

THEORETICAL NOTE

Varieties of Regret: A Debate and Partial Resolution

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Different interpretations of an apparent temporal pattern to the experience of regret were addressed through joint research. T. Gilovich and V. H. Medvec (1995a) argued that people regret actions more in the short term and inactions more in the long run because the sting of regrettable action diminishes relatively quickly, whereas the pain of regrettable inaction lingers longer. D. Kahneman (1995) disagreed, arguing that people's long-term regrets of inaction are largely wistful and therefore not terribly troublesome. Three studies that examined the emotional profile of action and inaction regrets established considerable common ground. Action regrets were found to elicit primarily "hot" emotions (e.g., anger), and inaction regrets were found to elicit both feelings of wistfulness (e.g., nostalgia) and despair (e.g., misery). Thus, some inaction regrets are indeed wistful (as Kahneman argued), whereas others are troublesome (as Gilovich and Medvec maintained).

Disagreement is a powerful engine of scientific advance. It sharpens conceptual boundaries, directs attention to neglected issues, and, of course, prompts the design of would-be decisive experiments. The precise manner in which scientific disputes are conducted can take many forms, however. The opposing sides frequently stake out their respective positions and then lob rhetorical grenades at one another. We chose a different approach to deal with a disagreement that arose among us about the subject of regret. In particular, we jointly designed a set of studies that would speak to the disputed issues and perhaps narrow our differences. Here we present the results of that research as both a contribution to the subject of regret and as an alternative template for the conduct of scientific disputes.

Gilovich and Medvec (1995a) argued that regrets of action and inaction follow a systematic time course. Actions generate more regret in the short term, but its intensity tends to decline steeply with time. For inaction regrets, in contrast, the reduction in intensity that is typical of most emotions is offset by several

factors that bolster their severity. The net result is that inactions are regretted more than actions in the long run. In addition to presenting evidence consistent with this temporal pattern, Gilovich and Medvec provided empirical support for a number of psychological mechanisms that appear to give rise to it. In particular, several social and cognitive processes were found to reduce the severity of action regrets with the passage of time, and several others were shown to bolster the severity of inaction regrets. Although Gilovich and Medvec alluded to different emotional profiles that might be associated with regrets of action and inaction (p. 393), their data and conceptual analyses largely treated both types of regret as if they were a single emotion varying only in intensity.

Kahneman (1995) argued that the existence of different emotional profiles is not only central to a comprehensive account of regret, but also provides an alternative interpretation of the apparent temporal pattern associated with regrets of action and inaction. In particular, Kahneman invoked two emotions, which although quite distinct, confusingly share the same name in the vernacular. He appealed to the intuition that the long-term regrets of older folks have a wistful, nostalgic, sometimes mildly pleasant quality: They involve fantasies about ways in which one's life could have been very different, ways in which long-abandoned hopes of the past could have been realized. Such emotional states of wistful regret appear to be quite distinct from the hot regret in which the sufferer "kicks herself" for having caused an undesirable outcome.

According to Kahneman (1995), hot regret and wistful regret typically arise at different temporal distances from the actions or inactions to which they are attached. Hot regret (a) can be evoked by relatively trivial adverse consequences, such as social embarrassment; (b) is often more intense for commission than

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for omission, perhaps because action is often more “abnormal” than inaction (Kahneman & Miller, 1986); (c) normally becomes less intense over time (for both omission and commission); and therefore (d) is mainly attached to recent events. Wistful regrets can also be described as intense. However, intense wistful regrets are typically associated with large consequences that take a long time to be acknowledged—for example, that one would have done better in life if one had gone to college. What grows over time, in this view, is not the regret associated with a particular consequence but the recognition that there is a large consequence to be regretted. The instruction to describe one’s greatest long-term regret is an invitation to construct a life that differs in major ways from one’s real life. Note that treatments of the distinction between additive and subtractive counterfactuals suggest that big changes are easier to mentally simulate by addition than by subtraction (Dunning & Madey, 1995; Roese & Olson, 1995). Undoing omissions, of course, is an additive counterfactual thought.

There are thus two key differences in the positions held by Kahneman (1995) and Gilovich and Medvec (1995a). One involves the explanation of why actions dominate short-term regrets and inactions dominate in the long run. Kahneman’s claim is that this pattern does not reflect differential change in the intensity of regrets of omission or commission with the passage of time. Instead, it reflects a difference, in both content and emotional tone, between thoughts of mishaps from the recent past and more distant thoughts of ways in which one’s life could have been better. Kahneman sees no evidence for the same regret changing in intensity over time.

Gilovich and Medvec (1995a) do not deny that people sometimes regret things in the long term that were not at all troublesome from a more immediate perspective and that this may be particularly true of long-term regrets of inaction. The costs of many missed opportunities take time to reveal themselves. But Gilovich and Medvec also maintain that there is in fact differential change in the intensity of the two types of regret with the passage of time: They contend that action regrets diminish sharply, whereas inaction regrets tend to be bolstered by a set of psychological processes that arrest their decline. Although Gilovich and Medvec have collected evidence in support of several mechanisms that imply differential change in the intensity of action and inaction regrets (Gilovich, Kerr, & Medvec, 1993; Gilovich & Medvec, 1995a; Gilovich, Medvec, & Chen, 1995), the existing data on short- and long-term regrets cannot distinguish Kahneman’s (1995) interpretation from that of Gilovich and Medvec. The only way to do so is through a longitudinal study that records people’s most troublesome regrets of action and inaction at one point and then assesses their continued intensity at several points over an extended period of time. Gilovich and Medvec have such a study underway. Time will tell.

The second difference between the positions advocated by Kahneman (1995) and Gilovich and Medvec (1995a) concerns the emotional profile of regrets of action and inaction. Kahneman asserts that there are two different types of regret—hot and wistful—that are differentially associated with actions and inactions on the one hand, and with short-term and long-term perspectives on the other. Hot regrets dominate thoughts of the recent past, are intense, and derive mainly from actions. Wistful

regrets dominate thoughts about the distant past, are less intense, and mainly implicate inactions.

Gilovich and Medvec (1995a) have no quarrel with the idea that regrets differ in kind, nor even with the contention that hot and wistful regrets are two of the most common and important types. The “heat” of regret, like most emotions, probably does diminish with the passage of time. Indeed, if one were to propose a “first law” of emotional experience, it would have to be that emotions diminish with time—although regret and other “moral” emotions such as guilt and shame may buck this trend more than most emotional states. At the same time, a sense of wistfulness about roads not taken may increase over time. The net result, exactly as Kahneman (1995) proposes, is that regrets of action generate more short-term heat, whereas regrets of inaction give rise to more long-term wistfulness.

Gilovich and Medvec (1995a) do not agree, however, with the implication that long-term regrets of inaction are not painful. Thus, to Kahneman’s (1995) two emotion clusters they would add a third—consisting of emotions that are neither hot nor wistful, and tend to be more closely connected to inactions than actions. Despair. Emptiness. Sadness. These and others convey a sense of painful, not wistful, longing.

These different perspectives on the emotional profiles of regrettable actions and inactions need not await resolution through prolonged longitudinal research. Thus, rather than engage in the usual back-and-forth rhetorical debate, we chose to submit our divergent claims, jointly, to empirical test.

Study 1

As the first part of this test, we developed a set of 7 hot and 4 wistful emotions (*hot*: angry, ashamed, disgusted, embarrassed, frustrated, guilty, and irritated; *wistful*: contemplative, nostalgic, sentimental, and wistful). We then presented a randomly ordered list of these and 11 filler emotions to 79 Cornell alumni who had returned to campus for reunion weekend. Half were asked to think of their single biggest regret of action and inaction from the past week, and half were asked to do the same for the biggest regrets of their entire lives. They were then asked to indicate how much each regret made them feel each of the 22 emotions by checking the appropriate option on a three-point scale—a *great deal* (3), *somewhat* (2), or *not at all* (1).

The responses indicated that, as anticipated, the hot emotions were endorsed more for action regrets ($M = 1.81$) than for inaction regrets ($M = 1.57$), $F(1, 77) = 17.48$, $p < .0001$, and temporal perspective yielded no main or interaction effects (both $F_s < 1$). The wistful emotions, in contrast, were endorsed more for inaction regrets ($M = 1.84$) than for action regrets ($M = 1.59$), $F(1, 77) = 17.12$, $p < .0001$. Furthermore, the endorsement of wistful emotions was more common among those thinking about the biggest regrets of their lives ($M = 1.85$) than those focused on the past week ($M = 1.60$), $F(1, 77) = 10.60$, $p < .005$. This latter effect, however, was much stronger for inaction regrets ($M_s = 2.06$ vs. 1.65) than action regrets ($M_s = 1.64$ vs. 1.55), yielding a significant interaction between action/inaction and temporal perspective, $F(1, 77) = 6.60$, $p < .02$.

The data thus provide considerable support for Kahneman’s (1995) hypothesis about hot and wistful regrets. But they could

do no more than that, of course. No questions about despair were asked, and so no support for a third emotion cluster could be obtained. Although action regrets may induce hotter emotions than inaction regrets, and inaction regrets may induce more wistful emotions, that does not mean that inaction regrets are entirely wistful or "pleasantly sad." Indeed, as Gilovich and Medvec (1995a) had observed earlier, inaction regrets are frequently described as quite painful. Perhaps the pain derives not from various hot emotions, but from a set of cooler, but still troublesome, emotional reactions. Inaction regrets may yield less anger but more despair than action regrets.

Study 2

To find out whether inaction causes more despair and less anger than action, we distributed another survey, this one to 60 clerical and technical staff members of a large Veterans Administration hospital. The respondents, all at least 25 years old, were asked to think of the single biggest regret of action and inaction from their entire lives, and then to indicate which regret—action or inaction—elicited more of each of 15 emotions. Five were "hot" emotions (angry, disgusted, embarrassed, guilty, and irritated), 5 were "wistful" emotions (contemplative, dreamy, nostalgic, sentimental, and wistful), and 5 represented emotional states that, although not hot, are nonetheless quite unpleasant (empty, helpless, longing, sad, and unfulfilled). We refer to these as the *despair* cluster.

Consistent with the idea that there is more to regrets of inaction than wistfulness, 64% of the respondents indicated that a majority of the despair emotions were elicited more by their biggest regret of inaction than by their biggest regret of action (binomial $z = 2.08$, $p < .05$). Furthermore, consistent with the previous study, 66% indicated that a majority of the wistful emotions were likewise elicited primarily by their regrets of inaction (binomial $z = 2.23$, $p < .05$). The one element of these data that did not conform to expectations (nor to the pattern obtained in the previous study) involved the hot emotions, which were elicited equally by regrets of action and inaction. Fifty percent of the respondents indicated that a majority of the hot emotions were elicited more by their regrets of action, and 50% indicated that a majority were elicited more by their regrets of inaction.

Study 3

We conducted a final survey to further investigate the different emotions associated with action and inaction regrets. Our third study was designed to allow respondents to indicate that "neither" regret—action or inaction—prompted stronger feelings of a particular emotion. The survey was administered to 30 clerical staff members at Cornell and Northwestern Universities, all of whom were at least 30 years old. The respondents were asked to indicate whether each of 15 emotions was prompted more by their biggest regret of action or inaction, or by neither regret more than the other. The 15 regrets were the same as those in Study 2, with one exception. We replaced "longing" from the previous despair cluster with "miserable" because of a concern that longing may have overlapped too substantially with "unfulfilled" and "empty."

The responses once again provided evidence for all three emotion clusters. Inaction regrets were deemed more prominent causes of the emotions of wistfulness and despair. Seventy-two percent of the respondents indicated that a majority of the wistful emotions were caused more by regrets of inaction than by regrets of action, and 70% did the same for the despair emotions. This pattern was reversed for the hot emotions. Sixty-six percent indicated that a majority were caused more by their regrets of action. Overall, one third of the respondents exhibited precisely the predicted pattern of having their hot emotions driven more by their regrets of action, but both their wistful and despair emotions driven more by their regrets of inaction. Under the null hypothesis, only 12.5% would be expected to conform to this pattern (binomial $z = 3.45$, $p < .001$).

Discussion

When the idea of attempting to resolve our disagreement by research first came up, we knew that we would not completely agree about its interpretation. Life is not so simple. However, we predicted accurately that our differences would be substantially narrowed and that we might learn something. Where are we, then?

The three experiments reported here support the contention that action and inaction regrets differ systematically in the emotions they evoke. In particular, we have identified three clusters of emotions that are differentially associated with regrets of action and inaction, and probably differ in the time of life during which they are most prevalent. We believe we have identified the most prominent clusters, but we also agree that the present effort was preliminary, and that the task of locating the variants of regret in the broader map of counterfactual emotions remains largely undone.

We are in partial accord about the causes of the documented distribution of regrets of commission and omission among immediate and delayed regrets (Gilovich & Medvec, 1995a). One mechanism on which we agree is that the occurrence of regret requires the identification of regrettable consequences, and that the adverse consequences of inaction often take longer to manifest themselves than the adverse consequences of actions. Beyond this point, what are our views?

Kahneman believes that the original claim that there are (at least) two very different emotions that share the name "regret" has been confirmed. The predicted relations among the types of regret, the action/inaction dimension, and the temporal dimension have also been supported in the one study in which they were tested. Kahneman remains unconvinced by what he had taken to be the central claim made by Gilovich and Medvec that the intensity of regrets of inaction increases over time. The evidence that Gilovich and Medvec presented for the proposed temporal pattern to the experience of regret was essentially circumstantial, indicating that there are mechanisms that could produce this effect, but the effect itself has yet to be observed. The present studies did not bear directly on the claim of temporal patterning, of course, but they supported a distinction between types of emotion that provides an alternative account of the regret results originally reported by Gilovich and Medvec. Kahneman is impressed by the third emotional cluster identified

in the new studies, and he concedes that long-term regrets may be associated with more pain than he initially believed.

Gilovich and Medvec agree that, like ice cream, regret comes in different flavors, and that many regrets of inaction are more wistful—and therefore less bothersome—than their original research on the subject implied. They still believe, however, that long-term regrets of inaction are truly painful for many individuals and that the pain centers around the feelings of despair documented in the research reported here.

Gilovich and Medvec also believe that one of the most helpful elements of this exercise was the opportunity to clarify a potential misunderstanding. The central claim of Gilovich and Medvec's earlier work was not that the intensity of regrets of inaction increases over time. Rather, the claim was that although action regrets are more intense than inaction regrets in the short term, the opposite is true in the long run.¹ This could be because an inaction regret increases in intensity over time (something that Gilovich and Medvec believe does happen, even if only for a minority of regrets), or because the intensity of inaction regrets may diminish less than does the intensity of action regrets. People undoubtedly bring numerous coping mechanisms to bear on their problematic emotions, with the result that such emotions tend to diminish over time. Inaction regrets may be more potent in the long run, then, not because they typically increase in intensity, but because they have decreased in intensity less substantially than regrets of action. To use a combat metaphor, inaction regrets are more troublesome in the long term because they tend to be the "last ones still standing."

One conclusion on which Kahneman, and Gilovich and Medvec all agree is that the exercise was worthwhile and that joint research is often a better way to deal with scholarly disagreement than are critiques and rejoinders.

¹ Gilovich and Medvec acknowledge that they were more clear on this point in some earlier writings (Gilovich & Medvec, 1995a; Hattiangadi, Medvec, & Gilovich, 1995; Savitsky, Medvec, & Gilovich, 1997) than in others (Gilovich & Medvec, 1994, 1995b).

References

- Dunning, D., & Madey, S. F. (1995). Comparison processes in counterfactual thought. In N. J. Roese & J. M. Olson (Eds.), *What might have been: The social psychology of counterfactual thinking* (pp. 103–132). Mahwah, NJ: Erlbaum.
- Gilovich, T., Kerr, M., & Medvec, V. H. (1993). The effect of temporal perspective on subjective confidence. *Journal of Personality and Social Psychology*, *64*, 552–560.
- Gilovich, T., & Medvec, V. H. (1994). The temporal profile to the experience of regret. *Journal of Personality and Social Psychology*, *67*, 357–365.
- Gilovich, T., & Medvec, V. H. (1995a). The experience of regret: What, when, and why. *Psychological Review*, *102*, 379–395.
- Gilovich, T., & Medvec, V. H. (1995b). Some counterfactual determinants of satisfaction and regret. In N. J. Roese & J. M. Olson (Eds.), *What might have been: The social psychology of counterfactual thinking* (pp. 259–282). Mahwah, NJ: Erlbaum.
- Gilovich, T., Medvec, V. H., & Chen, S. (1995). Commission, omission, and dissonance reduction: Coping with regret in the "three doors" problem. *Personality and Social Psychology Bulletin*, *21*, 182–190.
- Hattiangadi, N., Medvec, V. H., & Gilovich, T. (1995). Failing to act: Regrets of Terman's geniuses. *International Journal of Aging and Human Development*, *40*, 175–185.
- Kahneman, D. (1995). Varieties of counterfactual thinking. In N. J. Roese & J. M. Olson (Eds.), *What might have been: The social psychology of counterfactual thinking* (pp. 375–396). Mahwah, NJ: Erlbaum.
- Kahneman, D., & Miller, D. T. (1986). Norm theory: Comparing reality to its alternatives. *Psychological Review*, *93*, 136–153.
- Roese, N. J., & Olson, J. M. (1995). Functions of counterfactual thinking. In N. J. Roese & J. M. Olson (Eds.), *What might have been: The social psychology of counterfactual thinking* (pp. 169–198). Mahwah, NJ: Erlbaum.
- Savitsky, K., Medvec, V. H., & Gilovich, T. (1997). Remembering and regretting: The Zeigarnik effect and the cognitive availability of regrets of action and inaction. *Personality and Social Psychology Bulletin*, *23*, 248–257.

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