

## The unpacking effect in evaluative judgments: When the whole is *less* than the sum of its parts

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### Abstract

Any category or event can be described in more or less detail. Although these different descriptions can reflect the same event objectively, they may not reflect the same event *subjectively*. Research on Support Theory led us to predict that more detailed descriptions would produce more extreme evaluations of categories or events than less detailed descriptions. Four experiments demonstrated this *unpacking effect* when people were presented with (Experiments 1 and 4), generated (Experiment 2), or were primed with (Experiment 3) more rather than less detailed descriptions of events. This effect was diminished when the details were less personally relevant (Experiment 4). We discuss several psychological mechanisms, moderators, and extensions of the unpacking effect.  
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There is little doubt that losing the hard drive on one's computer would be a bad experience. As bad as it might seem at first ("I've lost all of my files!"), it would likely get worse. When one considered the repercussions of losing each specific file ("I've lost the chapter that was due tomorrow, the paper I was about to submit, the presentation I'm giving next week, and every other file!!!"), the "bad experience" could balloon into an overwhelming catastrophe. Phenomena such as these appear to run counter to Gestalt psychology's well-known dictum that the "whole is greater than the sum of its parts." When evaluating categories or events the whole may sometimes seem to be *less* than the sum of its parts.

This seeming exception to Gestalt psychology's truism occurs, we believe, because people's evaluations are influenced not only by their knowledge of those events, but also by descriptions of those events. This belief is informed by recent developments in Support Theory, which demonstrates that the perceived likelihood of a focal hypothesis is based on the amount of support that

can be summoned in favor of this hypothesis relative to alternative hypotheses. For a variety of reasons, describing an event in greater detail makes it easier to summon support for the hypothesis that the event will occur, increasing its perceived likelihood and frequency (see also Fischhoff, Slovic, & Lichtenstein, 1978; Johnson, Hershey, Meszaros, & Kunreuther, 1993; Macchi, Osherson, & Krantz, 1999; Mulford & Dawes, 1999; Redelmeier, Koehler, Liberman, & Tversky, 1995; Russo & Kolzow, 1994; Tversky & Fox, 1995; Tversky & Kahneman, 1973; Weber & Borchering, 1993). In one representative demonstration of this *unpacking effect*, participants indicated that a person was more likely to die from "heart disease, cancer, or other natural causes" than simply from "natural causes" (Tversky & Koehler, 1994). Summarizing these findings, Tversky and Koehler note that "Like the measured length of a coastline, which increases as a map becomes more detailed, the perceived likelihood of an event increases as its description becomes more specific" (1994, p. 565).

We hypothesized that evaluative judgments are sometimes prone to a similar unpacking effect: More detailed descriptions produce more extreme evaluations of categories or events than less detailed descriptions of

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the same categories or events. Like the probability and frequency judgments described by Support Theory, more detailed descriptions may make it easier to summon evidence that suggests a more extreme evaluation.

We examined whether evaluations are prone to an unpacking effect in four experiments by providing (Experiment 1), priming (Experiment 3), or asking people to generate (Experiment 2) more as opposed to less detailed descriptions of events. Each of these experiments revealed evidence of an unpacking effect and suggested that more detailed descriptions of events increases the ease with which people can summon evaluative evidence. A final experiment demonstrated that the unpacking effect is diminished when the details of a category are less personally relevant to one's evaluation (Experiment 4).

### Experiment 1

University undergraduates ( $N = 66$ ) read about an oil refinery that was convicted of polluting the environment and whose actions had produced an increase in "all varieties of respiratory diseases" in the surrounding communities. Some participants ( $n = 37$ ) were randomly assigned to read an *unpacked description* that mentioned three specific respiratory diseases:

Imagine that a large oil refinery in northern Alaska was convicted in Federal court of violating Environmental Protection Agency regulations concerning waste disposal. In particular, this refinery's sludge burning operation was releasing twice the allowable amount of toxins into the atmosphere. This practice resulted in a 10% increase in the surrounding community of asthma, lung cancer, throat cancer, and all other varieties of respiratory diseases. No other deleterious effects have been discovered.

The other participants read a *packed description* that was identical to the unpacked description, except that it mentioned only "all varieties of respiratory diseases." After reading these descriptions, participants imagined that they were jurors in a class-action lawsuit brought against the oil refinery. They rated the suffering produced by the violation on a scale ranging from *moderate suffering* (1) to *extreme suffering* (11) and its severity on a scale ranging from *moderately severe violation* (1) to *extremely severe violation* (11). Participants then read that violations of this sort result in average punitive fines of \$100,000 per victim and were asked to indicate the amount they thought each victim should be awarded in this particular case.<sup>1</sup> Finally, participants indicated how long the refinery should be closed as a result of the

<sup>1</sup> Participants' punitive damage estimates were negatively skewed, Kolmogorov-Smirnov with a Lilliefors significance level = 0.31,  $p < .0001$ . We transformed these estimates by squaring them to restore normality for data analyses, but present means in Table 1 for interpretive ease.

Table 1

Evaluations by participants who read the unpacked or packed descriptions of health-detriments resulting from the pollution by an oil refinery

Evaluation	Description	
	Unpacked	Packed
Suffering	9.17	7.70
Severity of violation	9.02	8.57
Compensation	\$264,722	\$130,336
Closure	4.78	3.63

pollution: less than 3 months, between 3 and 6 months, between 6 and 9 months, between 9 and 12 months, between 1 and 2 years, more than two years, or permanently closed. For the purposes of data analysis, we coded the first option as "1," the second as "2," and so on, coding the last option as "7."

As predicted, a multivariate analysis of variance (MANOVA) indicated that participants who read the unpacked description rendered more extreme evaluations than those who read the packed description,  $F(4, 61) = 6.85$ ,  $p < .001$  (see Table 1). Participants who read the unpacked description thought victims should be awarded greater compensation,  $F(1, 64) = 5.21$ ,  $p < .05$ , for what they perceived to be greater suffering,  $F(1, 64) = 10.76$ ,  $p < .005$ , and believed the plant should be closed for longer,  $F(1, 64) = 6.89$ ,  $p < .025$ . Participants who read the unpacked description also rated the violation as more severe, although not reliably.

These results suggest that detailed descriptions of a category or event produce more extreme evaluations of that category or event. We sought further corroborating evidence in the next experiment by asking participants to generate the detailed description themselves. Among other things, this method of eliciting more detailed, unpacked descriptions rules out the possibility that experimenter-provided descriptions somehow redefine the category to be something different than participants who consider less detailed, packed descriptions.

### Experiment 2

Participants predicted how much they would enjoy an all-expenses-paid vacation to the Bahamas that included "water sports of all kinds." Before doing so, some participants unpacked the category "water sports of all kinds" by listing the specific water sports included in this vacation. The other participants unpacked the category after evaluating the vacation.

We expected that participants who unpacked specific water sports before evaluating the vacation would render more extreme affective forecasts than those who did so afterward. Notice that because participants themselves perform the unpacking, they consider only those elements that they believe are included in the category

“water sports of all kinds,” so their relatively extreme evaluations cannot be due to a description-induced redefinition of the category. Instead, generating a list of specific water sports should make it easier to think of evidence consistent with an enjoyable vacation.

### Method

University undergraduates ( $N = 60$ ) read about an all expenses paid tropical vacation:

Imagine that you have an opportunity to take an all-expenses-paid vacation to the Bahamas. You will be staying at a luxurious beachfront hotel. As a guest of this hotel, you may engage in a variety of different activities. These activities include tennis, Caribbean dancing, and water sports of all kinds.

Immediately afterward, half of the participants ( $n = 30$ ) were randomly assigned to unpack the category “water sports of all kinds” by listing as many water sports as they could think of that were included in the category. These participants then rated how much they would enjoy the vacation on a scale ranging from *moderately enjoy this vacation* (1) to *extremely enjoy this vacation* (11) and how the vacation compared with other tropical vacations on a scale ranging from *Bahamas vacation is the worst* (1) to *Bahamas vacation is the best* (11). We assumed that unpacking the category before evaluating the vacation would increase the support participants could generate for a highly enjoyable vacation. The other participants ( $n = 30$ ) were asked to unpack the category “water sports of all kinds” after evaluating the Bahamas vacation.

### Results and discussion

As expected, a MANOVA indicated that participants who unpacked water sports before evaluating the trip made more positive evaluations than those who did so afterward,  $F(2, 57) = 3.98$ ,  $p < .025$  (see Table 2). Participants who unpacked water sports beforehand expected to enjoy the vacation more and thought it compared more favorably to other vacations than participants who unpacked water sports afterward,  $F_s(1, 58) = 7.58$  and  $4.54$ , respectively,  $p_s < .05$ . This result corroborates our hypothesis that unpacking the details of a category or event produces relatively extreme evaluations—an effect that cannot be due to a description-induced redefinition of the category because participants defined the category themselves.<sup>2</sup>

<sup>2</sup> Participants who unpacked water sports before making their evaluations did not list significantly more water sports ( $M = 7.03$ ) than participants who unpacked water sports after making their evaluations ( $M = 6.30$ ),  $t(58) = 1.14$ , *ns*. The two groups also did not list different types of water sports. There were a total of 23 different water sports listed. The percentage of participants in each condition who listed each water sport was highly correlated,  $r(21) = .89$ ,  $p < .001$ .

Table 2

Evaluations of the Bahamas vacation by participants who listed specific water sports included in the category “water sports of all kinds” before or after making their evaluations

Evaluation	Time of unpacking	
	Before evaluation	After evaluation
Anticipated enjoyment	9.73	8.53
Comparison to other tropical vacations	8.33	7.23

Our analysis suggests that the more evaluative evidence one can think of, the more extreme one’s evaluation will be. We might therefore expect a stronger positive correlation between the number of water sports listed and participants’ positive evaluations among those who listed water sports before rather than after rendering their evaluations. To investigate this possibility, we first averaged participants’ two evaluations into a composite index,  $r(58) = .59$ ,  $p < .001$ . As anticipated, the correlation between this index and the number of water sports listed was significantly higher when water sports were listed before making evaluations ( $r = .31$ ,  $p = .09$ ) than afterward ( $r = -.23$ ,  $p = .21$ ),  $Z = 2.04$ ,  $p < .05$ . That the correlation is only marginally significant among those who listed water sports beforehand is perhaps not too surprising given that the number of water sports listed is only an imperfect indicator of how much evaluative evidence participants can generate. As detailed later, the number of details one considers is only one of several likely reasons why unpacking produces more extreme evaluations.

### Experiment 3

The results of the first two experiments documented an unpacking effect when people were provided with or generated more detailed descriptions of a category or event. We took a somewhat different approach in Experiment 3. We sought to manipulate the ease with which people could generate more versus less detailed descriptions of an event, and therefore the ease with which they could generate evaluative evidence. We did this by priming some participants with the constituent elements of a category before they evaluated it. We reasoned that priming these constituent elements would make it easier for participants to unpack them when they later evaluated the category. We therefore predicted that participants who had been primed would render more extreme evaluations than those who had not.

### Method

University undergraduates ( $N = 121$ ) completed five tasks in a questionnaire packet. The first task was a 22

Table 3  
Evaluations of the Bahamas vacation by participants who were primed with specific water sports and by participants in the control condition

	Condition	
	Water sports prime	Control
Anticipated enjoyment	9.60	8.93
Rank of vacation	7.65	7.21
Exclamation points	3.80	3.17

by 22 letter “word find” containing ten “Things you can do in the summer.” Participants randomly assigned to the *water sports prime* condition ( $n = 52$ ) searched for activities that included the seven most commonly mentioned water sports by participants in Experiment 2: jet skiing, sailing, scuba diving, snorkeling, surfing, swimming, and water skiing (along with biking, golf, and tennis). Participants in the *control* condition ( $n = 69$ ) searched for activities that were not water sports: badminton, barbecues, baseball, biking, camping, Frisbee, golf, hiking, picnics, and tennis.

Participants in both conditions then completed three unrelated questionnaires for approximately 10 minutes. They then read the packed description of the Bahamas vacation from Experiment 2 that mentioned only the category “water sports of all kinds.” Participants completed the same evaluations as in Experiment 2, indicating how much they would enjoy the trip and comparing the trip to other tropical vacations. Participants also indicated how much they would enjoy the vacation by writing exclamation points at the end of the statement “I would like the Bahamas vacation a lot.” As a frame of reference, we suggested that someone might write five exclamation points in anticipation of “extreme enjoyment.”<sup>3</sup>

### Results and discussion

As predicted, a MANOVA indicated that participants who were primed with specific water sports anticipated greater enjoyment than those who were not,  $F(3, 117) = 2.79$ ,  $p < .05$  (see Table 3). Participants in the water sports prime condition anticipated that they would enjoy the vacation more,  $F(1, 119) = 4.54$ ,  $p < .025$ , and that it compared more favorably to other tropical vacations than participants in the control condition, although this difference was not reliable,  $F(1, 119) = 1.41$ ,  $p = .25$ . Participants primed with water sports also wrote more exclamation points than participants in the control condition,  $F(1, 119) = 7.38$ ,

<sup>3</sup> The distribution of exclamation points participants wrote was positively skewed, Kolmogorov–Smirnov with a Lilliefors significance level = .27,  $p < .001$ . We therefore performed a logarithmic transformation to restore normality for data analyses, but present means in Table 3 for interpretive ease.

$p < .01$ . These findings indicate that priming participants with the constituent elements of a category, thereby making them easier to think about, produces more extreme evaluations of that category.

### Experiment 4

The foregoing experiments demonstrate that more detailed descriptions of events produce more extreme evaluations of those events. If this unpacking effect occurs because detailed descriptions increase the ease with which people can generate evaluative evidence, then an important exception to this effect may arise when the details of a category or event are of limited relevance to one’s evaluation of it.

We examined the moderating effect of personal relevance by presenting participants with either more detailed (unpacked) or less detailed (packed) descriptions of categories that were either more or less relevant to their evaluations. When the details of a category are less relevant to one’s evaluation, making them easier to think about has less evaluative implications than when the details are more relevant. We therefore expected that the unpacking effect would be smaller for categories in which the details were less relevant to participants’ evaluations than for categories in which the details were more relevant to participants’ evaluations.

### Method

Undergraduate psychology majors ( $N = 50$ ) read then evaluated, in counter-balanced order, descriptions of two universities as part of a “marketing study.” One of the universities boasted that all of its social science departments were nationally ranked in the top 10:

At X University, nothing receives more attention than the academic and intellectual development of our students. Each year our Psychology, Sociology, Anthropology, and all other Social Science departments are nationally ranked among the top 10—a record we hope will continue well into the next millennium.

The other university boasted that all of its physical science departments were nationally ranked in the top 10:

At Z University, nothing receives more attention than the academic and intellectual development of our students. Each year our Chemistry, Geology, Physics and all other Physical Science departments are nationally ranked among the top 10—a record we hope will continue well into the next millennium.

The order in which participants read and evaluated each school was counter-balanced.

Approximately one half of the participants ( $n = 24$ ) were randomly assigned to read and evaluate more

detailed, unpacked descriptions of the two schools that mentioned three specific social science departments.

The other participants read packed descriptions that were identical to the unpacked descriptions except that they mentioned only the categories “all of our Social Science departments” and “all of our Physical Science departments.”

After reading each description, participants made two counter-balanced evaluations of each school. For one, the descriptions of the “social science departments” and of the “physical science departments” were both directly relevant: participants rated the academic quality of each school on scales ranging from *about average* (1) to *exceptional, the best* (11). We expected an unqualified unpacking effect for this evaluation: Participants who read the more detailed, unpacked descriptions would evaluate the academic quality of both schools more favorably than those who read less detailed, packed descriptions.

For the other evaluation, participants imagined that they were a student at each university and rated how satisfied they would be with their education on scales ranging from *not at all satisfied* (1) to *extremely satisfied* (11). Because all participants were psychology majors, we assumed that the description of the “social sciences” university was more relevant to their anticipated satisfaction than the description of the “physical sciences” university, and that the ease with which participants could think about specific social sciences would influence that evaluation more than the ease with which they could think about physical sciences. We therefore expected that the unpacking effect for anticipated satisfaction would be diminished for the “physical sciences” university compared to the “social sciences” university.

### Results and discussion

We conducted a 2 (description: unpacked vs. packed)  $\times$  2 (university: social science vs. physical science)  $\times$  2 (evaluation: academic quality vs. anticipated

satisfaction) ANOVA with repeated measures on the last two factors. This analysis yielded the expected three-way interaction,  $F(1,48) = 4.45$ ,  $p < .05$  (see Fig. 1). Participants who read the unpacked descriptions rated the academic quality of both the social and physical science universities higher ( $M = 7.35$ ) than participants who read packed descriptions ( $M = 6.23$ ),  $F(1,48) = 3.25$ ,  $p = .08$ . (The two-way interaction between description and university was non-significant,  $F < 1$ .) Participants who read the unpacked descriptions also expected to be more satisfied at the social sciences university ( $M = 8.08$ ) than participants who read the packed description ( $M = 6.62$ ),  $t(48) = 2.40$ ,  $p < .025$ . In contrast, participants who read the unpacked description did not expect to be more satisfied at the physical sciences university than participants who read the packed description ( $M_s = 6.67$  and  $6.23$ , respectively),  $t < 1$ . These different unpacking effects for anticipated satisfaction resulted in a marginally significant two-way interaction between description and university,  $F(1,48) = 3.36$ ,  $p = .07$ , indicating that the personal relevance of a category’s details moderates the unpacking effect.

### General discussion

Any category or event can be described in more or less detail. Although these descriptions can reflect the same event objectively, they may not reflect the same event *subjectively*. This research investigated how the level of detail in descriptions of categories or events influence evaluations of those categories or events. We found that people render more extreme evaluations when they are presented with (Experiments 1 and 4), generate (Experiment 2), or are primed with (Experiment 3) more detailed evaluations than with less detailed evaluations. This unpacking effect was diminished when the details of a category were less relevant to one’s evaluation of it (Experiment 4). These findings illustrate that evaluations, like probability judgments, are influenced by descriptions of categories or events, in addition to general knowledge about the categories or events themselves.

The present studies extend Support Theory (Rottenstreich & Tversky, 1997; Tversky & Koehler, 1994) from probability and frequency judgments to evaluative judgments. This extension suggests that Support Theory may describe many types of social judgment. Specifically, Support Theory may describe any judgment that can be framed as an assessment of the degree of support for a focal hypothesis or evaluation relative to alternative hypotheses or evaluations. A similar analysis may be profitably applied to affective forecasting, causal attribution, person perception, behavioral prediction, and many other social judgments.

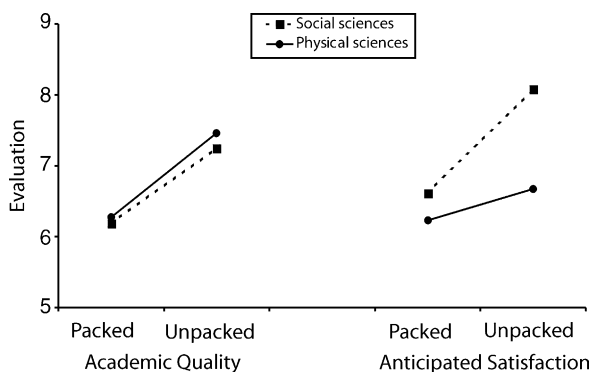


Fig. 1. Psychology majors’ ratings of the academic quality and of their anticipated satisfaction at social sciences and physical sciences universities whose descriptions were either packed or unpacked.

Along these lines, we report studies elsewhere demonstrating that unpacking can reduce people's tendency to claim too much responsibility for jointly performed tasks (Ross & Sicoly, 1979). The present research suggests that such "overclaiming" in groups with more than two collaborators may be exacerbated by people's tendency to regard at least some of their collaborators as "the rest of the group." Indeed, we have shown that individuals' tendency to overclaim is diminished when they are led to think about their collaborators as individuals, each making separate contributions (Savitsky, Van Boven, Epley, & Wight, 2003).

Why do more detailed descriptions produce more extreme evaluations? As suggested by Tversky and colleagues' research on Support Theory, there are several possible mechanisms. First, detailed descriptions may remind people of constituent elements they would not have otherwise considered. Second, detailed descriptions may make it phenomenologically easier for people to consider constituent elements (Schwarz et al., 1991). Third, detailed descriptions may make it easier for individuals to mentally simulate what an event will be like (Kahneman & Tversky, 1982) or to generate vivid imagery of the event (Strack, Schwarz, & Gschneidinger, 1985). A fourth possibility is that more detailed descriptions may lead people to think more about the category or event, which can result in more extreme (i.e., polarized) evaluations (Miller & Tesser, 1986; Tesser & Leone, 1977). Ultimately, the unpacking effect is probably over determined.

Although the present studies were not intended to parse the relative contributions of these mechanisms, we suspect that some are more influential than others. Previous research indicates that the ease with which people retrieve information influences judgments independently (and sometimes in spite of) the amount of information retrieved (Dijksterhuis, Macrae, & Haddock, 1999; Haddock, Rothman, Reber, & Schwarz, 1999; Rothman & Schwarz, 1998; Schwarz et al., 1991; Wanke, Bless, & Biller, 1996; Wanke, Schwarz, & Bless, 1995). We therefore suspect that the ease with which participants could think about constituent elements of a category may have played a more important role in the results of our studies than the number of elements they could think of. We also suspect that thought-induced attitude polarization (Miller & Tesser, 1986; Tesser & Leone, 1977) plays a relatively minor role in the unpacking effect. Initial evaluations to which one is committed are required for mere thought to produce more extreme evaluations. We suspect that our participants did not make initial evaluations. Ultimately, though, fine-grained distinctions between mechanisms underlying the unpacking effect in evaluative judgments must await further research.

Less patience is required, however, to address moderators of the unpacking effect. Our last study identified

the category's relevance as one important moderator, and there are doubtless others as well. In particular, the constituent elements of a category or event that one is led to consider sometimes will not be consistently valenced so making those constituent elements easier to think about may lead to more moderate rather than more extreme evaluations (Linville, 1982; Linville & Jones, 1980; Miller & Tesser, 1986, Study 3; Paulhus & Lim, 1994). Notice that whether an individual considers consistently or inconsistently valenced elements of a category or event can be influenced both by the actual valence of those constituent elements and by the particular elements people are led to consider. "A day at the beach," for example, contains many positive elements—relaxing, swimming, and tanning—but also some negative elements—crowds, jellyfish, and sunburns. Making it easier to think about the details of "a day at the beach" could thus produce either more extreme or more moderate evaluations, depending on which details people are led to consider.

In conclusion, we have tried to persuade readers of an unpacking effect in evaluative judgments: Leading people to think about the details of a category or event, thereby making it easier to mentally generate evaluative evidence, results in more extreme evaluations. All of our experiments support this hypothesis. Stated differently, Experiment 1, Experiment 2, Experiment 3, and Experiment 4 support this hypothesis. We hope the reader is convinced.

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