of the variable attachment in our research and outcomes are discussed here. Table S1.

References