To judge a book by its weight you need to know its content: Knowledge moderates the use of embodied cues

Jesse Chandler, David Reinhard, Norbert Schwarz

PII: S0022-1031(12)00051-0
DOI: doi: 10.1016/j.jesp.2012.03.003
Reference: YJESP 2851

To appear in: *Journal of Experimental Social Psychology*

Received date: 5 January 2012
Revised date: 2 March 2012

Please cite this article as: Chandler, J., Reinhard, D. & Schwarz, N., To judge a book by its weight you need to know its content: Knowledge moderates the use of embodied cues, *Journal of Experimental Social Psychology* (2012), doi: 10.1016/j.jesp.2012.03.003

Running Head: To judge a book by its weight you need to know its content

To judge a book by its weight you need to know its content:

Knowledge moderates the use of embodied cues

Jesse Chandler

Princeton University

David Reinhard

University of Virginia

Norbert Schwarz

University of Michigan

3,555 words, including abstract, without references and tables

Corresponding author: Jesse Chandler, Woodrow Wilson School of Public Policy, Princeton University, Green Hall, Princeton, NJ 08540; jjchandl@princeton.edu; phone +1- 609-258-6935.

Abstract

Participants evaluated a book as more important when it weighed heavily in their hands (due to a concealed weight), but *only* when they had substantive knowledge about the book. Those who had read a synopsis (Study 1), had read the book (Study 2) and knew details about its plot (Study 3) were influenced by its weight, whereas those unfamiliar with the book were not. This contradicts the widely shared assumption that metaphorically related perceptual inputs serve as heuristic cues that people primarily use in the absence of more diagnostic information. Instead, perceptual inputs may increase the accessibility of metaphorically congruent knowledge or may suggest an initial hypothesis that is only endorsed when supporting information is accessible.

<116>

Keywords: embodiment, metaphors, attitudes

Perceptual experiences can influence thoughts and feelings in ways predicted by conceptual metaphor theory (Lakoff & Johnson. 1999) and models of grounded cognition (Barsalou, 1999). Despite many memorable demonstrations (for a review, see Landau, Meier & Kiefer, 2010), much remains to be learned about the variables that influence the emergence of metaphoric influences. We address one such variable, namely the perceiver's knowledge about the target of judgment. Building on the observation that job candidates seem more qualified, and currencies more valuable, when presented on a heavy rather than light clipboard (Ackerman, Nocera & Bargh, 2010; Jostmann, Lakens & Schubert, 2009) we handed participants a book and asked them to evaluate its intellectual impact. Unbeknownst to them, the book was made heavier for some participants with a concealed weight. Of interest is whether the metaphoric influence of weight on judged importance depends on the perceiver's factual knowledge about the book and if so, which form this relationship takes.

Many researchers assume that "people will rely on metaphors to comprehend information that appears unfamiliar" (Landau et al., 2010, p. 1060). One version of this intuition treats embodied information as heuristic cues, which people usually draw on when they have little other information or lack the motivation to engage in an elaborate search (Chen & Chaiken, 1999). Another version treats embodied information as one of many target attributes that may enter a judgment, suggesting that set size principles should apply: the more attributes a perceiver considers, the less impact each one has (Anderson, 1971; Bless, Schwarz, & Wänke, 2003). Finally, the perceptual inputs central to many embodiment experiments – from warmth (Ijzerman & Semin, 2009) to weight (Jostmann et al., 2009)—resemble other subjective experiences, which typically exert less influence on judgment when more diagnostic information is available (Schwarz, 2012). Although drawing on different assumptions, these perspectives agree that the

physical weight of a book should have *less* impact on its evaluation the more the perceiver knows about it. A show of hands at two symposia at which we presented the present research identified this as the prediction shared by all but one of the roughly 150 attendants.

However, other considerations lead to the opposite prediction. One holds that people hesitate to offer a judgment when they feel that they have insufficient knowledge. If so, they may only draw on metaphorically related information when they consider the target "judgeable", that is, when their perceived knowledge exceeds a subjective threshold (Leyens, Yzerbyt, & Schadron, 1992; Croizet & Fiske, 2000). Another consideration suggests that the influence of bodily sensations is, at least in part, due to the activation of metaphorically associated semantic knowledge. In the absence of target knowledge, bodily sensations may not bring information to mind that is applicable to the target and may hence fail to exert an influence; as has been observed in semantic priming studies, knowledge that is not available cannot be primed (Hayes-Roth, 1977, Wyer & Srull, 1989; see also Dijksterhuis, Aarts, Bargh & van Lnipenberg, 2000; Herr, 1989). Finally, and relatedly, weight may initially suggest that the target is important, leading people to search for information that supports this hypothesis (Nickerson, 1999). In the absence of such information, this initial hypothesis may rejected again preventing weight from influencing those with little knowledge.

Finally, some readings of conceptual metaphor theory (Lakoff & Johnson, 1999) suggest that once a metaphorical mapping between domains has been acquired, its influence may be independent of detailed knowledge about the target. For example, knowing that a project is exactly 32 days late should not preclude that spatial information may influence the evaluation of how badly the project is "behind" deadline (Boroditsky, 2000; Casasanto & Boroditsky, 2008). In sum, plausible theoretical cases can be made that substantive knowledge about the target of

judgment may (i) decrease, (ii) increase or (iii) not affect the use of metaphorically relevant information. Previous research has not tested these diverging predictions. However, careful examination of the best-known studies on the influence of weight cues raises doubts about the popular assumption that the impact of embodied cues is most pronounced in the absence of substantive knowledge.

For example, Jostmann and colleagues (2009, Study 1) observed that a weight concealed in a clipboard influenced Dutch perceivers' estimates of foreign currency values in aggregate: the heavier the clipboard, the higher the estimated value of the currencies. As Jostmann (personal communication, June 17, 2011) noted, this effect seemed stronger for currencies that perceivers may have known. While their data do not allow for a direct test of this - impression, auxiliary analyses lend some support to it. Presumably, Dutch perceivers are more likely to have some information about a foreign currency, the more the country in which it is used receives attention in the Netherlands. Accordingly, we used the number of Google-indexed Dutch web pages that mention the country as a rough indicator of Dutch perceivers' likely knowledge in a secondary analysis of Jostmann et al.'s (2009) data and found that the impact of physical weight on the estimated value of a currency *increased* with the respective country's web coverage in the Netherlands ($r(4) = .80$, $p < .06$).

In a related study, Ackerman and colleagues' (2010, Study 2) participants allocated more money to solving important political issues when the issues were presented on a heavy rather than light clipboard. However, the clipboard's weight did not affect the amount of money they were willing to allocate to unimportant political issues. It seems likely that people know more about important issues (such as air pollution) than about less important ones (such as whether FM radio stations should be allowed to use the frequency band 77-88 MHz) and ratings provided

by $N = 26$ participants recruited from Mechanical Turk (Paolacci, Chandler & Ipeirotis, 2010) supported this intuition. Not surprisingly, people felt that they know more about the important ($M = 4.85$, $SD = 1.27$, on a scale from 1 = *Extremely Uninformed* to 7 = *Extremely Informed*) than the unimportant ($M = 3.26$, $SD = 1.41$) issues used by Ackerman and colleagues, $t(25) = 4.57$, $p < .001$, again suggesting that the impact of weight cues may have *increased* with perceivers' substantive knowledge about the topic.

Present Research

Three experiments provide a direct test of the diverging predictions discussed above. We manipulated or measured participants' knowledge about a book they held in their hands while evaluating its importance and impact. Unbeknownst to them, we manipulated the heft of the book by inserting a concealed weight. Study 1 examined the influence of weight on the evaluation of an unfamiliar novel for which participants either could or could not read a synopsis. Study 2 examined whether the influence of weight is greater among those who have or have not previously read the book. Study 3 separated the potential influence of increased subjective and objective knowledge.

Study 1

Method

100 undergraduates, recruited from campus computer labs, participated in a study on their "impressions of a book." The book (Eva Hornung's *Dogboy*) was unfamiliar and only recognized by six participants. The hardcover copy weighed 439g in the *control condition* and 675g in the *heavy condition*, due to insertion of a concealed weight. Participants examined the book cover before answering questions. Those assigned to the *low knowledge* condition were handed the

book face up, displaying the front cover (containing only the author and title); those assigned to the *high knowledge* condition were handed the book face down, displaying the back cover with a synopsis and reviews in addition to the author and title. Participants were not explicitly forbidden from looking at the other book cover, but none did.

Participants reported only their interest in reading the book (1 = *not at all interested;* 10 = *extremely interested*), how much they would pay for it (free response), and the likelihood that it would be named among the most influential books by The New York Times (1 = *not at all likely;* 10 = *extremely likely*).

Results and Discussion

Willingness to pay, interest in reading, and predictions of influence were standardized and combined into a single measure of importance (α = .62; see Table 1 for individual items). An ANOVA revealed that participants who had read the back-cover of the book considered it more important than those who merely read the title, $F(1,96) = 9.74$, $p < .01$, $\eta_p^2 = .13$. Further, those who received a heavy copy rated the book as more important than those who received a control copy, $F(1,96) = 4.46$, $p < .04$. These main effects were qualified by an interaction of weight and knowledge, $F(1,96) = 3.41$, $p < .07$, $\eta_p^2 = .03$. Participants who read the back cover of *Dogboy* considered it more influential when holding the heavy rather than light copy, $F(1, 96) = 7.84$, $p < .01$, $\eta_p^2 = .08$ for the simple effect. In contrast, those who saw only the front cover were unaffected by the book's weight; $F < 1$.

These findings are incompatible with the assumption that embodied metaphors exert more influence the less other information the perceiver has about the target (Landau et al., 2010). To the contrary, a book's physical weight *only* influenced judgments of its importance when participants were provided with back-cover information in form of a synopsis and excerpts from reviews. Using a more familiar book, Study 2 tested the reliability of this observation by comparing participants who had vs. had not read it in the past.

Study 2

Method

60 college students, recruited from campus computer labs, participated in a study on "product perception." They were presented with a face-up hardcover copy of a potentially familiar book (J. D. Salinger's *The Catcher in the Rye*) that was either of normal weight (404 grams) or included a concealed weight (605 grams). Participants rated its influence on American literature (1 = *not at all important;* 10 = *very important*) and indicated whether they had read the book --about half (N = 34) had. To test an unrelated hypothesis, participants were also asked whether they were aware that JD Salinger had died (order counterbalanced with the importance question). Awareness of death and question order did not matter and will not be discussed further. Importance ratings were analyzed according to a 2 (Weight: heavy vs. light) X 2 (Prior Information: had vs. had not read book) design.

Results and Discussion

Participants who had read the novel thought that it was more important than did those who had not, $F(1,56) = 12.08$, $p < .001$, $\eta_p^2 = .18$, and a concealed weight marginally increased perceived importance, $F(1,56) = 2.99$, $p < .09$, $\eta_p^2 = .05$. Replicating Study 1, these main effects were qualified by an interaction of weight and knowledge, $F(1,56) = 4.48$, $p < .04$, $\eta_p^2 = .07$. Participants who had read the novel considered it more influential when holding the heavy (N = 19, M = 7.92, SD = .95) rather than light copy (N = 15, M = 6.60, SD = 1.45), $F(1, 56) = 8.58$, $p < .01$, $\eta_p^2 = .13$ for the simple effect. In contrast, participants who had not read the novel were unaffected by its weight (N_{heavy} = 11, M_{heavy} = 6.13, SD = 1.79, N_{light} = 15, M_{light} = 6.00, SD = 1.13), $F < 1$ for the simple effect. These findings are incompatible with the assumption that metaphorically relevant perceptual information only influences judgment in the absence of more diagnostic information; to the contrary, a metaphoric influence is *only* observed among knowledgeable perceivers.

Study 3

The findings of Studies 1 and 2 are compatible with conceptualizations that emphasize the importance of either self-perceived or actual knowledge in evaluative judgment. As a first possibility, people often hesitate to offer a judgment when they are aware that they lack relevant knowledge, but happily draw on contextual inputs when they *believe* they know something about the target (Leyens et al., 1992). If so, self-perceived rather than actual knowledge may be crucial to the observed effects. As a second possibility, metaphorically related perceptual information may result in people developing a hypothesis about the book that they will only accept when some supporting information is available, paralleling findings on motivated hypothesis testing (Kunda, 1999). If so, an increased heft may suggest that the book is important but this judgment will only be endorsed if supporting evidence can be mustered, which requires some knowledge about the target. Finally, the influence of perceptual information may, at least in part, be due to the activation of metaphorically associated semantic knowledge. Hence, a book's heft should exert no influence in the absence of applicable knowledge (Hayes-Roth, 1977; Wyer & Srull, 1989); however, it may also exert little influence in the presence of extensive target knowledge because experts are often able to retrieve coherent and elaborate representations of a target regardless of the presence of contextual cues (Alba & Hutchinson, 1987; Yi, 1993). Study 3 addressed these possibilities by testing how self-perceived and objective knowledge about *The Catcher in the Rye* moderate the impact of a concealed weight on judgments of the book's importance.

Method

100 participants (51 men, M_{age} = 22.3), recruited from campus computing sites, were asked to provide their opinions of *The Catcher in the Rye* and were presented with either a heavy

or light weight copy of the novel. Participants rated its influence on American literature (1 = *not at all important;* 10 = *very important*), how likely they were to (re)read the book (1 = *not at all likely*; 10 = *very likely*), and how likely they were to recommend the book to a friend (1 = *not at all likely*; 10 = *very likely*). These questions were collapsed into an index of overall importance (α = .71).

To minimize demand concerns, participants completed measures of subjective and objective knowledge after the dependent variables. Participants indicated whether they had read the book (more than half, N = 64, had), reported how much they knew about the book (1 = *nothing*; 9 = *a great deal*), and answered six multiple choice questions to test their actual knowledge of the novel. One question was dropped because of high difficulty and poor item discrimination.

Results and Discussion

Participants who had read the book reported knowing more about it and answered more factual questions correctly, Fs(1,98) > 34, ps < .001. Self-perceived and actual knowledge were uninfluenced by the weight condition, Fs < 1, and only moderately correlated with each other, $r(98) = .44$, $p < .001$. Thus they were included as independent factors in the model.

Actual knowledge. A Condition (heavy vs. light) X Perceived Knowledge (continuous) X Actual Knowledge (continuous) analysis using GLM revealed a main effect of condition, with participants rating the heavier book as more important (M = 6.97, SD = 2.03) than the light book (M = 6.09, SD = 1.63), $F(1, 92) = 5.26$, $p < .03$ $\eta_p^2 = .05$. This effect was qualified by a significant interaction between condition and actual knowledge, $F(1,92) = 5.31$, $p < .03$,

η_p^2 = .06.

A spotlight analysis (Aiken & West, 1991) revealed that participants who were high in actual knowledge (one standard deviation above the mean) rated the heavier book as more important (*M* = 7.47) than the light book (*M* = 5.74), *F*(1.92) = 10.21, *p* < .01, η_p^2 = .10. Weight did not influence participants low in actual knowledge (one standard deviation below the mean; M_{heavy} = 6.46, M_{light} = 6.49), F<1. This replicates Studies 1 and 2.

Figure 1 shows the interaction in more detail, plotting importance ratings by the actual number of correct responses (see Table 2 for individual items). The book's weight did not influence participants with low knowledge (0 or 1 out of 5 correct; N = 29; *F* < 1.3), but did influence participants with moderate (2 or 3 correct; N = 45; *F*(1,99) = 6.56, p = .01, n_p^2 = .07) and high knowledge (4 or more correct; N = 26; *F*(1,99) = 4.11, p < .05, n_p^2 = .04). The latter two conditions did not significantly differ from one another, F < 1 for their interaction contrast.

Self-perceived knowledge. Participants who thought they knew more about the book also thought that it was more important, *F*(1,92) = 6.03, *p* < .02 η_p^2 = .06. However, self-perceived knowledge did not interact with weight, *F* < 1. There were no other main effects or interactions.

General Discussion

When asked to judge a book's importance, people who had (at least some) substantive information about a novel –either because they had previously read it (Studies 2 and 3) or received a synopsis (Study 1)— *were* influenced by the book's physical weight, whereas those who knew nothing about the novel *were not*. These findings highlight that having some knowledge about a target does not always protect against the influence of incidental sensory information of merely metaphorical relevance – instead, it may increase one's susceptibility. Further, when actual and self-perceived knowledge were both measured, actual knowledge but not self-perceived knowledge moderated the influence of weight on judgments of the book's importance (Study 3).

These results contradict several plausible and widely endorsed assumptions in the literature on embodied metaphors, including the assumption that the influence of metaphors

increases with the ambiguity and unfamiliarity of the target and the hypothesis that sensory inputs serve as heuristic cues, which people draw on in the absence of more diagnostic alternatives (for a review, see Landau et al., 2010). The moderating influence of actual rather than perceived knowledge (Study 3) further suggests that our results do not reflect a metacognitive inference that one knows enough about the target to offer an extreme evaluation. Instead, our findings point to the availability of actual target knowledge as the crucial variable.

Two process assumptions are compatible with the observed interaction of actual knowledge about the target and weight cues. First, according to models of *knowledge accessibility*, contextual primes can only exert an influence when people have some applicable knowledge that the prime can bring to mind (Higgins, 1996; Wyer & Srull, 1989). From this perspective, concurrent exposure to a judgment task ("How important is this book?") and a metaphorically related sensory experience (the book's heft) may increase the accessibility of metaphor-consistent information that bears on the task; if no such information is available in memory, no influence is observed. Second, from the perspective of *confirmatory hypothesis testing*, the metaphorically related sensory experience may suggest a hypothesis (This book seems important) that is only endorsed when some supportive evidence can be mustered (Kunda, 1999; Nickerson, 1998; for a discussion of how associations between concepts can lead to confirmatory hypothesis testing see Galdi, Gawronski, Arcuri, & Friese, in press); if no supportive evidence is available in memory, no influence is observed. In either case, the impact of sensory information that is metaphorically related to a judgment task would increase with the perceiver's knowledge, as observed in the present studies.

Caveats and Future Directions

Note that our high-knowledge participants are best considered well informed laypeople. Although Study 3 revealed no significant difference between participants with moderate or high knowledge about the target novel, results may change at higher levels of expertise. Indeed, very high levels of expertise may provide a venue for differentiating between the conjectures offered. Experts are likely to have well integrated and coherent knowledge representations about familiar targets in their field. From a knowledge accessibility perspective, such representations are less susceptible to selective activation of individual elements (see Alba & Hutchinson, 1987, for a discussion of expertise and accessibility). If so, experts should retrieve similar knowledge about the target under all weight conditions, whereas people with less integrated representations may retrieve more important elements of the target the heftier it sits in their hands. Hence, people with moderate knowledge may rate a heavy target as more important than experts do. A slight and non-significant decline in the influence of weight in the highest knowledge condition of Study 3 is compatible with this conjecture. In contrast, research into confirmatory hypothesis testing has shown that experts are as likely to search for supporting evidence as novices (Tesser & Leone, 1977; Tetlock, 2005). If so, the observed influence of physical weight should hold at very high levels of knowledge as well. However, those with very low knowledge may find it difficult to retrieve any support for the hypothesis that the heavy book may be important and this retrieval difficulty may reverse the otherwise observed effect (Schwarz et al., 1991). A non-significant reversal of the weight effect among Study 3 participants with low knowledge is compatible with this conjecture. Future research may fruitfully test these possibilities.

We also note that our findings do not preclude that weight may serve as a heuristic cue under conditions that impair systematic processing; they merely highlight that this is not the only pathway for a metaphoric influence of weight on judgments of importance. Hence, participants

may rely on weight as a general signal of importance when other variables – from time pressure to distraction and lack of motivation—impair a more systematic evaluation of the hypothesis (for related discussions see Gawronski & Bodenhausen, 2011; Petty & Cacioppo, 1986). Many inputs can influence judgment through pathways of heuristic as well as systematic processing (Chaiken & Trope, 1999) and perceptual information with metaphoric meaning is unlikely to be an exception.

Similarly, the observation that weight may exert its influence through semantic associations does not preclude that other embodied inputs operate through other pathways (cf. Chandler & Schwarz, 2009). The present studies are silent on these issues. They do, however, provide first evidence that incidental sensorimotor inputs are not information of last resort that people only draw on when more diagnostic inputs are not available, in contrast to what many readers concluded from recent research into embodied metaphors (Landau et al., 2010).

References

Ackerman, J. M., Nocera, C. A., & Bargh, J. A. (2010) Incedental haptic decisions influence social judgments and decisions, *Science, 328,* 1712-1715.

Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions.* Thousand Oaks, CA: Sage.

Alba, J. W., & Hutchinson, J. W. (1987). Dimensions of Consumer Expertise. *Journal of Consumer Research, 13,* 411-454.

Anderson, N. H. (1971). Integration Theory and Attitude Change. *Psychological Review, 78,* 171-206.

Barsalou, L. (1999). Perceptual symbol systems. *Behavioral and Brain Sciences, 22,* 577-660.

Bless, H., Schwarz, N., & Wänke, M. (2003). The size of context effects in social judgment. In J. P. Forgas, K. D. Williams, & W. von Hippel (eds.), *Social judgments: Implicit and explicit processes* (pp. 180-197). Cambridge, UK: Cambridge University Press.

Boroditsky, L. (2000). Metaphoric Structuring: Understanding time through spatial metaphors. *Cognition, 75,* 1-28.

Casasanto, D. & Boroditsky, L. (2008). Time in the Mind: Using space to think about time. *Cognition, 106,* 579–593.

Chaiken, S., & Trope, Y. (eds.) (1999). *Dual-process theories in social psychology.* New York: Guilford Press.

Chandler, J., & Schwarz, N. (2009). How extending your middle finger affects your perception of others: Learned movements influence concept accessibility. *Journal of Experimental Social Psychology, 45,* 123-128.

Chen, S., & Chaiken, S. (1999) The heuristic-systematic model in its broader context. In Chaiken, S., & Trope, Y. (eds.), *Dual-process theories in social psychology* (pp. 73-96). New York: Guilford Press

Croizet, J., & Fiske, S.T. (2000). Moderation of priming by goals: Feeling Entitled to Judge Increases Judged Usability of Evaluative Primes, *Journal of Experimental Social Psychology, 36,* 155-18.

Dijksterhuis, Ap, Aarts, H., Bargh, J. A., & van Knippenberg , A. (2000), On the Relation between Associative Strength and Automatic Behavior, *Journal of Experimental Social Psychology*, 36, 531–44.

Galdi, S., Gawronski, B., Arcuri, L., & Friese, M. (in press). Selective Exposure in Decided and Undecided Individuals: Differential relations to automatic associations and conscious beliefs. Personality and Social Psychology Bulletin.

Gawronski, B., & Bodenhausen, G. V. (2011). The associative-propositional evaluation model: Theory, evidence, and open questions. *Advances in Experimental Social Psychology, 44,* 59-128.

Hayes-Roth, Barbara (1977). Evaluation of Cognitive Structures and Processes. *Psychological Review, 84,* 260-278.

Herr, Paul M. (1989), Priming Price: Prior Knowledge and Context Effects, *Journal of Consumer Research, 16,* 67–75.

Higgins, E. T. (1996). Knowledge activation: Accessibility, applicability, and salience. In E. T. Higgins & A. W. Kruglanski (Eds.), *Social psychology: Handbook of basic principles* (pp. 133–168). New York: Guilford Press.

Ijzerman, H., & Semin, G. (2009). The thermometer of social relationships: Mapping social proximity on temperature. *Psychological Science, 20,* 1214-1220.

Jostmann, Lakens & Schubert (2009). Weight as an embodiment of importance. *Psychological Science, 20,* 1169-1174.

Kunda, Z. (1999). *Social Cognition.* Cambridge, MA: MIT Press.

Lakoff, G., & Johnson, M. (1999). Philosophy in the flesh: The embodied mind and its challenge to western thought. New York: Harper Collins.

Leyens, J.-P., Yzerbyt, V. Y. & Schadron, G. (1992). Stereotypes and social judgeability. In W. Stroebe & M. Hewstone (Eds.). *European Review of Social Psychology* (Vol. 3, pp. 91-120). New York: Wiley.

Landau M.J., Meier B., & Keefer L. (2010). A metaphor-enriched social cognition. *Psychological Bulletin, 136*, 1045-67.

Nickerson, R.S. (1998). Confirmation bias: A ubiquitous phenomenon in many guises. *Review of General Psychology, 2*, 175-220

Paolacci, G., Chandler, J., & Ipeirotis, P. (2010). Running experiments on Amazon Mechanical Turk. *Judgment and Decision Making, 5*, 411-419.

Petty R. E., & Cacioppo, J. T. (1986). The elaboration likelihood model of persuasion. *Advances in Experimental Social Psychology, 19*, 124-203.

Schwarz, N. (2012). Feelings-as-information theory. In P. A. M. Van Lange, A. Kruglanski, & E. T. Higgins (eds.), *Handbook of theories of social psychology* (pp. 289-308). Thousand Oaks, CA: Sage.

Schwarz, N., Bless, H., Strack, F., Klumpp, G., Rittenauer-Schatka, H., & Simons, A. (1991). Ease of retrieval as information: Another look at the availability heuristic. *Journal of Personality and Social Psychology, 61*, 195-202.

Tesser, A., & Leone, C. (1977). Cognitive schemas and thought as determinants of attitude change. *Journal of Experimental Social Psychology, 13*, 340-356.

Tetlock, P.E. (2005). *Expert political judgment: How good is it? How can we know*? Princeton: Princeton University Press.

Wyer, R. S., & Srull, T. K. (1989). *Memory and cognition in its social context.* Hillsdale, N.J.: Erlbaum.

Yi, Y, (1993). Contextual priming effects in print advertisements: The moderating role of prior knowledge. *Journal of Advertising, 22*, 1-10.

Table 1

Study 1: Influence of Weight on Judgments of Importance under Conditions of High and Low Information

	Front Cover		Back Cover	
	Light	Heavy	Light	Heavy
	N = 25	*N* = 25	*N* = 25	*N* = 25
Measure				
Personal Interest	5.46(1.52)[a]	5.54(1.39)[a]	5.78(1.78)[a]	6.72(1.90)[b]
Willingness to Pay	$11.76(4.24)[a]	$11.72(3.81)[a]	$12.32(3.39)[ab]	$14.36(3.59)[b]
Nominated to influential book list	5.04(1.49)[a]	5.16(1.52)[a]	5.36(1.52)[a]	6.28(1.69)[b]

Note. Standard deviations are in parenthesis. Means in the same row with different subscripts are significantly different at the .05 level, Fischer's LSD.

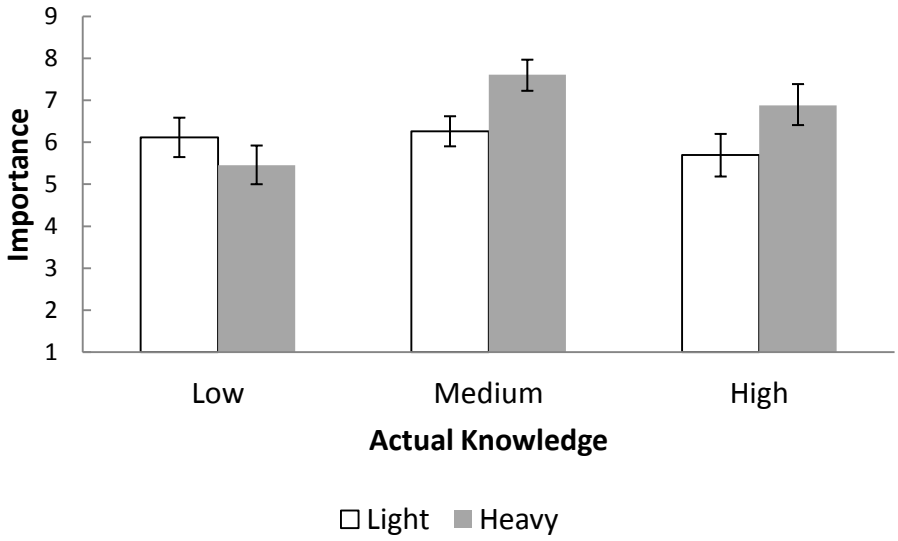
Table 2

Study 3: Influence of Weight on Judgments of Importance among Participants with Low Medium and High Knowledge

	Low Knowledge		Moderate Knowledge		High Knowledge	
	Light	Heavy	Light	Heavy	Light	Heavy
	N = 14	*N* = 15	*N* = 24	*N* = 21	*N* = 12	*N* = 14
Measure						
Nominated to influential book list	6.93(1.82)^{ab}	5.93(2.31)^{a}	6.38(1.44)^{a}	7.50(1.01)^{b}	6.75(1.22)^{ab}	6.83(1.74)^{ab}
(re)Read	5.21(2.77)^{abc}	4.97(2.48)^{ab}	6.44(2.89)^{bcd}	7.52(2.52)^{d}	4.58(2.54)^{a}	6.96(2.49)^{cd}
Recommend	6.21(1.63)^{ab}	5.47(2.56)^{a}	5.98(2.62)^{a}	7.55(2.42)^{b}	5.75(2.60)^{a}	7.23(2.35)^{ab}

Note. Standard deviations are in parenthesis. Means in the same row with different subscripts are significantly different at the .05 level, Fischer's LSD.

Figure 1. The relationship between actual knowledge and estimates of the importance of *The Catcher in the Rye*in Study 3. Importance is an aggregate of influence of the novel on American literature, willingness to (re)read the novel and willingness to recommend to a friend. Participants in the Light condition held an unmodified copy of this novel. Participants in the Heavy condition held a novel containing a concealed weight. Actual Knowledge is the number of correctly answered multiple choice questions about the novel's plot (Low = 0-1 correct; Medium 2-3 correct; High 4-5 correct); **p*<.05 following the Bonferroni correction.



Highlights

- In 3 studies people evaluate targets containing concealed weights as more important
- This effect only occurs when people have knowledge about the target
- This occurs for individual difference and randomly assigned levels of knowledge
- The influence of objective knowledge remains, controlling for subjective knowledge
- This finding contradicts widely held intuitions about how embodied cues function