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Epistemic motives moderate the effect of metaphoric framing on attitudes

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HIGHLIGHTS

- Exposure to a metaphorically framed message uniquely influences attitudes.
- We test moderation by observers' prior motivation to interpret the target issue.
- Lay epistemology theory posits three motives: certainty, consistency, and accuracy.
- Metaphoric framing influenced target attitudes only when it served these motives.
- Findings illuminate when and why people rely on metaphor to think.

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ABSTRACT

People frequently encounter messages framing abstract sociopolitical issues (e.g., drug law enforcement) metaphorically in terms of superficially unrelated, more concrete concepts (e.g., military combat). These metaphoric framings are not mere figures of speech; instead, they prompt observers to interpret the target issue using their knowledge of the concrete concept, despite their surface differences. In this paper we examine how this effect is moderated by observers' motivation to think about the target issue. Integrating conceptual metaphor and lay epistemology theories, we propose that metaphor can satisfy three epistemic motives: to be certain, consistent, and accurate. Studies 1a–b provide preliminary evidence that participants exposed to a metaphoric framing transfer knowledge of a concrete concept (vehicle operation) to interpret a target issue (system failure). Studies 2 to 4 show that this effect holds only when the metaphoric framing serves an epistemic motive. Findings illuminate when and why people rely on metaphor to think.

Commenting on a proposed oil pipeline that would further reliance on non-renewable energy sources, former Vice President Al Gore said, "Junkies find veins in their toes when their arms and legs go out" (Sheppard, 2013). This is an example of a metaphoric framing: a message comparing (typically by means of words or images) an abstract concept to a superficially unrelated concept that is relatively more concrete. Metaphoric framings are commonly used in public discourse (e.g., magazine editorials, political speeches, campaign ads) to communicate about controversial sociopolitical issues including terrorism (Kruglanski, Crenshaw, Post, & Victoroff, 2007), immigration (O'Brien, 2003), war (Lakoff, 1991), and abortion (for detailed qualitative analyses, see Charteris-Black, 2011; Musolff & Zinken, 2009). Experimental research shows that these messages are more than figures of speech: they prompt observers to draw on their knowledge of the message's concrete concept (in the Gore example, drug addiction) to interpret the target issue (reliance on fossil fuels), even though the two concepts are quite different at a surface level.

Until now this research has assumed that metaphoric framings result in metaphor-consistent attitudes regardless of who is receiving the message. Yet that is unlikely because people are motivated to interpret information in particular ways. Lay epistemology theory (Kruglanski, 1989), a broad perspective on motivated social cognition, helps us to predict when metaphoric framings are most likely to influence attitudes. The theory identifies three epistemic motives that guide information processing: to be certain, consistent with prior attitudes, or accurate. The current studies test how each motive moderates metaphoric framing effects. In doing so, these studies advance understanding of the conditions under which people rely on metaphor to think (and not just talk) about concepts that lie at the center of social life.

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Conceptual metaphor theory and research

Our starting point is conceptual metaphor theory's claim that metaphor is not merely a communication device. Instead, it is a cognitive tool that people can use to understand an abstract or complex concept (called the "target") in terms of a dissimilar concept (the "source") that is relatively more concrete and easier to comprehend (Gibbs, 1994; Lakoff & Johnson, 1980).

Metaphor use facilitates understanding of the target by mentally mapping its features onto analogous features of the source. In this way, an accessible metaphor supports interpretations of the target that are consistent with knowledge of the source. More specifically, the metaphor transfers source knowledge in a way that highlights some target features and downplays others. For example, using metaphor to understand cancer recovery as a physical journey (Penson, Schapira, Daniels, Chabner, & Lynch, 2004) maps features of cancer recovery (the target) onto analogous features of goal-directed motion along a path (the source). This helps people to understand recovery as movement from a "starting point" (going to the doctor) to an intended "destination" (remission). And because they know that physical paths can be difficult to navigate, they can make sense of why they are enduring pain and uncertainty as their recovery progresses. Thinking about the same target in terms of an alternative source, or without a metaphor, would highlight different target features and support different interpretations.

Supporting this analysis, studies in cognitive psychology show that explicitly provided metaphors prompt people to transfer source knowledge to interpret a target. In one study (Gick & Holyoak, 1980), participants read a scenario in which an army successfully besieged a well-defended city by splitting up and surrounding it on all sides. They were then asked to solve a medical problem: how to focus enough radiation on a tumor to destroy it without damaging the surrounding tissue. The solution is to pass several weak emissions of radiation from multiple angles so that they converge on the tumor, with no one dose so concentrated to damage the surrounding tissue. Among the participants prompted to think back to the military scenario, 76% generated this solution, whereas only 10% of the control participants did so. Although the scenarios shared few similarities at a surface level, participants were able (with sufficient coaching) to transfer knowledge of the well-known scenario to process analogous features of the uncertain scenario.

Prior research: metaphoric framing influences attitudes

Social psychological research builds on this work and goes significantly further, demonstrating that even brief exposure to a metaphoric framing triggers metaphor use. Metaphoric framing research involves a relatively subtle procedure whereby participants are not explicitly asked to think about the target in terms of the source. Yet the use of metaphoric language can prompt people to bring their target attitudes in line with their knowledge of the source to which it is compared.

For example, participants who read a message framing the stock market as a living agent (e.g., "the NASDAQ started climbing upward") were more likely to infer that price trends would continue along their current trajectory compared to participants who read a message framing the stock market as an inanimate object ("the NASDAQ was swept upward"; Morris, Sheldon, Ames, & Young, 2007). Similarly, participants who read an article framing a city's crime problem as an aggressive animal supported punitive crime-reduction strategies more than those who read an article framing crime as a viral disease, who preferred to address the root causes of crime (Thibodeau & Boroditsky, 2011).

These effects are consistent with the hypothesized knowledge transfer process, even if these studies did not directly test this process. That is, participants exposed to an agent-metaphoric framing presumably transferred their knowledge of living agents (they move with intention) to interpret the target issue, while those presented with a disease-metaphoric framing transferred their knowledge of curing disease (address root causes) to interpret the target issue. In fact, Thibodeau and Boroditsky (2011; Study 3) showed that priming the concepts "beast" or "virus" did not, in itself, influence participants' support for crime-reduction strategies; only when these concepts framed the target issue did participants exhibit source-consistent attitudes.

An important practical implication of this work is that metaphoric framings pervading public discourse have powerful but largely unrecognized consequences for how people make judgments and decisions about major sociopolitical issues. Yet it has so far assumed that observers exposed to a metaphoric framing passively adopt the relevant metaphor and apply it to interpret the target issue. This is unlikely to be the case, and an important next step is to model the person- and situation-level factors that moderate this effect.

Cognitive psychologists have already identified some factors constraining people's ability to successfully compare two concepts (Bowdle & Gentner, 2005; Glucksberg & Haught, 2006; Jones & Estes, 2006; Thibodeau & Durgin, 2011). Yet this research focuses on what persuasion researchers refer to as message characteristics, or aspects of the message's content (Hovland, Janis, & Kelley, 1953). For example, people are more likely to accept a metaphoric comparison if the target and the source are semantically close (e.g., comparing the Persian Gulf War to Vietnam: both are military interventions) versus remote (e.g., comparing the Persian Gulf War to an avocado). The current research is the first to examine moderation by observers' motivation to think about the target issue prior to metaphoric framing exposure.

The current research: epistemic motives and metaphor use

In many real-world contexts where people encounter metaphoric framings, such as in newspapers or online news sites, they are not neutral toward the target issues; rather, they desire particular types of knowledge. Kruglanski's (1989) theory of lay epistemology identifies three such epistemic motives. Integrating this framework with conceptual metaphor theory yields novel hypotheses about how each motive may moderate metaphoric framing effects.

Certainty motivation

Also called the need for nonspecific closure, this is the motive to seize on the first available judgment or decision without extensive effort. When this motive is high (e.g., in response to salient informational uncertainty), people do not have a strong preference for one interpretation over another; instead, they desire a simple, clear-cut interpretation regardless of the specific conclusions they reach (Kruglanski, 2004).

As noted earlier, conceptual metaphor theory posits that metaphor use helps people understand a target concept that they otherwise find uncertain. Combining these theories led us to hypothesize that when people have difficulty confidently understanding a sociopolitical issue (e.g., illegal drug regulation), they would seize on a metaphor comparing that issue to a concrete and familiar concept (e.g., enforcing drug laws protects society's "body" from sickness). More specifically, we predicted that metaphoric framing would produce source-consistent attitudes among observers induced to feel uncertain about the target issue, but not those who feel they already understand the issue. We test this hypothesis in Study 2 using a metaphoric framing procedure that we validate in Studies 1a and 1b (as explained below).

Consistency motivation

Also called the need for specific closure, this is the motive to maintain particular interpretations of a target issue that are consistent with previously held attitudes. Many studies show that people who hold strong attitudes on issues readily accept messages that support prior attitudes and reject messages that contradict them (Kruglanski, 2004; Lord, Ross, & Lepper, 1979).