

## REJOINDER

# Regret and Responsibility Resolved? Evaluating Ordóñez and Connolly's (2000) Conclusions

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**T. Connolly, L. D. Ordóñez, and R. Coughlan (1997, *Organizational Behavior and Human Decision Processes*, 70, 73–85) argued, on the basis of 5 experiments, that regret need not be related to a sense of responsibility for the regretted outcome. We (M. Zeelenberg, W. W. van Dijk, & A. S. R. Manstead, 1998, *Organizational Behavior and Human Decision Processes*, 74, 254–272) showed in 2 experiments that this conclusion was premature, because it was based on an indirect measure of regret (i.e., overall happiness with the decision outcome). When regret was directly measured, the predicted effects of responsibility were found. L. D. Ordóñez and T. Connolly (2000, *Organizational Behavior and Human Decision Processes*, 81, 132–142) replicated**

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**our findings in 2 experiments. Based on their findings they arrived at 4 conclusions. In this rejoinder we first discuss Ordóñez and Connolly's new studies and we then discuss the validity of their 4 conclusions.** © 2000 Academic Press

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Al wat je doet en nalaat heeft meestal geen, maar soms opeens akelige verstrekkende gevolgen. 't Gaat haast altijd goed, maar een enkele keer niet. En dan wroeging, spijt, berouw. Je zou beter kunnen leven met een stuiver op zak die je, telkens als je een beslissing moet nemen opgooit. . . . Dan valt je achteraf niets te verwijten.

[The things that you do or refrain from doing generally have no consequences, but sometimes they suddenly do have unpleasant and far-reaching consequences. Things go well most of the time, but once in a while something goes wrong. And then compunction, regret, remorse. You'd do better living with a nickel in your pocket that you flip every time you have to make a decision . . . Then there would be no self-recrimination afterwards.]

—Maarten 't Hart, *De Nakomer*

The relation between regret and responsibility is problematic. Although the notion that they are positively related, as suggested in the opening quotation by novelist Maarten 't Hart, has received ample empirical support (e.g., Ordóñez & Connolly, 2000; Zeelenberg, van Dijk, & Manstead, 1998; and the publications cited therein), some leading theorists still claim that they are unrelated.<sup>1</sup> A recent example can be found in Elster (1999, p. 24):

In the case of regret, there is nothing that one could and should have done. Although some people blame themselves for bad outcomes that they could have prevented even when they could not have known what to do at the time ("If I had only called him up, he would have left later and not been killed in the accident"), these are cases of (irrational) guilt, not regret.

The present set of exchanges concerning the relationship between regret and responsibility began with Connolly, Ordóñez, and Coughlan's (1997) claim that the regret one experiences following a negative outcome can be unrelated to one's sense of responsibility for that outcome. In Zeelenberg, van Dijk, and Manstead (1998) we argued that this conclusion was premature because regret had not been adequately measured in the Connolly et al. study: They assessed general happiness with the obtained outcome, rather than regret per se.<sup>2</sup> When

<sup>1</sup> In Zeelenberg, van Dijk, and Manstead (1998) we may have given the impression that philosophers invariably argue against a relation between regret and responsibility. However, some do agree with our viewpoint. For example, in a review of Landman's (1993) book, Farrell (1997, p. 399) stated that "all we can properly *regret* are our own past actions and decisions; the other 'regrettable' things she mentions, one might say, are, strictly speaking, things whose occurrence we might *lament*, perhaps, or otherwise wish had not occurred, but not things we can intelligibly be said to *regret* in the same sense as that in which we can be said to regret things we have intentionally *done*."

<sup>2</sup> This is not strictly true since Connolly *et al.* (1997) did use a regret measure in their Experiment 3. They presented participants with a scenario in which two students, Alan and Bob, ended up in a section of a course as a result of either their own decision or a computer assignment. Participants were asked to indicate whether Alan or Bob feels more regret. However, as noted in Zeelenberg, van Dijk, and Manstead (1998, pp. 256–257), the *intensity* of regret was not assessed, which makes it impossible to relate the level of regret to the manipulation of responsibility.

we replicated Connolly et al.'s research and assessed regret directly we found the expected effects of responsibility. Ordóñez and Connolly (2000) also found an effect of responsibility when regret was assessed directly. Thus, the issue of whether there is a positive relation between regret and responsibility now seems to be resolved. This is also the first of four conclusions drawn by Ordóñez and Connolly in their paper. However, an issue that has not yet been resolved is one that Ordóñez and Connolly regard as very important, namely whether or not responsibility is a necessary condition for regret. We will discuss this issue, as reflected in their Conclusion 3, later in this paper, along with their other conclusions. First we discuss the new findings reported by Ordóñez and Connolly.

### WHAT DO ORDÓÑEZ AND CONNOLLY'S (2000) NEW STUDIES TELL US?

Ordóñez and Connolly (2000) report two new studies. The first experiment, a close replication of our Experiment 1, was conducted in order to test whether regret and responsibility were indeed related, as we had argued and found. The results are very similar to ours: There were clear effects of decision responsibility on regret when regret was assessed directly. However, there were also some disparities between our findings and those of Ordóñez and Connolly. Because these are discussed in detail by Ordóñez and Connolly (2000), we focus here on what we regard as the most important discrepancy, namely the nonnegligible degree of regret observed in the computer-assignment condition (i.e., the low-responsibility condition). The scenario in this condition describes three students who end up in the same Section B that was worse than, the same as, or better than the section to which the student was initially assigned. The reassignment was implemented by a computerized procedure over which the students had no control. Although we, in our earlier research, also found that the regret ratings in this computer-assignment condition were greater than 1 [the minimum point on a 9-point scale with endpoints labeled *no regret* (1) and *very much regret* (9)], the mean ratings were lower than those observed in Ordóñez and Connolly's replication.

What could be responsible for these disparities? One possibility is that they are due to the "minor procedural refinements" that Ordóñez and Connolly (2000, p. 133) incorporated in their studies. These consisted of asking the participants to answer three open questions directly after reading the scenario, asking how each student would feel. The dependent variables were assessed after participants had answered these questions. Although this procedural refinement was employed in order to encourage the participants to process the scenario information more carefully (T. Connolly, personal communication, February 24, 1998), it may have influenced the results. Below we sketch out two possible ways in which asking for global evaluations of the students' feeling states could account for the differences between Ordóñez and Connolly's findings and ours. Next, we briefly report an experiment that tests whether this procedural refinement produces the same effect in a Dutch sample.

First, it is possible that first answering open questions about the feelings of

the three students created an anchor for the remaining evaluative judgments. When later asked about more specific evaluative reactions (i.e., happiness, regret, and disappointment), participants may have adjusted their original judgment, but may not have done so sufficiently (Tversky & Kahneman, 1974), thereby resulting in ratings on the dependent variables that were more similar than they would have been without the anchor. For example, when first asked to describe how Alan feels, participants may reread the scenario and see that the only way in which his situation differs from that of the other students is the section to which he was initially assigned. Since Alan was originally assigned to the better Section A, participants are likely to infer that Alan must feel bad about being reassigned. When they are later asked to indicate the specific emotions experienced by Alan, participants may use this global negative feeling as a reference point. Taking into consideration the fact that he was not responsible for the outcome, they may lower their ratings of regret, but do so insufficiently, thereby resulting in a rating of moderate regret. An alternative account of the effects of the procedural refinement is the following:<sup>3</sup> Having made a global evaluation of the students' feeling state, participants may have difficulty parsing this evaluation into the specific emotions of regret, happiness, and disappointment. Consequently, participants' ratings of these specific emotions may overestimate the coherence of these feelings.

To examine whether this procedural refinement of Ordóñez and Connolly (2000) might have been responsible for the regret ratings' being nonnegligible even in the absence of responsibility, we ran a replication of their Experiment 1. We did not collect any process measures, so our new experiment cannot provide information about the validity of the two accounts described, or any other possible explanation. However, it can tell us whether the procedural refinement affected the ratings of specific emotions.

The design, scenario, and measures were identical to those of Experiment 1 of Zeelenberg, van Dijk, and Manstead (1998). The procedure was adapted in order to mimic that of Ordóñez and Connolly (2000). Thus, we had participants first read the scenario. Next they were asked to write down how each student would feel. Finally, on a separate page, they were asked to indicate the levels of happiness, regret, disappointment, and responsibility for each student. Forty Dutch undergraduate students (20 per decision-agency condition) participated in the experiment on a voluntary basis.

The results of the study are shown in Table 1. The data were analyzed by means of a 2 (Decision Agency: student choice vs computer assignment)  $\times$  3 (Initial Condition: better than vs equal to vs worse than actual outcome) ANOVA. Significant main effects of decision agency were found for regret ( $F(1, 38) = 9.46, p < .005$ ) and responsibility ( $F(1, 38) = 49.02, p < .001$ ), thereby providing additional support for our claim that regret and responsibility are related. Significant main effects of initial condition were found for happiness ( $F(2, 76) = 145.53, p < .001$ ), regret ( $F(2, 76) = 53.62, p < .001$ ), disappointment ( $F(2, 76) = 67.01, p < .001$ ), and responsibility ( $F(2, 76) = 21.24, p < .001$ ),

<sup>3</sup> We are indebted to an anonymous reviewer for this suggestion.

**TABLE 1**  
**Mean Happiness, Regret, Disappointment, and Responsibility Ratings**

Initial condition	Decision agency	
	Computer assignment	Student choice
<i>Happiness</i>		
Better than (= Alan)	-1.65 <sub>a</sub>	-2.15 <sub>a</sub>
Equal to (= Bob)	0.60 <sub>b</sub>	0.25 <sub>b</sub>
Worse than (= Chuck)	3.20 <sub>c</sub>	3.05 <sub>c</sub>
<i>Regret</i>		
Better than (= Alan)	4.90 <sub>a</sub>	7.75 <sub>b</sub>
Equal to (= Bob)	3.50 <sub>c</sub>	4.80 <sub>d</sub>
Worse than (= Chuck)	2.40 <sub>e</sub>	2.80 <sub>e</sub>
<i>Disappointment</i>		
Better than (= Alan)	7.10 <sub>a</sub>	6.30 <sub>a</sub>
Equal to (= Bob)	4.00 <sub>b</sub>	4.50 <sub>b</sub>
Worse than (= Chuck)	2.40 <sub>c</sub>	3.15 <sub>c</sub>
<i>Responsibility</i>		
Better than (= Alan)	3.30 <sub>a</sub>	7.55 <sub>b</sub>
Equal to (= Bob)	2.60 <sub>a</sub>	4.10 <sub>c</sub>
Worse than (= Chuck)	2.40 <sub>a</sub>	7.20 <sub>b</sub>

*Note.* Happiness ratings were made on an 11-point scale, with endpoints labeled *very unhappy* (-5) and *very happy* (+5). Rating for regret, disappointment, and responsibility were made on 9-point scales, with endpoints labeled *no regret* (1) and *very much regret* (9), *no disappointment* (1) and *very much disappointment* (9), and *not responsible* (1) and *very responsible* (9). For each dependent variable, means within rows and columns not sharing a common subscript differ significantly ( $p < .05$ , two-tailed).

showing that the affective reaction to an outcome is influenced by the outcome with which it is compared. Significant Decision Agency  $\times$  Initial Condition interactions were found for regret ( $F(2, 76) = 5.88, p < .005$ ), disappointment ( $F(2, 76) = 3.04, p = .05$ ), and responsibility ( $F(2, 76) = 14.65, p < .001$ ). Inspection of the means and indices representing significant differences, as shown in Table 1, indicates that the decision-agency manipulation significantly affected the regret ratings, but not the happiness ratings, in close accordance with the predictions and results reported in Zeelenberg, van Dijk, and Manstead (1998).

Overall, then, the results replicate our earlier findings. In terms of the pattern of significant findings, the only difference is that in our earlier experiment the amount of disappointment rated for Alan was significantly higher in the student-choice condition than in the computer-assignment condition. In the present data this difference was significant only when a one-tailed test was used. This may be due to the smaller number of participants and a corresponding loss of power in the present experiment.

Focusing on the mean regret ratings, however, there are substantial differences between the present findings and those of our earlier experiment. The data now resemble those of Ordóñez and Connolly's (2000) Experiment 1 more closely. However, our new regret data still show the Decision Agency  $\times$  Initial Condition interaction that was found in our earlier study. Ordóñez and Connolly (2000) did not find such an interaction. To make it easier to compare the three sets of regret data, we have plotted them in Fig. 1. The figure clearly shows that the mean regret rating for Alan in the computer-assignment condition (4.9) is much higher than in our earlier experiment (3.5). However, it is not as high as in Ordóñez and Connolly (2000) (5.8).

It therefore appears that Ordóñez and Connolly's refinement of our procedure was only partly responsible for the differences in findings. Other factors, such as language and culture, may be responsible for the remaining differences between their and our data. This is an issue to which we will return below.

Ordóñez and Connolly (2000) noted that because decision agency was manipulated as a between-participants factor and initial condition was manipulated as a within-participants factor, the relative strength of the two factors could not be determined. To address this issue they ran a second experiment in which they used an entirely within-participants design. They again found that decision agency had a significant impact on regret. However, they also found that the size of that effect was smaller than that of initial condition. We did not claim that the effect of decision agency was larger than that of initial condition. Our point was simply that it had a clear effect on regret. However, if one wants to compare the relative strength of the two effects there are various reasons for thinking that a completely within-participants design is inappropriate. First, the participants' task becomes tedious and rather artificial when they have to make 4 ratings for each of three students in each of two decision agency conditions, a total of 24 ratings. Moreover, the problem with within-participants designs is that "they are liable to induce the effect which they are intended to test" (Kahneman & Tversky, 1982, p. 131). If one takes

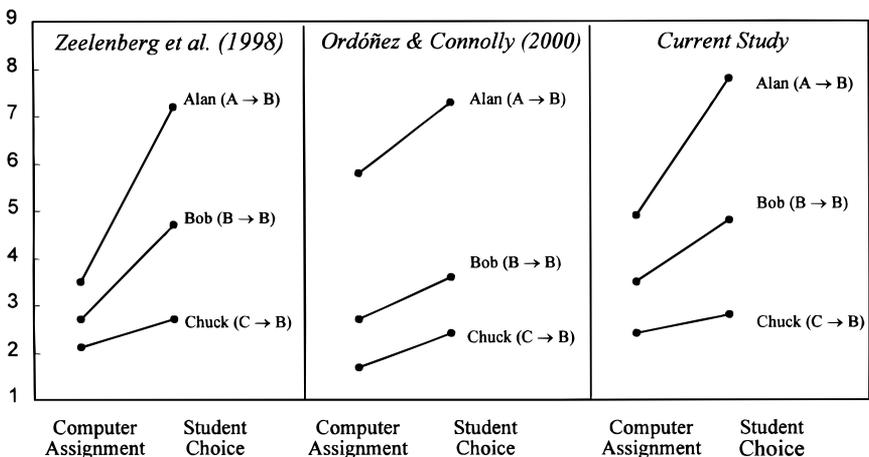


FIG. 1. Mean regret ratings for each scenario participant in both responsibility conditions.

this issue seriously, there is some reason to doubt the findings relating to the initial condition in the five experiments reported in Connolly et al. (1997); the two experiments in Ordóñez and Connolly (2000); Experiment 1 of Zeelenberg, van Dijk, and Manstead (1998); and our new experiment. Participants in all these experiments were asked to give ratings of feeling states for two or three students who ended up in the same section of a course (and therefore experienced the same factual outcome) but who differed with respect to the section they were initially assigned to. Participants' responses may simply reflect these differences, with the result that there were large effects of initial condition. It is worth noting that N'gbala and Branscombe (1997) failed to find such an effect in a between-participants design; these authors suggested that such initial-condition effects might be due to a comparative judgment process that is induced by the use of within-participants manipulations.

Thus we maintain that a proper comparison of the relative strength of decision agency and initial condition would involve a fully between-participants design. In Experiment 2 of our previous article we used such a design and found no effects of initial condition on regret, and substantial effects of decision agency. When the relative strength of these manipulations of initial condition and decision agency is compared, the existing evidence suggests that decision agency has a larger impact.

In summary, the new studies of Ordóñez and Connolly support our claim that regret and responsibility are positively related. They show that these effects are obtained when decision agency is manipulated as a between-participants as well as a within-participants factor. Although the slight change of the procedure they introduced affected regret ratings, the decision-agency effect remained significant. These new findings of Ordóñez and Connolly are therefore testimony to the strength of the relation between regret and responsibility.

### **EVALUATING ORDÓÑEZ AND CONNOLLY'S (2000) CONCLUSIONS**

Drawing on Connolly et al. (1997); Zeelenberg, van Dijk, and Manstead (1998); and their own new studies, Ordóñez and Connolly (2000 p. 139) draw four "conclusions concerning the emotional consequences of choice." We now discuss each of these conclusions.

Conclusion 1. The original claim in Connolly et al. (1997) that regret is unaffected by decision responsibility is wrong.

We of course agree with this conclusion. This was our main point of disagreement with the conclusions reached by Connolly et al. (1997). In Zeelenberg, van Dijk, and Manstead (1998) we argued that existing theory and research suggested that regret and responsibility are positively related, and in two experiments we showed that manipulations of responsibility had a clear effect on regret. Ordóñez and Connolly's new data and our own new study confirm these findings.

Conclusion 2. The effects of regret and rejoicing were not reflected in overall evaluations of decision outcomes.

This conclusion is based on the finding that regret and overall happiness with the outcome were uncorrelated in Connolly et al. (1997); in Zeelenberg, van Dijk, and Manstead (1998); and in Ordóñez and Connolly's new data. Similarly, Zeelenberg and Pieters (1999, Study 2) found that the amount of regret reported by dissatisfied customers did not significantly predict their (dis)satisfaction. However, it is worth noting that a number of experimental studies have shown outcome satisfaction to be dependent on regret (e.g., Boles & Messick, 1995; Herrmann, Huber, & Wricke, 1999; Inman, Dyer, & Jia, 1997; Inman & Zeelenberg, 1998; Taylor, 1997; Tsiros, 1998; Tsiros & Mittal, in press). As far as we are aware, Boles and Messick (1995) were the first to show that the outcomes of a nonchosen alternative can influence outcome satisfaction. They had participants read a scenario about a player who chose one of two gambles and they manipulated whether or not feedback on the nonchosen alternative was present. Next, participants judged the outcome of the player on several dimensions. When there was feedback on the rejected alternative, the judged satisfaction with the obtained outcome was more positive when the rejected alternative would have provided them with a worse outcome, and more negative when the rejected alternative would have provided them with a better outcome. Similar results were obtained in the other studies referred to above.

There is also ample evidence that anticipated regret influences choice (for a review, see Zeelenberg, 1999), underscoring the fact that regret can influence outcome evaluations, as suggested by regret theory. However, Ordóñez and Connolly suggest that regret theory "is better thought of as a function that generates regret-moderated utilities corresponding to observed regret-moderated choices" (2000, p. 140). If we understand them correctly, what they are suggesting here is that although regret theory may have reasonable predictive validity, in the sense that it is consistent with the choices that people make, it lacks descriptive validity in the sense that it says little about how or why people's choices are affected by (the anticipation of) regret. Although we agree with Ordóñez and Connolly that regret theory itself provides little insight into the underlying psychological states and processes, it is worth pointing out that there are various studies that have yielded process-related data that are consistent at least with the gist of regret theory, in the sense that they show that people take into account the possible future regrets and let their decisions be influenced by them. For example, in Zeelenberg, Beattie, van der Pligt, and de Vries (1996, Experiment 1) participants were asked to make a choice between two gambles and then to provide reasons for their choice. Participants in the two regret conditions provided regret-related justifications, whereas those in the control condition did not. These findings were recently replicated in a study using American participants (Guthrie, 1999). In a related study Zeelenberg and Beattie (1997, Experiment 2b) asked participants to make a decision and to indicate the extent to which various motivations influenced their decision. A significant correlation between the amount of anticipated regret and behavioral

decisions was found. More recently, Ordóñez and colleagues (Ordóñez, Benson, & Beach, 1999) provided evidence that anticipated regret influences the predecisional screening of options.

Summarizing, it is possible that regret is not always reflected in overall evaluations of decision outcomes, as Ordóñez and Connolly (2000) conclude. One should be careful, however, not to read this conclusion as a general assertion. As the research briefly reviewed in this section shows, evaluations of decision outcomes can be influenced by regret, and choices (and choice processes) can be influenced by the anticipation of such regret.

Conclusion 3. Responsibility is not a necessary precondition for regret.

In Zeelenberg, van Dijk, and Manstead (1998) we argued that there will be no regret when people do not feel responsible for a negative outcome. Ordóñez and Connolly state that this claim is inconsistent with the data reported in Zeelenberg, van Dijk, and Manstead (1998) and with their own new findings. As they correctly point out, a nonnegligible level of regret is reported by participants in the computer-assignment conditions. However, it is worth noting that the responsibility ratings in these conditions are also greater than 1 (i.e., the minimum point on the scale). Responsibility ratings were reported for Connolly et al.'s (1997) Experiment 2 (mean responsibility in the computer-assignment condition = 2.41) and for Ordóñez and Connolly's (2000) Experiment 1 (mean responsibility in the computer assignment condition = 1.52).<sup>4</sup> In our own experiments these mean responsibility ratings were slightly higher (2.45, 2.25, and 2.77 in the computer-assignment conditions of Experiments 1 and 2 of Zeelenberg, van Dijk, & Manstead, 1998, and our new experiment, respectively). It therefore appears that, contrary to what was intended, participants in this condition did not perceive the protagonist as completely lacking responsibility for the outcome. This may go some way toward explaining why participants still attributed modest levels of regret to the scenario characters. Moreover, it may be very difficult to manipulate agency in such a way that participants do not attribute any responsibility or control. Extensive research by Langer (e.g., 1975) on the "illusion of control" has shown that even in cases in which it is impossible to have any control over outcomes, people experience a degree of control and are therefore likely to feel some sense of responsibility for the outcome.

Other research on regret, using a quite different approach, is also relevant to this issue. Gilovich and Medvec (1994) asked respondents to write down their "biggest regrets." Fewer than 5% of the reported regrets (10 of 213) concerned things that were beyond the respondent's control, which led Gilovich and Medvec to conclude, "it thus seems that a sense of personal responsibility is central to the experience of regret. People might bemoan or curse their bad

<sup>4</sup> Responsibility was also assessed, but not reported, in Ordóñez and Connolly's (2000) Experiment 2. Here the mean responsibility rating in the computer-assignment condition was 2.00 (L. Ordóñez, personal communication, September 1999).

fate, but they rarely *regret* it in the sense that the term is typically understood" (p. 359; italics in original). Although it may be possible to experience regret in the absence of responsibility, as Ordóñez and Connolly (2000) argue, the evidence suggests that such cases are the exceptions rather than the rule.

Conclusion 4. The findings reported in Connolly et al. (1997); Ordóñez and Connolly (2000); and Zeelenberg, van Dijk, and Manstead (1998) pose serious problems for regret theory and disappointment theory.

We agree that these findings may not be strictly compatible with regret and disappointment theories (e.g., Bell, 1982, 1985; Loomes & Sugden, 1982, 1986). However, the validity of these theories can be questioned only if one assumes that participants in studies like the ones under discussion use and understand the word "regret" in the same way as it is used in the theories. If the familiar usage of "regret" does not coincide with the strict counterfactual definition proposed by regret theory, the findings of such studies may carry few implications for regret theory or disappointment theory.<sup>5</sup> We return to this issue of word meaning and word usage later.

Furthermore, we suggest that a somewhat looser interpretation of the findings *does* support the basic assumptions of regret and disappointment theories. The positive relation between regret and responsibility shows that the amount of regret that is experienced is related to the comparison of an obtained outcome with what one might have obtained had one chosen differently. Similarly, the negative relation between disappointment and responsibility reflects the fact that disappointment is related to causes external to the decision maker him- or herself. This pattern of results is consistent with regret and disappointment theories. It is also consistent with our earlier research, reported in Zeelenberg, van Dijk, van der Pligt, Manstead, van Empelen, and Reinderman (1998), in which we provided a more detailed account of how attributions, counterfactual thinking, and experiences of regret and responsibility are related to regret and disappointment theories.

Ordóñez and Connolly conclude their paper with a discussion of the meaning that people attach to the words "regret" and "disappointment," and they suggest that this meaning may be different from the way these terms are used in regret and disappointment theories. We agree that such differences are possible (see above), but here we would like to raise another issue relating to the semantics of these terms. It is possible that the differences in results obtained by us and by Ordóñez and Connolly arise in part or in whole from differences in the meaning of the words "regret" and "*spijt*," in English and Dutch, respectively. If one were to imagine for the sake of argument that the meaning of "regret" is broader than the meaning of "*spijt*," so that one can "regret" not only events for which one feels responsible (e.g., "I regret my decision to do x") but also events for which responsibility is either unclear or entirely absent (e.g., "I regret *your* decision to do x"—something that one could say in Dutch only by transforming the sentence to read "I find your decision to do x regrettable"),

<sup>5</sup> We thank an anonymous reviewer for pointing this out.

this would help to account both for the fact that some theorists resist the notion of a link between regret and responsibility and for the differences between Ordóñez and Connolly's findings and our own. An alternative explanation for the discrepancies in findings focuses not so much on the meanings of the two words "regret" and "*spijt*," but on the way they are used in everyday language. Thus even if the meanings of the two words were identical, in the sense that they both refer to an emotional state that one experiences when one feels responsible for an outcome that could have been better if one had acted differently, it might be that the way "regret" is used in everyday American English extends beyond this meaning to encompass events that one would prefer not to have happened but for which one was not personally responsible. By way of analogy, it is worth noting that although Dutch makes a distinction between "shame" (*schaamte*) and "embarrassment" (*gêne*), in everyday language the word "*schaamte*" is used to describe a state that English native speakers would call "embarrassment." Such differences in *word meanings* or *word use* greatly complicate the business of comparing results across two or more languages (see Russell, 1991); indeed, given the potential for less than 100% equivalence in word meaning and/or word use in the two languages, one could argue that the degree of consistency between Ordóñez and Connolly's results and our own is quite impressive.

## REFERENCES

- Bell, D. E. (1982). Regret in decision-making under uncertainty. *Operating Research*, **30**, 961–981.
- Bell, D. E. (1985). Disappointment in decision-making under uncertainty. *Operations Research*, **33**, 1–27.
- Boles, T. L., & Messick, D. M. (1995). A reverse outcome bias: The influence of multiple reference points on the evaluation of outcomes and decisions. *Organizational Behavior and Human Decision Processes*, **61**, 262–275.
- Connolly, T., Ordóñez, L. D., & Coughlan, R. (1997). Regret and responsibility in the evaluation of decision outcomes. *Organizational Behavior and Human Decision Processes*, **70**, 73–85.
- Elster, J. (1999). *Strong feelings: Emotion, addiction and human behavior*. Cambridge, MA: MIT Press.
- Farrell, D. (1997). Book review. *The Philosophical Quarterly*, **47**, 397–399.
- Gilovich, T., & Medvec, V. H. (1994). The temporal pattern to the experience of regret. *Journal of Personality and Social Psychology*, **67**, 357–365.
- Guthrie, C. (1999). Better settle than sorry: The regret aversion theory of litigation behavior. *University of Illinois Law Review*, **1999**, 43–90.
- Hart, M. 't (1996). *De nakomer*. Amsterdam: De Arbeiderspers.
- Herrmann, A., Huber, F., & Wricke, M. (1999). Die Herausbildung von Zufriedenheitsurteilen bei Alternativenbetrachtung. *Schmalenbachs Zeitschrift für betriebswirtschaftliche Forschung*, **51**, 677–692.
- Inman, J. J., Dyer, J. S., & Jia, J. (1997). A generalized utility model of disappointment and regret effects on post-choice valuation. *Marketing Science*, **16**, 97–111.
- Inman, J. J., & Zeelenberg, M. (1998). "Wow, I could've had a V8!": *The role of regret in consumer choice* (CentER Discussion Paper No. 9879). Tilburg, The Netherlands: CentER for Economic Research, Tilburg University.
- Kahneman, D., & Tversky, A. (1982). On the study of statistical intuitions. *Cognition*, **11**, 123–141.

- Landman, J. (1993). *Regret: The persistence of the possible*. New York: Oxford Univ. Press.
- Langer, E. J. (1975). The illusion of control. *Journal of Personality and Social Psychology*, **32**, 311–328.
- Loomes, G., & Sugden, R. (1982). Regret theory: An alternative theory of rational choice under certainty. *Economic Journal*, **92**, 805–824.
- Loomes, G., & Sugden, R. (1986). Disappointment and dynamic inconsistency in choice under uncertainty. *Review of Economic Studies*, **53**, 271–282.
- N'gbala, A., & Branscombe, N. R. (1997). When does action elicit more regret than inaction and is counterfactual thinking the mediator of this effect? *Journal of Experimental Social Psychology*, **33**, 324–343.
- Ordóñez, L. D., Benson, L., III, & Beach, L. R. (1999). Testing the compatibility test: How instructions, accountability and anticipated regret affect prechoice screening of options. *Organizational Behavior and Human Decision Processes*, **78**, 63–80.
- Ordóñez, L. D., & Connolly, T. (2000). Regret and responsibility: A reply to Zeelenberg et al. (1998). *Organizational Behavior and Human Decision Processes*, **81**, 132–142.
- Russell, J. A. (1991). Culture and the categorization of emotions. *Psychological Bulletin*, **110**, 426–450.
- Taylor, K. A. (1997). A regret theory approach to assessing consumer satisfaction. *Marketing Letters*, **8**, 229–238.
- Tsiros, M. (1998). Effect of regret on post-choice valuation: The case of more than two alternatives. *Organizational Behavior and Human Decision Processes*, **76**, 48–69.
- Tsiros, M., & Mittal, V. (in press). Regret: A model of its antecedents and consequences in consumer decision making. *Journal of Consumer Research*.
- Tversky, A., & Kahneman, D. (1974). Judgment under uncertainty: Heuristics and biases. *Science*, **185**, 1124–1131.
- Zeelenberg, M. (1999). Anticipated regret, expected feedback and behavioral decision-making. *Journal of Behavioral Decision Making*, **12**, 93–106.
- Zeelenberg, M., & Beattie, J. (1997). Consequences of regret aversion 2: Additional evidence for effects of feedback on decision making. *Organizational Behavior and Human Decision Processes*, **72**, 63–78.
- Zeelenberg, M., Beattie, J., van der Pligt, J., & de Vries, N. K. (1996). Consequences of regret aversion: Effects of expected feedback on risky decision making. *Organizational Behavior and Human Decision Processes*, **65**, 148–158.
- Zeelenberg, M., & Pieters, R. (1999). On service delivery that might have been: Behavioral responses to disappointment and regret. *Journal of Service Research*, **2**, 86–97.
- Zeelenberg, M., van Dijk, W. W., & Manstead, A. S. R. (1998). Reconsidering the relation between regret and responsibility. *Organizational Behavior and Human Decision Processes*, **74**, 254–272.
- Zeelenberg, M., van Dijk, W. W., van der Pligt, J., Manstead, A. S. R., van Empelen, P., & Reinderman, D. (1998). Emotional reactions to the outcomes of decisions: The role of counterfactual thought in the experience of regret and disappointment. *Organizational Behavior and Human Decision Processes*, **75**, 117–141.