

So close and yet so far away: An effect of disgust on tool and distance perception

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Abstract

Previous research has shown that fear and arousal can influence the perception of spatial layout (Stefanucci & Proffitt, 2009; Stefanucci & Storbeck, 2009). In a series of studies, we examined the relationship between disgust and perception, particularly the perception of tools. In Study 1, we tested whether placing a disgusting substance on a tool would alter the way in which people grasped the tool. Using Creem & Proffitt's (2001) paradigm, which showed that people picked up tools by their handle even when the handle was oriented away from them, we showed that people will not grasp the handle when the tool has a disgusting substance on it. In Study 2, we assessed whether disgust influences the perceived distance to the object before the grasp. Participants were placed into a contamination, disgust or clean condition. The disgusting tools were covered in a sticky white substance. The contaminated tools appeared to be disgusting but were clean. All participants estimated the distance to and picked up tools at three distances (20, 30, and 40 cm) with two orientations for the handle (toward or away). Participants in the disgust condition estimated the tools to be significantly closer than participants in either the contaminated or neutral conditions. In Study 3, we assessed whether disgust would affect reachability. Participants with their arms to their sides estimated when a tool (being slid across a table) was just within their reach. Participants in the disgust condition, when compared with participants in the clean and contaminated conditions, moved the tool farther away from them in order to be within reach. Taken as a whole, these studies suggest that disgust may influence our interactions with objects and our perceptions of the distance to those objects in near space.

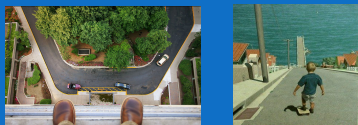
Introduction

Previous work on tool perception showed that:

- 1) People pick up tools by their handles (Creem & Proffitt, 2001).
- 2) People perceive the distance to a tool as farther when it is harder to pick up (Linkenauger et al., in press).

Previous work on emotion and perception showed that:

- 1) Fear makes heights look taller when viewed from the top (Stefanucci & Proffitt, 2009; Stefanucci & Storbeck, 2009) and slants look steeper from the top (Stefanucci et al., 2008).



What about other emotions and other perceptions?

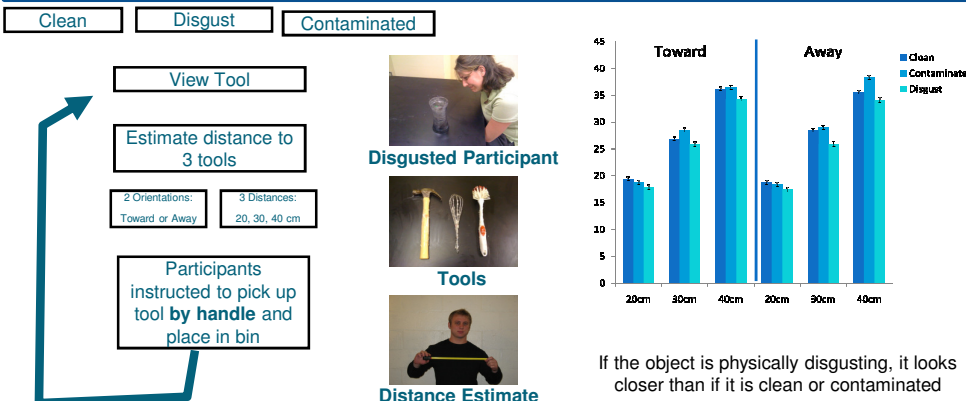
Our Question:

Does disgust influence our interaction with tools and our perception of the distance to the tools?

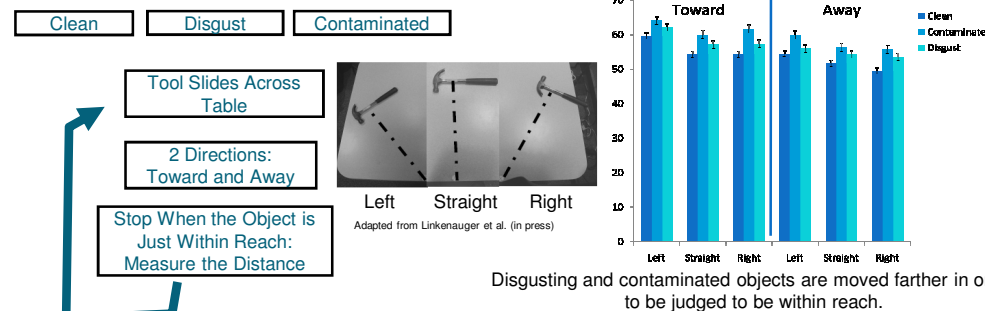
Experiment 1: Interaction



Experiment 2: Distance



Experiment 3: Reachability



Discussion

➤ Experiment 1: People did not pick up a tool by the handle when it was covered with a physically disgusting substance. However, they were not bothered by the contamination manipulation that we employed.

➤ Experiment 2: If observers had to touch/pick up a physically disgusting object, then they estimated it to be closer than observers who picked up clean or contaminated tools.

➤ Experiment 3: Observers move disgusting and contaminated objects farther away in order to perceive them as being just within reach.

➤ Taken together, these results suggest that disgust can influence interactions with tools, the perception of the distance to tools and the perception of the distance at which tools are within reach.

Conclusions

➤ Disgust can influence how a tool is grasped and picked up.

➤ Disgusting tools are seen as closer and must be pushed farther from the observer to be viewed as just within reach.

References

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