

Alex Liebscher  
September 21, 2020

## Norman Design Fund: Effects of Battle and Journey Metaphors on Charitable Donations for Cancer Patients

Our primary research question asked whether exposure to metaphor affected not only our thoughts, but also our behavior. There's a long history of work asking whether exposure to linguistic metaphor can affect cognition. Most experts agree that metaphorical framing is integral to how people conceptualize a variety of common life experiences, and can be leveraged to design more effective communications (Lakoff and Johnson, 1980; Gibbs, 1994; Kövecses, 2015).

Researchers have recognized the consistent use of metaphors by cancer patients across mediums, locations, and languages (Reisfield and Wilson, 2004; Semino, Demjén, Demmen, et al., 2017; Magaña and Matlock, 2018). Others have demonstrated that such cancer metaphors can influence one's thoughts and perceptions about the disease and those who are being treated against it (Hendricks et al., 2018; Hauser and Schwarz, 2019). Such work though has examined only hypothetical or intended action. Moreover, one's thoughts and perceptions do not necessarily predict their behavior. To address this gap, we examined at scale one type of realistic overt behavior, charitable giving, and whether the design of the appeal's language, through metaphor, can influence this behavior. On the basis of an observational corpus study we performed, we conducted a pre-registered, randomized controlled experiment that manipulated the presence and family of metaphor in an artificial cancer-related crowdfunding campaign.

The Norman Design Fund was used in whole to pay 6,403 participants on Amazon Mechanical Turk. This study tested our research question in a controlled and randomized setting, but failed to find an effect of general metaphor presence. In exploratory analyses, we found marginal effects of using individual families of metaphor. Moreover, the results suggest that the effect of metaphor on donation behavior may interact with both the donor and recipient genders, suggesting a contextually dependent effect.

Our results offer a step forward in understanding how metaphorical language can influence both thought and overt behavior. We are currently drafting a manuscript for submission to the Journal of Experimental Social Psychology. The observational corpus study of which we based our experimental work on was accepted and presented at this year's Meeting of the Cognitive Science Society conference. Without the generous funding provided by the Norman Design Fund, data collection for this experimental design would not have been made possible. We hope our results will inform both cognitive scientists interested in the behavioral effect of metaphors, and to patients seeking the most effective language for their cancer experience.