

EASE OF RETRIEVAL OF REGRETTABLE ACTIONS/INACTIONS AND THE EVALUATION OF THE PAST*

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Abstract

We examined whether the ease with which regrettable actions and inactions can be retrieved from memory influences the general evaluation of one's past experience. Undergraduates were asked to recall regrettable actions or inactions and to list either 2 or 6 of these actions/inactions. They then rated level of satisfaction and the frequency of regrettable events during the period in which they attended high school. The expected interaction emerged only for the regrettable events frequency rating. In the inaction regret condition, those who were instructed to recall two inactions (easy retrieval task) provided higher regrettable event frequency ratings than those who were told to recall six inactions (difficult retrieval task). In the action regret condition, there was no significant difference between the easy and difficult task conditions. There was no significant interaction for the satisfaction scale. We discuss the findings of this study from the perspective of the relationship between regret and satisfaction.

Introduction

People feel regret when they realize or imagine that their current situations would be better if they had done something differently (Zeelenberg & Pieters, 2006). People appear to experience more regret over negative outcomes stemming from actions taken than from identical outcomes resulting from actions foregone (Kahneman & Tversky, 1982; Landman, 1987). Kahneman and Tversky (1982) asked participants to judge which investor in the following scenario would experience more regret:

Paul owns shares in company A. During the past year he considered switching to stock in company B, but he decided against it. He now finds out that he would have been better off by \$1,200 if he had switched to the stock of company B. George owned shares

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in company B. During the past year he switched to stock in company A. He now finds out that he would have been better off by \$1,200 if he had kept his stock in company B. Who feels more regret? (p.173)

A large majority of participants (92% $n=138$) judged that George, who took action, would feel more regret than Paul, who did not act.

Later studies have found that people's patterns of regret shift with the passage of time. Actions produce greater regret in the short term, whereas inactions generate more regret over the long term (Gilovich & Medvec, 1994, 1995; Savitsky, Medvec, & Gilovich, 1997). Gilovich and Medvec (1994) used a variety of methodologies to show that regret after inaction is indeed stronger over the long term, including asking people to list their regrets, asking people to choose directly between regrets of action versus inaction, and scenario studies.

Gilovich and Medvec (1995) proposed three possible mechanisms to explain this temporal pattern of regret. First, people may engage in more dissonance reduction for regrettable actions than for regrettable inactions, taking more compensatory steps to mitigate problems caused by their actions. The second possibility is that people would typically be unsure of why they failed to act, although they may have many reasons for inaction. As a consequence, their failure to act may loom larger with the passage of time, with regrettable inactions tending to get recalled more frequently. The final possible reason why inactions produce more regret over the long term pertains to differences in the cognitive accessibility of regrettable actions and inactions. People are likely to remember incomplete tasks and unrealized goals better than those that have been finished, a phenomenon termed the "Zeigarnik effect". As regrettable inactions are similar to incomplete tasks, they may be rehearsed more and therefore recalled more than regrettable actions.

In the present study, we focused on the consequences of this shift in the temporal pattern of regret. We examined whether the ease with which regrettable actions and inactions could be retrieved from memory influences the general evaluation of one's past experiences. This study manipulated how easily regrettable inactions and actions were brought to mind using a modification of the paradigm used by Schwarz, Bless, Strack, Klumpp, and Rittenauer-Schatka (1991). Schwarz *et al.* (1991) asked their participants to describe either six or twelve examples of situations in which they behaved very assertively, or of situations in which they behaved unassertively. Participants who had to recall twelve examples of assertive behaviors, which was a more difficult task, rated themselves as less assertive than those who had to recall six examples, which was comparatively easy. Conversely, participants who had to recall twelve examples of unassertive behaviors rated themselves as more assertive than those who had to recall six examples. These findings indicate that when the retrieval task is difficult, participants' self-ratings tend to be opposite to the implications of the recalled content, despite the fact that more examples had been recalled.

We predicted that when people subjectively experienced the ease with which regrettable events come to mind, they would feel they had many regrettable events in their lives. They would therefore report that they were less satisfied with their lives, and that regrettable events had occurred quite frequently. However, when it is difficult to recall regrettable events, people should feel they have had relatively few regrettable experiences in their lives. They would therefore not infer less satisfaction with their lives nor a higher frequency of regrettable events, relative to the case in which regrettable events come to mind more easily.

In this study, undergraduate students were asked to recall regrettable actions or inactions from their high school lives and to describe either two or six of these regrettable occurrences. They then rated level of satisfaction with their lives during high school and the frequency of regrettable events that took place while they were in high school. It was predicted that since it is easier to recall two examples of regret experiences than six examples, participants who recalled two examples would provide lower ratings of satisfaction with their high school lives and higher frequency ratings of regrettable events during high school than those who recalled six examples. However, this ease of retrieval effect should be observed only when participants recalled regrettable inactions, because these are more accessible over the long term than are regrettable actions (Rajagopal, Raju, & Unnava, 2006). When participants recalled regrettable actions, the effect should decrease or disappear because it may be difficult to recall even two examples of regrettable actions.

Method

Participants. Participants were 132 undergraduate students (47 women, 84 men, 1 unknown), who completed the study in exchange for credit in a social psychology course at Hitotsubashi University.

Design. A 3 (type of regret: action vs. inaction vs. any regret) \times 2 (ease of retrieval: easy vs. difficult) between-participants design was employed.

Dependent variables. Participants indicated how satisfied they were with their high school lives, on a 9-point scale (from *not at all* (1) to *very satisfied* (9)). They also indicated how frequently regrettable events occurred when they were in high school, on a 9-point scale (from *not at all* (1), to *very frequently* (9)).

Manipulation check. After rating the dependent variables, participants evaluated how difficult it was to generate the requested number of regret occurrence examples, on a scale ranging from *very easy* (1) to *very difficult* (9).

Procedure. Participants were randomly assigned to condition, and they were instructed to complete a questionnaire. As a recall practice, they engaged in remembering one of the regrets from high school for three minutes. A third of the participants were asked to recall regrettable things they did (action regret condition), another third were instructed to recall regrettable occasions when they should have acted (inaction regret condition), and the remaining third were told to recall anything that they regretted (any regret condition). Participants in the easy retrieval condition were asked to describe two regrettable occurrences, of the same type they practiced. In the difficult condition, they reported six regrettable events. After completing the recall task, participants provided the ratings.

Results

Type of regret. Two judges who were unaware of the study's hypotheses assigned each of the described regrets to one of three categories: Inaction, action, or ambiguous. Such statements as "I would have been better if I had done..." or "I regret failing to do..." were categorized as regrettable inactions. Statements such as "I would have been better if I had not

TABLE 1. THE NUMBER OF DESCRIBED REGRETS ACROSS TYPE OF REGRET CONDITION

	Inaction regret condition	Action regret condition	Any regret condition
<i>Recall Practice</i>			
Regrettable inactions	29 (64.4%)	9 (22.5%)	15 (34.9%)
Regrettable actions	11 (24.4%)	29 (72.5%)	25 (58.1%)
Ambiguous	5 (11.1%)	2 (5%)	3 (7.0%)
Sum	45	40	43
<i>Manipulation of regret type</i>			
Regrettable inactions	126 (85.7%)	20 (16.1%)	55 (42.0%)
Regrettable actions	16 (10.9%)	97 (78.2%)	65 (49.6%)
Ambiguous	5 (3.4%)	7 (5.6%)	11 (8.4%)
Sum	147	124	131

TABLE 2. MEAN OF MANIPULATION CHECK SCORE

Type of regret	<i>M</i>	Number of recalled examples				
		2			6	
		<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>
Inaction regret	4.95	2.44	23	7.55	1.53	22
Action regret	7.05	1.63	21	8.09	1.11	22
Any regret	5.91	2.66	23	7.48	1.97	21

Note: The higher the score, the greater the difficulty of the retrieval task. The range of the score is from 1 to 9.

done...” “I regret doing...” or “I forgot to do...” were categorized as regrettable actions. When the content of the described regret was difficult to understand, or implied both action and inaction, the judges classified the example as an ambiguous regret. The two raters made the same category assignments for 102 of the 128 regrets from the recall practice (79.7%) and for 343 of the 400 regrets from the ease of retrieval task (85.7%). These correspondence rates were reliable. When the two raters assigned regrets to a different category, they discussed the issue and together decided on the most appropriate category.

As shown in Table 1, most of the recalled regrets were consistent with the appropriate set of experimental instructions. Of the described regrets in the inaction regret condition, 85.7% regrets were regrettable inactions, and 78.2% of the described regrets in the action regret condition were of the correct type. In the any regret condition, regrettable inactions were recalled as much as regrettable actions (42.0% vs. 49.6% respectively).

Manipulation check. We measured the difficulty of remembering the requested number of regrettable events, as a manipulation check. The data are shown in Table 2. A 3 (type of regret: action vs. inaction vs. any regret) \times 2 (ease of retrieval: easy vs. difficult) ANOVA revealed a main effect of ease of retrieval on the manipulation check rating, $F(1, 125) = 25.24$, $p < .001$. Participants reported that it was easier to generate two examples ($M = 5.95$) than six examples ($M = 7.01$). The main effect of type of regret was also significant, $F(2, 125) = 5.03$, $p < .01$. Participants reported that it was more difficult to describe regrettable actions ($M = 7.58$) than regrettable inactions ($M = 6.25$) or any regrettable occurrence ($M = 6.66$). However, the regret type \times ease of retrieval interaction was not significant, $F(2, 125) = 1.74$, ns . These findings suggest that the ease of retrieval manipulation was successful for the inaction

TABLE 3. SATISFACTION WITH HIGH SCHOOL LIVES

Type of regret	Number of recalled examples					
	2			6		
	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>
Inaction regret	5.86	2.08	23	6.00	2.35	22
Action regret	6.29	1.71	21	6.41	2.09	22
Any regret	6.17	2.48	23	5.57	2.80	21

Note: The higher the score, the greater the satisfaction with their high school lives. The range of the score is from 1 to 9.

TABLE 4. FREQUENCIES OF REGRETTABLE EVENTS

Type of regret	Number of recalled examples						Mean difference
	2			6			
	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	
Inaction regret	6.14	2.12	23	4.55	2.52	22	1.59*
Action regret	4.90	2.10	21	4.77	2.76	22	0.13
Any regret	4.43	2.63	23	5.81	1.97	21	-1.38

Note: The higher the score, the greater the frequencies of regrettable events. The range of the score is from 1 to 9. * $p < .05$

and any regret conditions. However, participants in the action regret condition found that it was difficult to recall examples whether two or six examples were requested.

Satisfaction with high school lives. As can be seen in Table 3, most participants reported that they were basically satisfied with their high school lives. A 3 (type of regret: action vs. inaction vs. any regret) \times 2 (ease of retrieval: easy vs. difficult) ANOVA was conducted on satisfaction scale scores. Neither the main effect of ease of retrieval nor the main effect of regret type were significant, $F_s < 1$, *ns*. Furthermore, the expected interaction between regret type and ease of retrieval was not found, $F(2, 125) < 1$, *ns*. There were no significant differences across the conditions, a result that was inconsistent with our hypothesis.

Frequencies of regrettable events. A 3 (type of regret: action vs. inaction vs. any regret) \times 2 (ease of retrieval: easy vs. difficult) ANOVA conducted on frequency ratings of regrettable events revealed the expected interaction, $F(2, 125) = 4.29$, $p < .05$. No other effects reached significance. As shown in Table 4, when the retrieval task was easy in the inaction regret condition, participants rated regrettable events during their high school lives as more frequent ($M = 6.14$), as compared to when the retrieval task was more difficult ($M = 4.55$), $F(1, 125) = 4.94$, $p < .05$. When regrettable actions were recalled, there was no significant difference between the easy and difficult task conditions ($M_s = 4.90$ vs. 4.77 , $F(1, 125) < 1$, *ns*). In the any regret condition, participants who recalled six examples ($M = 5.81$) tended to rate regrettable events as more frequent than those who were to recall two examples ($M = 4.43$), $F(1, 125) = 3.68$, $p = .06$. The more examples participants recalled, the more frequent they rated regrettable occurrences during high school to be, contrary to the standard ease of retrieval effect.

Content of described regrets. Overall, 132 participants reported 526 regrets. Each of these regrets was classified by the authors into 5 domains of high school life: 1) Club activity (e.g., "I should have belonged to a club." "I practiced too hard.") 2) Study (e.g., "If only I had

TABLE 5. THE NUMBER OF DESCRIBED REGRETS ACROSS THE 5 DOMAINS

Recalled order	Practice	1st	2nd	3rd	4th	5th	6th	Sum
Domains								
1. Club	54	18	18	4	4	2	0	100
2. Study	28	31	12	13	4	4	3	95
3. Interpersonal relationship	17	19	20	13	11	11	7	98
4. Romance	8	4	14	2	1	1	1	31
5. Self	20	51	55	20	23	16	17	202
Sum	127	123	119	52	43	34	28	526

studied harder.”) 3) Interpersonal relationship (e.g., “I hurt my friend’s feelings.” “I should have made more friends.”) 4) Romance (e.g., “I should have not parted from my girl friend.” “If only I had talked to him.”) 5) Self-related various things (e.g., “I should have read many books.” “I made a wrong choice.”).

As shown in Table 5, many participants reported regrets in club, study, and interpersonal domains. However, the number of regrets in the romance domain was relatively small.

Discussion

This study investigated whether the ease with which regrettable actions and inactions can be retrieved influences the general evaluation of one’s past experiences. We found that when students recalled a small number of regrettable inactions from their time in high school, they provided larger frequency estimates for regrettable experiences during high school, as compared to when they recalled a larger number. On the other hand, it was difficult for participants to recall regrettable actions in general, and ease of retrieval did not influence subsequent estimations of regrettable experiences.

There were no significant differences across the conditions on ratings of general level of satisfaction during high school, however. Although easy retrieval of regrettable inactions led to larger estimates of regrettable occurrences during high school, participants did not necessarily find themselves to be dissatisfied with their past lives, overall. Why was this the case?

One possible explanation concerns a positive function of regret. Roese (2005) argued that “regret is essential for healthy living, as it offers a sharp signal that tells you when you’ve got to change your strategy, alter your course of action, and start thinking outside the box” (p.36). Regrettable experiences may be better remembered as valuable ones that teach important life lessons.

It might also be possible that regret will be recalled as justified regret, in the long run. A “psychological immune system” (Gilbert, Pinel, Wilson, Blumberg & Wheatley, 1998) or dissonance reduction mechanism (Festinger, 1957) may mitigate the pain of regret relatively quickly for regrettable actions but more slowly for regrettable inactions. Gilovich, Medvec, and Kahneman (1998) acknowledged that many regrets of inaction were rather wistful (dreamy, nostalgic, and sentimental), and therefore less bothersome.

Further research is needed to examine these speculations.

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