

WORDS MATTER, ESPECIALLY WHEN METAPHORICAL: THINKING THROUGH METAPHORS

Summary of an Investigation of 2 Contrasting Metaphors in Action Shows How even Simple Metaphors Govern Thinking about Complex Social Issues

Source: Paul .H. Thibodeau and Lera Boroditsky. Metaphors We Think With: The Role of Metaphor. *PLOS One*: 1-11, 6(2), February 2011, e16782.

Crime is a serious and complex social policy issue.

Therefore, how people conceptualise and reason about the crime problem and its policy solution is very important for a society.

Furthermore, metaphors abound in public debate about crime and its solution. A few typical examples are 'crime waves', 'crime spikes', and 'crime spree, crime epidemic'. Many others will be recalled with a few minutes thinking.

The investigators undertaking this study explore how metaphors shape understandings ('knowledge structures') and influence the way people reason in order to determine whether metaphors have real implications for thinking.

Specifically they asked survey participants: "do we reason about complex social issues in the same way that we talk about them: through a patchwork of metaphors?"

1. QUESTIONS

- What is the role, if any, of metaphors in reasoning?
- Do people reason differently when different metaphors are used?

2. PRE –EXPERIMENT (Norming) SURVEY

QUESTION: What should be done to solve a "virus" or "beast" problem? That is, How would you solve **literally** (rather than metaphorically) a virus or beast problem?

Participants (28) were asked "to imagine a virus a 'virus infecting a city' or a 'wild beast preying on a city' and propose a solution.

Results:

1. Virus (contagious disease) infecting a city: investigate source; implement prevention measures; develop vaccine; educate to avoid.
2. Beast (wild animal) preying on a city: capture beast; kill/cage it; hunting party.

3. QUESTION ABOUT CRIME

When **Crime = 'VIRUS' or 'BEAST'** do people reason differently?

“Might [the] schematic representations for solving literal virus or beast problems transfer to people’s reasoning about crime if crime is metaphorically framed as a virus or a beast. That is, if crime is talked about as a virus, will people suggest diagnosing the root cause of the problem and enacting social reform to treat and inoculate the community? If crime is a beast, will people suggest catching and jailing criminals in order to fight off the crime attack?” (p.2).

4. RESEARCH QUESTION

Participants in this study were asked to propose a solution to crime following a report detailing increasing crime in the town of ‘Addison’. Reports used were *exactly the same except for metaphors* inserted in similar ways into the text below.

REPORT:

Crime is a {wild beast preying on/virus infecting} the city of Addison. The crime rate in the once peaceful city has steadily increased over the past three years. In fact, these days it seems that crime is {lurking in/plaguing} every neighborhood. In 2004, 46,177 crimes were reported compared to more than 55,000 reported in 2007. The rise in violent crime is particularly alarming. In 2004, there were 330 murders in the city, in 2007, there were over 500.

Experimental Method: Details of Design, Data Coding and Results are provided in the Study Pages 4-9. Each of the 5 experiments used different sets of participants (485, 347, 312, 185, and 190, respectively).

5. EXPERIMENTS

Question: Does the metaphor used influence solutions proposed by participants?

Experiment 1

Participants were asked to propose a solution following the report about increasing crime in 'Addison' with Crime =

- Beast with the *vivid phrasing* as below (p.3) for half of participants
- and
- Virus with the *vivid phrasing* as below (p. 3) for other half of participants.

Result: Metaphor affected solutions proposed in line with norming experiment pattern.

Experiment 2

One single word (**not** *vivid phrases* as above) used to stand for the metaphor and crime framed metaphorically by it, i.e., "Crime is a virus/beast ravaging the city of Addison".

Result: Same impact as norming study - metaphors systematically influenced how participants proposed solving the crime problem in line with given metaphors.

Experiment 3

Participants were asked to provide a synonym for 'beast' / 'virus' before reading the report, i.e., they were primed and the words beast/virus were not used, i.e., "Crime is ravaging the city of Addison".

Result: Same impact on their knowledge structure, revealing that metaphors act as more than just isolated words and that "their power appears to come from participating in "elaborate knowledge structures" (p.2).

Experiment 4

Metaphor was used in *first sentence* of report. Participants asked to gather further information on the issue.

Result: Suggested metaphor influenced the information sought and not just their proposed solutions: "participants chose to look at information that was consistent with their metaphorical frame" (p.2) – participants sought information likely to confirm the initial bias

suggested by their metaphor and consequence could be an incremental effect on long-term reasoning.

Experiment 5

As 4 except metaphor used in *last sentence* of report (contrast with Experiments 2 and 4).

Result: No impact found on search for information suggesting that “metaphors can gain power by coercing further incoming information to fit with the relational structure suggested by the metaphor” (p.3).

Additional

Respondents referred to the statistics in the report, not the metaphor, in all experiments in 4 studies that had a metaphoric frame *when asked was what the most influential aspect* of the crime report.

Throughout all the studies the “power of metaphor is covert” and “suggest unbeknownst to us, metaphors powerfully shape how we reason about social issues” (p.3).

The studies also shed light on how metaphors work to influence our reasoning.

Metaphors provided participants with a structured framework for understanding a problem (crime in Addison), influenced inferences drawn about the problem and suggested different causal interventions for solving the problem (p.9).

FINDINGS

1. Metaphors subtly (even single word) influence how participants thought about the solution to a complex social problem – metaphors influence reasoning and invite structurally-consistent inferences by immediately invoking frame-consistent knowledge structures.

Metaphors also affected how participants would collect information to make well-informed decisions – participants chose information to confirm and elaborate the bias suggested by the metaphor.

2. Metaphors remain hidden - **the influence of the metaphorical framing is covert** – participants do not recognise metaphors as influencing their decisions.

2. Metaphors profoundly influence **how participants conceptualise** important social issues and act towards them. They were most effective when presented early in the

3. narrative and they helped organise and coerce further incoming information into the frame.
 4. Exposure to a *single metaphor* can **induce substantial differences in opinion** about how participants address social problems.
 5. Study shows the strength metaphorical framing: the **induced differences are larger than differences existing before exposure to metaphors** as between opinions of U.S. Democrat and Republican participants in the study (participants were asked at end of study for political affiliations or between men and women).
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REFERENCES

The first link is to the article (2011) summarised above:

<http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0016782>

The next links are to follow up articles (2013 and 2015) in which the same authors explore further aspects of the influence of metaphors:

<http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0052961>

<http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0133939>

A critique of the above authors is in the following article:

<http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0113536>

Although phrased critically (i.e. somewhat negatively) about the research of the authors of the above study – in the way of academic debate – the following critique would seem to introduce only a small qualification to the main findings of the T-B study for OUR PURPOSES of our reading Cohen's book and the importance of metaphors for thinking. Even if the science around the study is not entirely clear, e.g., in terms of inter-reliability, the question for us is: Is it a credible idea to run with?