Perceived Causality As a Cue to Temporal Distance

David Faro, University of Chicago
France Leclerc, University of Chicago
Reid Hastie, University of Chicago

EXTENDED ABSTRACT - How long has it been since your last visit to the dentist? How long ago did you purchase your CD player? How much time has elapsed between the birth of your first child and the purchase of your new car? Elapsed time questions are frequently asked in consumer and policy surveys and are the basis for important decisions. The literature on survey research suggests that specific temporal information (e.g. date or duration) is rarely available or used as the basis for time-related judgments (Tourangeau, Rips and Rasinski 2000). Rather, when asked to provide temporal judgments, people usually engage in reconstructive inference processes. Such processes entail the use of cues such as landmark events, personal life contexts, knowledge about generic events, background assumptions about boundaries on event horizons and ease of recall. In this research, we propose that people use the strength of a causal relationship between two events as a temporal heuristic to infer elapsed time between these events.

[to cite]:
David Faro, France Leclerc, and Reid Hastie (2005), "Perceived Causality As a Cue to Temporal Distance", in NA - Advances in Consumer Research Volume 32, eds. Geeta Menon and Akshay R. Rao, Duluth, MN : Association for Consumer Research, Pages: 525-525.

[url]:
http://www.acrwebsite.org/volumes/9136/volumes/v32/NA-32

[copyright notice]:
This work is copyrighted by The Association for Consumer Research. For permission to copy or use this work in whole or in part, please contact the Copyright Clearance Center at http://www.copyright.com/.
Perceived Causality as a Cue to Temporal Distance
David Faro, University of Chicago
France Leclerc, University of Chicago
Reid Hastie, University of Chicago

EXTENDED ABSTRACT

How long has it been since your last visit to the dentist? How long ago did you purchase your CD player? How much time has elapsed between the birth of your first child and the purchase of your new car? Elapsed time questions are frequently asked in consumer and policy surveys and are the basis for important decisions. The literature on survey research suggests that specific temporal information (e.g. date or duration) is rarely available or used as the basis for time-related judgments (Tourangeau, Rips and Rasinski 2000). Rather, when asked to provide temporal judgments, people usually engage in reconstructive inference processes. Such processes entail the use of cues such as landmark events, personal life contexts, knowledge about generic events, background assumptions about boundaries on event horizons and ease of recall. In this research, we propose that people use the strength of a causal relationship between two events as a temporal heuristic to infer elapsed time between these events.

It has been shown that time plays a dominant role in phenomenal impressions of physical causality. Michotte (1946/1963) showed participants displays in which a moving object, like a billiard ball, approached a stationary object which then moved away after apparent contact with the first moving object. He manipulated factors such as the relative speed of the two objects, the presence of a physical gap between them, and the timing of movement transfer from the first to the second object to produce a strong impression of “launching” causality between the two objects’ movements (see also Anderson & Sheu, 1995; Schlottmann & Anderson, 1993; and Scholl & Tremoulet, 2000).

Thus, temporal relationships are important cues to causality; but do people rely on causality to infer temporal distance? We reasoned that since people see causation and time as correlated, they may use either one to infer the other, just as they use other correlated cues (e.g. the use of time duration to infer spatial distance, or vice versa, when considering a planned trip; Kang, Herr and Page 2003). Therefore, two events judged as causally related such as, “Sputnik is the first human-made satellite to circle the earth” and “Neil Armstrong is the first man to walk on the moon,” will be judged to be closer together in time, than “Sputnik” and the “Woodstock Music Festival”, two events perceived as causally unrelated.

We tested this prediction in two experiments in which participants were presented with pairs of historical events. In the first experiment, participants were asked to estimate the time elapsed (in years) between the occurrences of two events presented in a pair. To manipulate perceived causation, pairs of events that were judged as causally related were selected from the domains of business, science and politics. For each causal pair, a matching pair (control pair) was constructed by selecting events of the same domain that were not causally related but had the same elapsed time between them. As a manipulation check, participants were also asked to indicate on a scale of 1 to 100, the strength of the relationship between the two events of a pair. Results indicate that pairs of events that were perceived as causally related were judged to have occurred closer together in time compared to pairs of events that were judged as causally unrelated, controlling for actual elapsed time. Furthermore, there was a reliable negative correlation between participants’ elapsed time estimates and their ratings of causal strength. Event familiarity was not correlated with time estimates and could not account for the differences in elapsed time estimates.

In the first experiment, perceived causation was varied by matching two different pairs of events. One possibility is that differences between the pairs of events other than perceived causation could account for the effect on time estimates. In the second experiment, to address this concern, perceived causation was manipulated independent of item content. It was manipulated by providing participants with expert information as to whether a certain pair of events was or was not causally related. The results of this experiment were supportive of our predictions. Informing participants that events were causally related shortened time estimates while informing other participants that the same events were causally unrelated lengthened time estimates.

We conclude with a discussion of the relevance of these findings to survey research and with suggestions for future research.

REFERENCES: